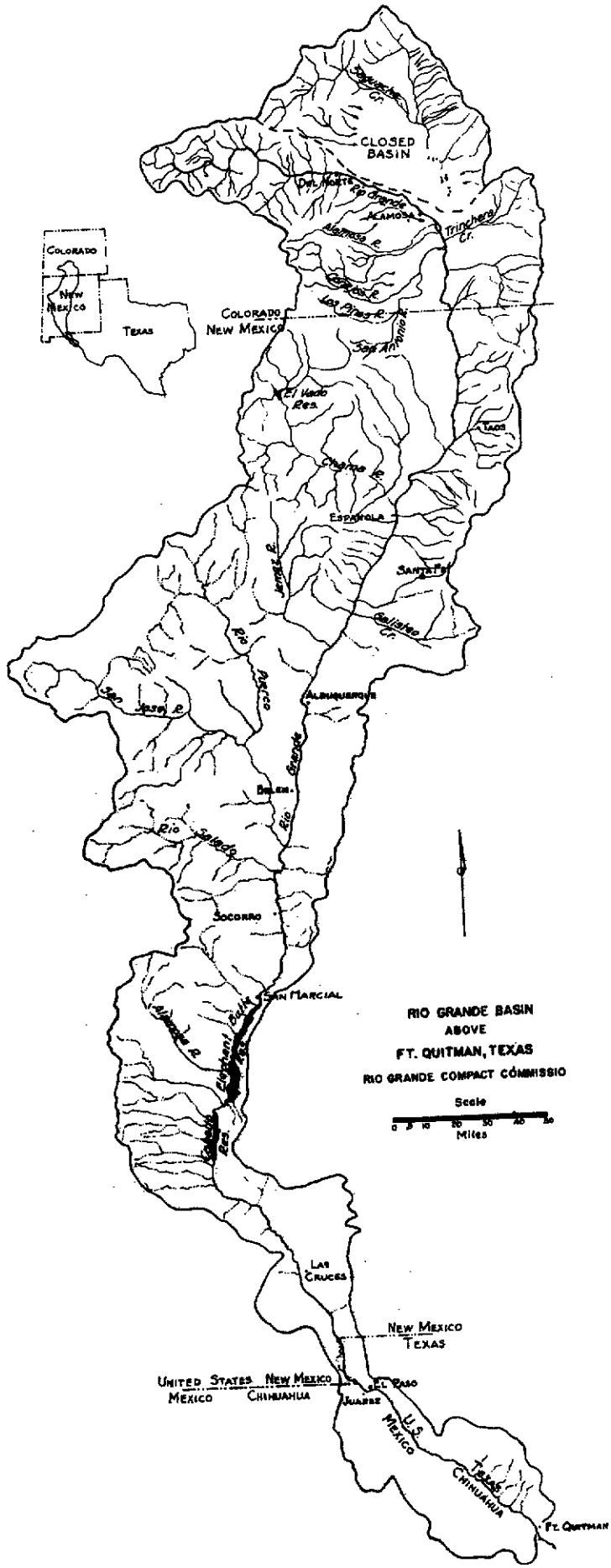
REPORT

of the

RIO GRANDE COMPACT COMMISSION

1974

TO THE GOVERNORS OF
Colorado, New Mexico and Texas


CLOSED BASIN
Conejos R.
Del Norte
Rio Grande
Alamosa
Trinchera Cr.
Alamosa R.
Conejos R.
Los Pinos R.
San Antonio R.
COLORADO
NEW MEXICO
TEXAS
El Vado Res.
Chama R.
Taos
Española
Jemez R.
Santa Fe
Galisteo Cr.
Rio Puerco
San Jose R.
Albuquerque
Rio Grande
Belen
Rio Salado
Socorro
San Marcial
Alamosa R.
Elephant Butte Res.
Caballo Res.
Las Cruces
NEW MEXICO
TEXAS
UNITED STATES
MEXICO
NEW MEXICO
CHIHUAHUA
EL PASO
JUAREZ
U.S.
MEXICO
TEXAS
CHIHUAHUA
Ft. Quitman
RIO GRANDE BASIN
ABOVE
FT. QUITMAN, TEXAS
RIO GRANDE COMPACT COMMISSIO
Scale
Miles

CONTENTS

ILLUSTRATIONS

C 3795

RIO GRANDE COMPACT COMMISSION

COLORADO TEXAS NEW MEXICO

March 27, 1975

The Honorable Jerry Apodaca
Governor of the State of New Mexico
Santa Fe, New Mexico

The Honorable Dolph Briscoe
Governor of the State of Texas
Austin, Texas

The Honorable Richard D. Lamm
Governor of the State of Colorado
Denver, Colorado

Sirs:

The 36th annual meeting of the Rio Grande Compact Commission was held at Las Cruces, New Mexico, on March 27, 1975.

The Commission reviewed its prior reports and the current reports of the Secretary relative to streamflow at Compact gaging stations and storage in reservoirs. The Commission found that:

(a) Deliveries of water at the Colorado-New Mexico State line by Colorado amounted to 121,500 acre-feet, which was 6,400 acre-feet in excess of the scheduled delivery in 1974. The accrued debit for Colorado was reduced to 737,600 acre-feet as of December 31, 1974. However, in light of the, as yet unresolved, controversy between the States, Colorado cannot agree with the conclusions as to her indebtedness.

(b) Deliveries of water into Elephant Butte Reservoir by New Mexico, as measured by the Elephant Butte Effective Supply, amounted to 305,900 acre-feet, which was 48,700 acre-feet in excess of the scheduled delivery in 1974. The accrued credit of New Mexico was 13,000 acre-feet as of December 31, 1974.

(c) Releases of usable water in 1974 from Project Storage amounted to 642,000 acre-feet.

(d) Expenses of administration of the Rio Grande Compact were $42,516 in the fiscal year ending June 30, 1974. The United States bore $18,450 of this total; the balance of $24,066 was borne equally by the three States party to the Compact.

Respectfully,

S. E. Reynolds, Commissioner for New Mexico

J. B. Gilmer, Commissioner for Texas

C. J. Kuiper, Commissioner for Colorado

RIO GRANDE COMPACT

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

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

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

ARTICLE I

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

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

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

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

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

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

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

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

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

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

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

(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 Sauses;

(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.

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 Sauses 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

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)
550	144
600	162
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:

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	
200	0
300	65
400	141
500	219
600	300
700	383
800	469
900	557
1,000	648
1,100	742
1,200	839
1,300	939
1,400	1,042
1,500	1,148
1,600	1,257
1,700	1,370
1,800	1,489
1,900	1,608
2,000	1,730
2,100	1,856
2,200	1,985
2,300	2,117
	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.)

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.

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

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

ARTICLE VII

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

ARTICLE VIII

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

ARTICLE IX

Colorado agrees with New Mexico that in event the United States or the State of New Mexico decides to construct the necessary works for diverting the waters of the San Juan River, or any of its tributaries, into the Rio Grande, Colorado hereby consents to the construction of said works and the diversion of waters from the San Juan

River, or the tributaries thereof, into the Rio Grande in New Mexico, provided the present and prospective uses of water in Colorado by other diversions from the San Juan River, or its tributaries, are protected.

ARTICLE X

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

ARTICLE XI

New Mexico and Texas agree that upon the effective date of this Compact all controversies between said States relative to the quantity or quality of the water of the Rio Grande are composed and settled; however, nothing herein shall be interpreted to prevent recourse by a signatory state to the Supreme Court of the United States for redress should the character or quality of the water, at the point of delivery, be changed hereafter by one signatory state to the injury of another. Nothing herein shall be construed as an admission by any signatory state that the use of water for irrigation causes increase of salinity for which the user is responsible in law.

ARTICLE XII

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

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

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

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

ARTICLE XIII

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

ARTICLE XIV

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

ARTICLE XV

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

ARTICLE XVI

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

ARTICLE XVII

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

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

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

(Sgd.) M. C. HINDERLIDER
(Sgd.) THOMAS M. McCLURE
(Sgd.) FRANK B. CLAYTON

APPROVED:
(Sgd.) S. O. HARPER

RATIFIED BY:

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

Passed Congress as Public Act No. 96, 76th Congress, Approved by the President May 31, 1939.

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

R E S O L U T I O N

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

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

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

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

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

Now, Therefore, Be it Resolved:

The Commission finds as follows:

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

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

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

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

Be it Further Resolved:

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

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

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

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

Quantities in thousands of acre-feet

Otowi Index Supply (5)	Elephant Butte Effective Index Supply (6)
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.

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").

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

GAGING STATIONS /1

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

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

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

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

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

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

RESERVOIR CAPACITIES /1

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

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

ACTUAL SPILL /2

(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.

/1 Amended at Eleventh Annual Meeting, February 23, 1950.
/2 Adopted at Fourth Annual Meeting, February 24, 1943.

(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 physical capacity of that reservoir, to the level of the uncontrolled spillway, i.e.-2,219,000 acre-ft in 1942.

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

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

DEPARTURES FROM NORMAL RELEASES /3

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.

EVAPORATION LOSSES /4, /5, /6

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.

/3 Adopted June 2, 1959; made effective January 1, 1952.
/4 Amended at Tenth Annual Meeting, February 15, 1949.
/5 Amended at Twelfth Annual Meeting, February 24, 1951.
/6 Amended June 2, 1959.

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

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

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

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

ADJUSTMENT OF RECORDS

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

NEW OR INCREASED DEPLETIONS

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

TRANSMOUNTAIN DIVERSIONS

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

QUALITY OF WATER

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

SECRETARY /7

The Commission, subject to the approval of the Director, U.S. Geological Survey, to a cooperative agreement for such purposes shall employ the U.S. Geological Survey on a yearly basis, to render such engineering and clerical aid as may reasonably be necessary for administration of the Compact. Said agreement shall provide that the Geological Survey shall:

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

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

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

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

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

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

/7 The substitution of this section for the section titled "Reports to Commissioners" was adopted at Ninth Annual Meeting, February 22, 1948.

COSTS /1

In February of each year, 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.

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

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

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

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

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

MEETING OF COMMISSION /1, /8

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

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

(Signed) M. C. HINDERLIDER

M. C. Hinderlider
Commissioner for Colorado

(Signed) THOMAS M. McCLURE

Thomas M. McClure
Commissioner for New Mexico

(Signed) JULIAN P. HARRISON

Julian P. Harrison
Commissioner for Texas

Adopted December 19, 1939.

/1 Amended at Eleventh Annual Meeting, February 23, 1950.
/8 Amended at Thirteenth Annual Meeting, February 25, 1952.

RECORDS OF DELIVERIES AND RELEASES

At the annual meeting of the Compact Commission on March 27, 1975, the records of deliveries and releases for calendar year 1974 were examined and the computations of debits and credits based thereon were reviewed. The records and computations as reviewed by the Commission are reproduced on the next three pages.

The delivery of water in the Rio Grande at the Colorado-New Mexico State line was obtained from record of streamflow near Lobatos, Colorado; the obligation of Colorado to deliver water at the State line was computed as prescribed in Article III. Item C5, the Reduction of Debits prescribed in Article VI, was computed in accordance with the Rules and Regulations.

The delivery of water by New Mexico to Project Storage was computed from the actual streamflow record and the record of operation of Elephant Butte Reservoir; the scheduled delivery was computed as prescribed in the Resolution of the Commission adopted at the Tenth Annual Meeting, and published in this report. Item NM4, Reduction of Debits by Evaporation, was computed in accordance with the Rules and Regulations.

The actual release from Project Storage during the year was measured at stations below Caballo Dam. The Accrued Departure from Normal Release is an under-release but is omitted in accordance with a decision of the Commission at the meeting on February 15, 1968.

RIO GRANDE COMPACT
DELIVERIES BY COLORADO AT STATE LINE

YEAR 1974

03821

Quantities in Thousands of Acre Feet to Nearest Hundred

MONTH	CONEJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY								DELIVERIES			
	MEASURED FLOW				ADJUSTMENTS				SUPPLY			ADJUSTMENTS					SUPPLY					
	CONEJOS AT MOGOTE	LOS PINOS NEAR ORTIZ	SAN ANTONIO AT ORTIZ	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE	OTHER ADJUSTMENTS	NET ADJUSTMENT	SUPPLY IN MONTH	ACCUMULATED TOTAL	RECORDED FLOW NEAR DEL NORTE	STORAGE AT END OF MONTH	CHANGE IN STORAGE	TRANSMOUNTAIN DIVERSIONS	OTHER ADJUSTMENTS	NET ADJUSTMENT	SUPPLY IN MONTH	ACCUMULATED TOTAL	CONEJOS RIVER AT MOUTHS NEAR LOS SAUCES	RIO GRANDE LESS CONEJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED TOTAL AT LOBATOS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	———	———	———	———	a36.9	———	———	———	———	-0-	———	1.5	———	———	———	———	———	-0-	———	———	———	-0-
JAN	2.9	———	———	2.9	a36.9	0	0	0	2.9	2.9	10.6	1.5	0			0	10.6	10.6	3.8	12.9	16.7	16.7
FEB	2.8	———	———	2.8	a36.9	0	0	0	2.8	5.7	9.7	1.5	0			0	9.7	20.3	4.0	11.1	15.1	31.8
MAR	6.2	———	———	6.2	a35.0	-1.9	0	-1.9	4.3	10.0	16.5	1.5	0			0	16.5	36.8	9.3	25.2	34.5	66.3
APR	11.3	7.4	2.9	21.6	34.9	-.1	+.1	0	21.6	31.6	21.7	1.5	0			0	21.7	58.5	5.8	10.8	16.6	82.9
MAY	67.1	24.4	3.3	94.8	24.4	-10.5	+.2	-10.3	84.5	116.1	117.1	1.5	0			0	117.1	175.6	5.4	5.3	10.7	93.6
JUN	36.3	6.4	.2	42.9	20.5	-3.9	+.1	-3.8	39.1	155.2	78.9	1.5	0	b-0.3	c+0.3	0	78.9	254.5	.6	4.4	5.0	98.6
JUL	12.1	1.7	0	13.8	18.6	-1.9	0	-1.9	11.9	167.1	23.0	1.5	0			0	23.0	277.5	.1	1.2	1.3	99.9
AUG	10.6	2.1	.1	12.8	18.6	0	c+.1	+.1	12.9	180.0	19.4	1.5	0			0	19.4	296.9	0	1.4	1.4	101.3
SEPT	2.8	.8	0	3.6	18.5	-.1	+.1	0	3.6	183.6	10.8	1.5	0			0	10.8	307.7	0	1.0	1.0	102.3
OCT	3.4	1.0	.1	4.5	18.7	+.2	0	+.2	4.7	188.3	12.1	1.5	0			0	12.1	319.8	.1	2.8	2.9	105.2
NOV	3.0	———	———	3.0	a18.7	0	0	0	3.0	191.3	9.7	1.5	0			0	9.7	329.5	1.5	4.7	6.2	111.4
DEC	2.5	———	———	2.5	a18.7	0	0	0	2.5	193.8	8.0	1.5	0			0	8.0	337.5	2.1	8.0	10.1	121.5
YEAR	161.0	43.8	6.6	211.4	———	-18.2	+.6	-17.6	193.8	———	337.5	———	0	-.3	+.3	0	337.5	———	32.7	88.8	121.5	———

Remarks: Storage in recreational reservoirs not included.

a Estimated.

b 530 acre-feet minus 243 acre-feet, pre-compact.

c Annual evaporation loss from recreational reservoirs.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE	
C1	Balance at Beginning of Year	———	———	Dr.	744.0
C2	Scheduled Delivery from Conejos River	41.9	———	Dr.	785.9
C3	Scheduled Delivery from Rio Grande	83.2	———	Dr.	869.1
C4	Actual Delivery at Lobatos plus 10 000 Acre Feet	———	131.5	Dr.	737.6
C5	Reduction of Debits a/c Evaporation	———	0	Dr.	737.6
C6	Reduction of Credits a/c Evaporation	———	———		
C7					
C8	Balance at End of Year	———	———	Dr.	737.6

RIO GRANDE COMPACT

DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 1974

Quantities in Thousands of Acre Feet to Nearest Hundred

MONTH	OTOWI INDEX SUPPLY: Recorded Flow at Otowi Bridge	ADJUSTMENTS: RESERVOIRS: LOBATOS to OTOWI: Storage-End of Month	ADJUSTMENTS: RESERVOIRS: LOBATOS to OTOWI: Change in Storage	ADJUSTMENTS: RESERVOIRS: LOBATOS to OTOWI: Reservoir Evaporation	ADJUSTMENTS: Other Adjustments	ADJUSTMENTS: Trans-mountain Diversions	ADJUSTMENTS: Net Adjustment	INDEX SUPPLY: During Month	INDEX SUPPLY: Accumulated Total	Total Water Stored in New Mexico Above San Marcial at End of Month	ELEPHANT BUTTE EFFECTIVE SUPPLY: STORAGE IN ELEPHANT BUTTE RESERVOIR: End of Month	STORAGE IN ELEPHANT BUTTE RESERVOIR: Change Gain (+) Loss (-)	Recorded Flow Below Elephant Butte Dam	EFFECTIVE SUPPLY: During Month	EFFECTIVE SUPPLY: Accumulated Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	——	a117.2	——	——	——	——	——	——	——	a123.3	a769.1	——	——	——	——
JAN	81.5	80.9	-36.3	0	0	0	-36.3	45.2	45.2	86.0	839.1	+70.0	1.2	71.2	71.2
FEB	39.8	78.6	-2.3	0	0	-.1	-2.4	37.4	82.6	82.7	846.6	+7.5	32.4	39.9	111.1
MAR	71.4	78.4	-.2	+.1	0	0	-.1	71.3	153.9	84.5	755.3	-91.3	128.9	37.6	148.7
APR	55.7	92.0	+13.6	+.5	0	-.4	+13.7	69.4	223.3	97.1	687.3	-68.0	87.0	19.0	167.7
MAY	63.4	117.0	+25.0	+1.1	0	0	+26.1	89.5	312.8	121.4	595.0	-92.3	103.9	11.6	179.3
JUN	61.4	79.0	-38.0	+.8	c+.1	-.2	-37.3	24.1	336.9	82.4	473.9	-121.1	133.2	12.1	191.4
JUL	41.1	58.4	-20.6	+.4	0	-8.8	-29.0	12.1	349.0	62.3	375.0	-98.9	117.7	18.8	210.2
AUG	47.3	51.9	-6.5	+.3	0	-23.8	-30.0	17.3	366.3	56.0	333.5	-41.5	50.4	8.9	219.1
SEPT	15.6	46.9	-5.0	+.3	0	-.2	-4.9	10.7	377.0	49.9	320.9	-12.6	16.0	3.4	222.5
OCT	22.2	46.0	-.9	+.2	0	-.2	-.9	21.3	398.3	50.4	343.6	+22.7	.8	23.5	246.0
NOV	25.5	45.9	-.1	+.1	0	0	0	25.5	423.8	50.6	370.5	+26.9	.5	27.4	273.4
DEC	27.7	44.8	-1.1	+.1	0	-.1	-1.1	26.6	450.4	49.2	402.5	+32.0	.5	32.5	305.9
YEAR	552.6	——	-72.4	+3.9	+.1	-33.8	-102.2	450.4	——	——	——	-366.6	672.5	305.9	——

REMARKS: Storage in recreational reservoirs not included.

a New capacity table for Abiquiu Reservoir effective Jan. 1, 1974.

b New capacity table for Elephant Butte Reservoir effective Jan. 1, 1974.

c Annual evaporation loss from recreational reservoirs.

SUMMARY OF DEBITS AND CREDITS

	ITEM	DEBIT	CREDIT	BALANCE	
		——	——	Dr.	37.2
NM 1	Balance at Beginning of Year	257.2	——	Dr.	294.4
NM 2	Scheduled Delivery at Elephant Butte	——	305.9	Cr.	11.5
NM 3	Actual Elephant Butte Effective Supply	——	1.5	Cr.	13.0
NM 4	Reduction of Debits % Evaporation	——	——		
NM 5	Reduction of Credits % Evaporation				
NM 6					
NM 7					
NM 8	Balance at End of Year	——	——	Cr.	13.0

RIO GRANDE COMPACT
RELEASE AND SPILL FROM PROJECT STORAGE

YEAR 1974

Quantities in Thousands of Acre Feet to Nearest Hundred

MONTH	TOTAL PROJECT STORAGE CAPACITY AVAILABLE AT END OF MONTH	USABLE WATER IN STORAGE			UNFILLED CAPACITY OF PROJECT STORAGE AT END OF MONTH	CREDIT WATER IN STORAGE			FLOOD WATER IN STORAGE IN CABALLO RESERVOIR AT END OF MONTH	TOTAL WATER IN PROJECT STORAGE AT END OF MONTH	RIO GRANDE BELOW CABALLO DAM							
		ELEPHANT BUTTE RESERVOIR	CABALLO RESERVOIR	TOTAL AT END OF MONTH		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
	a2,453.4	a727.4	40.0	767.4	1,686.0	0	41.7	41.7	0	809.1	———	———	———	———	———	———	———	*
JAN	2,453.4	839.1	42.1	881.2	1,572.2	0	0	0	0	881.2	0.1	0	0.1	0	0	0	0.1	0.1
FEB	2,453.4	846.6	69.0	915.6	1,537.8	0	0	0	0	915.6	.1	0	.1	0	0	0	.1	.2
MAR	2,453.4	755.3	68.8	824.1	1,629.3	0	0	0	0	824.1	122.4	.3	122.7	0	0	0	122.7	122.9
APR	2,453.4	687.3	75.2	762.5	1,690.9	0	0	0	0	762.5	74.3	.1	74.4	0	0	0	74.4	197.3
MAY	2,453.4	595.0	85.7	680.7	1,772.7	0	0	0	0	680.7	82.7	.1	82.8	0	0	0	82.8	280.1
JUN	b2,353.4	473.9	80.2	554.1	b1,799.3	0	0	0	0	554.1	121.3	.2	121.5	0	0	0	121.5	401.6
JUL	b2,353.4	375.0	95.2	470.2	b1,883.2	0	0	0	0	470.2	92.6	.1	92.7	0	0	0	92.7	494.3
AUG	b2,353.4	333.5	51.7	385.2	b1,968.2	0	0	0	0	385.2	97.1	.2	97.3	0	0	0	97.3	591.6
SEPT	b2,353.4	320.9	23.8	344.7	b2,008.7	0	0	0	0	344.7	50.0	.1	50.1	0	0	0	50.1	641.7
OCT	2,453.4	343.6	33.0	376.6	2,076.8	0	0	0	0	376.6	.1	0	.1	0	0	0	.1	641.8
NOV	2,453.4	370.5	36.2	406.7	2,046.7	0	0	0	0	406.7	.1	0	.1	0	0	0	.1	641.9
DEC	2,453.4	402.5	39.1	441.6	2,011.8	0	0	0	0	441.6	.1	0	.1	0	0	0	.1	642.0
YEAR	———	———	———	———	———	———	———	———	———	———	640.9	1.1	642.0	0	0	0	642.0	———

REMARKS: * See minutes of meeting Feb. 15, 1968.

a New capacity table for Elephant Butte Reservoir effective Jan. 1, 1974.

b The quantities of Project Storage and the unfilled portion of such storage do not include any of the 100,000 acre-feet of Caballo Reservoir capacity which the Regional Director, U.S. Bureau of Reclamation by letter of Feb. 12, 1960 stated is held inviolate by the Bureau of Reclamation for flood control purposes from June 1 to October 1.

Note.--Project storage was less than 400,000 acre-feet from Aug. 22 through Nov. 23, inclusive.

ACCRUED DEPARTURE FROM NORMAL RELEASE

	ITEM	DEBIT	CREDIT	BALANCE	
				Cr.	*
P1	Accrued Departure at Beginning of Year	———	———		
P2	Actual Release during Year				
P3	Normal Release for Year	———	———		
P4	Actual Evaporation from Elephant Butte Reservoir				
P5	Evaporation Loss if No Accrued Departure	———	———		
P6					
P7	Accrued Departure at End of Year	———	———		

TIME OF HYPOTHETICAL SPILL ———

COST OF OPERATION, IN DOLLARS, FOR FISCAL YEAR ENDING JUNE 30, 1974

Adopted at the Thirty-sixth Annual Meeting

Item	Total cost	Borne by United States	Borne by Colorado	Borne by New Mexico	Borne by Texas
GAGING STATIONS					
In Colorado	11,580	5,790	5,790		
In New Mexico, above Caballo Reservoir	16,260	10,400		5,380	480
In New Mexico, Caballo Reservoir and below	6,130	410		410	5,310
Subtotal	33,970	16,600	5,790	5,790	5,790
ADMINISTRATION					
U.S.G.S. Contract	7,400	1,850	1,850	1,850	1,850
Other expense	1,146	-	382	382	382
Subtotal	8,546	1,850	2,232	2,232	2,232
GRAND TOTAL	42,516	18,450	8,022	8,022	8,022
EQUAL SHARES OF STATES			8,022	8,022	8,022
CASH ADJUSTMENT BETWEEN STATES			0	0	0

BUDGET, IN DOLLARS, FOR FISCAL YEAR ENDING JUNE 30, 1976

Adopted at the Thirty-Sixth Annual Meeting

Item	Total cost	Borne by United States	Borne by Colorado	Borne by New Mexico	Borne by Texas
GAGING STATIONS					
In Colorado	13,990	6,995	6,995		
In New Mexico, above Caballo Reservoir	19,005	12,500		6,505	
In New Mexico, Caballo Reservoir and below	7,975	490		490	6,995
Subtotal	40,970	19,985	6,995	6,995	6,995
ADMINISTRATION					
U.S.G.S. Contract	9,200	2,300	2,300	2,300	2,300
Other expense	1,800		600	600	600
Subtotal	11,000	2,300	2,900	2,900	2,900
GRAND TOTAL	51,970	22,285	9,895	9,895	9,895
EQUAL SHARES OF STATES			9,895	9,895	9,895
CASH ADJUSTMENT BETWEEN STATES			0	0	0

The water-supply data contained in this report have been furnished by various Federal and State Agencies.

The office of the State Engineer of Colorado furnished records of discharge on the following:

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

Records of 6 transmountain diversions and of storage in Squaw and Shaw Lakes, Rito Hondo, Hermit Lakes Reservoir No. 3, Troutvale No. 2, Jumper Creek, Alberta Park, Big Meadows, Mill Creek, Fuchs, and Trujillo Meadows Reservoirs were also furnished by the office of the State Engineer of Colorado.

The U.S. Bureau of Reclamation, Amarillo, Texas furnished records for Platoro Reservoir.

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

Azotea tunnel at outlet, near Chama, N. Mex.
Willow Creek above Heron Res., near Park View, N. Mex.
Horse Lake Creek above Heron Res., near Park View, N. Mex.
Storage in Heron Reservoir near Park View, N. Mex.
Willow Creek below Heron Dam, N. Mex.
Storage in El Vado Reservoir near Tierra Amarilla, 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 furnished the following:

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

The Corps of Engineers, Albuquerque, N. Mex. furnished the record of storage in Abiquiu Reservoir, Galisteo Reservoir, Cochiti Lake, and Jemez Canyon Reservoir and, in cooperation with the U.S. Geological Survey, also furnished the record for Rio Chama below Abiquiu Dam, Rio Grande below Cochiti Dam, Galisteo Creek below Galisteo Dam, and Jemez River below Jemez Canyon Dam, N. Mex.

The United Pueblos Agency, Albuquerque, N. Mex. supplied the records of storage in Acomita Reservoir near San Fidel, N. Mex.

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

Storage in Elephant Butte Reservoir, N. Mex.
Storage in Caballo Reservoir, 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 these agencies.

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 station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good" less than 10 percent; "fair" less than 15 percent; and "poor" probably more than 15 percent. The records of monthly runoff are, in general, more accurate than the daily records. These standards of accuracy are the same as those followed by the U.S. Geological Survey.

Rio Grande near Del Norte, Colo.

Location.--Water-stage recorder, lat. 37°41'22", long 106°27'38", in NW¼ sec. 29, T. 40 N., R. 5 E., on right bank, 20 ft downstream from county highway bridge, 5 miles upstream from Pinos Creek, and 6 miles west of Del Norte. Datum of gage is 7,980.25 ft above mean sea level, datum of 1929. Prior to May 16, 1908, staff gage at site 4 miles downstream. Records are equivalent.

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

Average discharge.--85 years (1890-1974), 901 cfs (652,800 acre-ft per year).

Extremes.--1889-1974: Maximum discharge, 18,000 cfs Oct. 5, 1911 (gage height, 6.80 ft), from rating curve extended above 6,000 cfs; minimum daily, 69 cfs Aug. 21, 1902.

Remarks.--Records excellent except for some winter months, which are fair. Flow regulated by four reservoirs, total capacity 126,100 acre-ft, and by several smaller ones. Six transmountain diversions import water into basin above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	5,320	205	125	172	10,550
February	4,875	200	140	174	9,670
March	8,332	449	180	269	16,530
April	10,924	822	198	364	21,670
May	59,044	2,810	762	1,905	117,100
June	39,774	2,460	520	1,326	78,890
July	11,595	554	258	374	23,000
August	9,792	500	189	316	19,420
September	5,469	237	147	182	10,850
October	6,117	231	162	197	12,130
November	4,895	212	100	163	9,710
December	4,029	175	105	130	7,990
Calendar year 1974	170,166	2,810	100	466	337,500

Conejos River below Platoro Reservoir, Colo.

Location.--Water-stage recorder and concrete control, lat 37°21'18", long 106°32'37", in NW¼NW¼ sec. 22, T. 36 N., R. 4 E., on left bank 1,100 ft downstream from valve house for Platoro Reservoir, and 0.7 mile northwest of Platoro. Datum of gage is 9,866.60 ft above mean sea level (levels by Bureau of Reclamation).

Drainage area.--40 sq mi, approximately.

Average discharge.--22 years (1953-74), 87.3 cfs (63,250 acre-ft per year).

Extremes.--1952-74: Maximum discharge, 1,160 cfs Nov. 1, 1957; maximum gage height, 4.29 ft June 15, 1958; no flow Oct. 16-20, 1955.

Remarks.--Records good except those for winter months, which are poor. No diversions above station. Flow completely regulated by Platoro Reservoir (capacity, 60,000 acre-ft).

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	450	15	14	14.5	893
February	420	15	15	15.0	833
March	465	15	15	15.0	922
April	1,054	133	15	35.1	2,090
May	15,258	830	64	492	30,260
June	8,580	470	167	286	17,020
July	2,159	206	27	69.6	4,280
August	1,502.4	194	5.1	48.5	2,980
September	240.9	9.6	5.1	8.03	478
October	271.0	9.6	7.8	8.74	538
November	300	10	10	10.0	595
December	310	10	10	10.0	615
Calendar year 1974	31,010.3	830	5.1	85.0	61,510

Conejos River near Mogote, Colo.

Location.--Water-stage recorder, lat 37°03'14", long 106°11'13", in SE¼SE¼ sec. 34, T. 33 N., R. 7 E., on right bank 25 ft upstream from bridge on State Highway 174, 0.4 mile downstream from Fox Creek, and 5.3 miles west of Mogote. Datum of gage is 8,271.54 ft above mean sea level.

Drainage area.--282 sq mi.

Average discharge.--64 years (1904, 1912-74), 331 cfs (239,800 acre-ft per year).

Extremes.--1903-05, 1911-74: Maximum discharge, 9,000 cfs Oct. 5, 1911 (gage height, 8.50 ft, from rating curve extended above 3,000 cfs; minimum daily determined, 10 cfs July 18, 1904.

Remarks.--Records good except those for winter months, which are fair. Diversions above station for irrigation of about 500 acres. Since 1951 flow partly regulated by Platoro Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	1,458	57	36	47.0	2,890
February	1,387	58	40	49.5	2,750
March	3,149	204	56	102	6,250
April	5,717	468	98	191	11,340
May	33,849	1,590	306	1,092	67,140
June	18,281	1,110	436	609	36,260
July	6,117	432	116	197	12,130
August	5,336	468	53	172	10,580
September	1,402	51	42	46.7	2,780
October	1,701	66	44	54.9	3,370
November	1,533	64	31	51.1	3,040
December	1,243	48	35	40.1	2,470
Calendar year 1974	81,173	1,590	31	222	161,000

San Antonio River at Ortiz, Colo.

Location.--Water-stage recorder, lat 36°59'35", long 106°02'17", in New Mexico in NE¼SE¼, sec. 24, T. 32 N., R. 8 E., on left bank 800 ft south of New Mexico-Colorado State line, 0.4 mile southeast of Ortiz, and 0.4 mile upstream from Los Pinos River. Altitude of gage is 7,970 ft.

Drainage area.--110 sq mi.

Average discharge.--34 years (1941-74), 24.6 cfs (17,820 acre-ft per year).

Extremes.--1920, 1925-74: Maximum discharge, 1,750 cfs Apr. 15, 1937 (gage height, 5.38 ft), from rating curve extended above 1,000 cfs; no flow at times.

Remarks.--Records good above 10 cfs and fair below. A few small diversions above station for irrigation.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	65.3	2.6	1.5	2.11	130
February	60.8	2.7	1.6	2.17	121
March	325.3	32	2.8	10.5	645
April	1,436	172	13	47.9	2,850
May	1,674.1	135	6.8	54.0	3,320
June	94.17	12	0	3.14	187
July	11.48	3.0	0	.37	23
August	41.58	8.9	0	1.34	82
September	0	0	0	0	0
October	63.34	4.8	0	2.04	126
November	105.0	4.5	1.4	3.50	208
December	38.60	2.3	.50	1.25	77
Calendar year 1974	3,915.67	172	0	10.7	7,770

Los Pinos River near Ortiz, Colo.

Location.--Water-stage recorder, lat 36°58'56", long 106°04'23", in New Mexico on line between secs. 26 and 27, T. 32 N., R. 8 E., on left bank 0.9 mile south of New Mexico-Colorado State line, 2.1 miles southwest of Ortiz, and 2.9 miles upstream from mouth. Altitude of gage is 8,040 ft.

Drainage area.--167 sq mi.

Average discharge.--56 years (1915-20, 1925-74), 120 cfs (86,940 acre-ft per year).

Extremes.--1915-20, 1925-74: Maximum discharge, 3,160 cfs May 12, 1941 (gage height, 5.77 ft, site and datum then in use), from rating curve extended above 1,600 cfs; minimum observed, 4.0 cfs Dec. 17, 1945.

Remarks.--Records good except those for winter months, which are fair. Diversions above station for irrigation.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	412	17	10	13.3	817
February	381	16	11	13.6	756
March	790	61	14	25.5	1,570
April	3,723	435	35	124	7,380
May	12,329	644	238	398	24,450
June	3,215	215	37	107	6,380
July	857	38	23	28.6	1,700
August	1,065	75	16	34.4	2,110
September	406	16	12	13.5	805
October	485	19	11	15.6	962
November	448	18	13	14.9	889
December	389	17	10	12.5	772
Calendar year 1974	24,500	644	10	67.1	48,600

Conejos River near Lasauses, Colo.

Location.--Water-stage recorders lat 37°18'01", long 105°44'47", in secs. 2 and 11 (two channels), T. 35 N., R. 11 E., on left bank of main channel 125 feet dowwnstream from bridge on State Highway 158 and on left bank of secondary channel 230 ft upstream from bridge, 1.0 mile upstream from mouth, and 2.1 miles north of Lasauses. Datum of gage on main channel is 7,495.02 ft and on secondary (south) channel is 7,496.89 ft above mean sea level (levels by Bureau of Reclamation).

Drainage area.--887 sq mi.

Average discharge.--53 years (1922-74), 181 cfs (131,100 acre-ft per year).

Extremes.--1921-74: Maximum discharge, 3,890 cfs May 15, 1941; no flow at times in some years.

Remarks.--Records good except those for winter months, which are poor. Diversions for irrigation of about 75,000 acres above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	1,916	75	33	61.8	3,800
February	2,002	81	55	71.5	3,970
March	4,667	248	90	151	9,260
April	2,911	268	14	97.0	5,770
May	2,744.5	300	2.5	88.5	5,440
June	301.6	52	2.1	10.1	598
July	30.87	2.4	.35	1.00	61
August	23.51	4.8	0	.76	47
September	5.28	1.6	0	.18	10
October	51.43	3.5	.11	1.66	102
November	754.7	35	9.7	25.2	1,500
December	1,059	48	30	34.2	2,100
Calendar year 1974	16,466.89	300	0	45.1	32,660

Rio Grande near Lobatos, Colo.

Location.--Water-stage recorder, lat 37°04'42", long 105°45'22", in sec. 22, T. 33 N., R. 11 E., on right bank just downstream from highway bridge, 6 miles north of Colorado-New Mexico State line, 10 miles east of Lobatos, and 14 miles east of Antonito. Datum of gage is 7,427.63 ft above mean sea level, datum of 1929.

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

Average discharge.--75 years (1900-74), 589 cfs (426,700 acre-ft per year).

Extremes.--1899-1974: Maximum discharge observed, 13,200 cfs June 8, 1905, (gage height, 9.1 ft), from rating curve extended above 8,000 cfs; no flow at times in 1950-51, 1956.

Remarks.--Records good except those for winter months, which are fair. Natural flow of streams affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	8,425	300	230	272	16,710
February	7,625	295	250	272	15,120
March	17,398	736	300	561	34,510
April	8,377	760	128	279	16,620
May	5,414	350	55	175	10,740
June	2,511	170	25	83.7	4,980
July	676	31	15	21.8	1,340
August	689	31	14	22.2	1,370
September	486	21	12	16.2	964
October	1,480	73	15	47.7	2,940
November	3,101	190	58	103	6,150
December	5,080	210	140	164	10,080
Calendar year 1974	61,262	760	12	168	121,500

Willow Creek above Heron Reservoir, near Park View, 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 mile downstream from Iron Spring Creek, 3.3 miles west of Park View, and at mile 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 (1963-69) 11.5 cfs (8,330 acre-ft per year) prior to completion of Azotea tunnel.

Extremes.--1962-74: Maximum discharge, 1,600 cfs Aug. 11, 1967 (gage height, 3.88 ft); no flow at times most years.

Remarks.--Records good except those for winter months, which are poor. 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	5.58	0.18	0.18	0.18	11
February	5.94	.23	.18	.21	12
March	2,588.4	245	.25	83.5	5,130
April	4,608	382	58	154	9,140
May	11,128	496	193	359	22,070
June	4,741	304	25	158	9,400
July	975.2	130	1.5	31.5	1,930
August	1,308.3	234	1.3	42.2	2,600
September	32.43	3.9	.26	1.08	64
October	154.15	28	.27	4.97	306
November	202.63	29	.27	6.75	402
December	18.07	1.3	.32	.58	36
Calendar year 1974	25,767.70	496	.18	70.6	51,110

Horse Lake Creek above Heron Reservoir, near Park View, N. Mex.

Location.--Water-stage recorder, lat 36°42'24", long 106°44'42", in Tierra Amarilla Grant, on right bank 3.7 miles northwest of Heron Dam, 7.8 miles downstream from Horse Lake, and 9.9 miles west of Park View. Datum of gage is 7,188.85 ft above mean sea level. Prior to July 1, 1971 at site 1,100 ft upstream.

Drainage area.--45 sq mi, approximately.

Average discharge.--11 years (1963-73) 1.10 cfs (797 acre-ft per year).

Extremes.--1963-74: Maximum discharge, 3,960 cfs July 30, 1968 (gage height, 4.9 ft); no flow most of time.

Remarks.--Records good. Diversions above station for irrigation of meadows and for off-channel stock tanks.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	-	-	-	-	-
February	-	-	-	-	-
March	a163.76	29	-	-	a325
April	8.26	1.7	0.02	0.28	16
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	25.97	20	0	.84	52
September	0	0	0	0	0
October	.37	.27	0	.01	-
November	-	-	-	-	-
December	-	-	-	-	-
Calendar year 1974	-	29	0	-	-

a March 13-31

Willow Creek below Heron Dam, N. Mex.

Location.--Totalizing flowmeters, lat 36°39'56", long 106°42'12", in Tierra Amarilla Grant, in outlet conduits at Heron Dam, 0.2 mile upstream from Rio Chama, 5.1 miles northeast of El Vado Dam, and 8.7 miles southwest of Park View.

Drainage area.--193 sq mi.

Extremes.--1971-74: Maximum daily discharge, 2,220 cfs Dec. 12, 1973; no flow at times.

Remarks.--Records good. Flow completely regulated by Heron Dam.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	0	0	0	0	0
February	28	28	0	1.00	56
March	2,962	360	0	95.5	5,880
April	642	129	0	21.4	1,270
May	99	62	0	3.19	196
June	701.1	107	0	23.4	1,390
July	215.2	48	0	6.94	427
August	600	49	0	19.4	1,190
September	82	41	0	2.73	163
October	138	65	0	4.45	274
November	168.2	50	0	5.61	334
December	19,329	1,140	0	624	38,340
Calendar year 1974	24,964.5	1,140	0	68.4	49,520

Rio Chama below El Vado Dam, N. Mex.

Location.--Water-stage recorder, lat 36°34'48", long 106°43'24", in Tierra Amarilla Grant, 1.5 miles downstream from El Vado Dam, 2.8 miles upstream from Rio Nutrias, and 13 miles southwest of Tierra Amarilla, Rio Arriba County. Datum of gage is 6,696.12 ft above mean sea level, datum of 1929. Prior to October 1935, at site 1.5 miles upstream and October 1935 to September 1938, at site 1.1 miles upstream at different datum.

Drainage area.--877 sq mi.

Average discharge.--4 years (1914, 1921-23), 444 cfs prior to completion of El Vado Dam; 35 years (1936-70), 372 cfs (269,500 acre-ft per year) subsequent to completion of El Vado Dam but prior to completion of Heron Dam and Azotea tunnel.

Extremes.--1914-16, 1920-24, 1936-74: Maximum discharge observed, 9,000 cfs May 22, 1920 (gage height, 12 ft); no flow Mar. 25, 26, 31, 1955.

Remarks.--Records good except those for some winter months, which are poor. Diversions above station for irrigation of about 8,000 acres. Since 1935 flow regulated by El Vado Reservoi and since October 1970 flow partly regulated by Heron Reservoir. Subsequent to May 1971 flow affected by releases of San Juan water from Heron Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	1,533	93	37	49.5	3,040
February	1,364	51	48	48.7	2,710
March	7,322	670	34	236	14,520
April	6,447	376	101	215	12,790
May	16,741	856	306	540	33,210
June	23,080	920	440	769	45,780
July	15,799	920	156	510	31,340
August	17,195	791	116	555	34,110
September	2,761	121	83	92.0	5,480
October	1,896	150	16	61.2	3,760
November	1,619	113	37	54.0	3,210
December	8,550	1,120	29	276	16,960
Calendar year 1974	104,307	1,120	16	286	206,900

Rio Chama below Abiquiu Dam, N. Mex.

Location.--Water-stage recorder, lat 36°14'12", long 106°24'59", in SE¼SE¼ sec. 8, T. 23 N., R. 5 E., on right bank 0.8 mile downstream from Abiquiu Dam and 5.9 miles northwest of Abiquiu. Altitude of gage is 6,040 ft (from river-profile map and topographic map).

Drainage area.--2,147 sq mi of which about 100 sq mi is probably noncontributing.

Average discharge.--13 years (1926-74), 366 cfs (265,200 acre-feet per year).

Extremes.--1961-74: Maximum discharge, 2,990 cfs July 1, 1965 (gage height, 6.69 ft); minimum about 0.5 cfs Mar. 17, 1966.

Remarks.--Records good except those for winter months, which are fair. Flow regulated by Heron, El Vado, and Abiquiu Reservoirs. Diversions above station for irrigation of about 17,000 acres. Subsequent to May 1971 flow affected by the release of transmountain water.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	22,216	1,110	560	717	44,070
February	3,131	709	47	112	6,210
March	8,554	541	92	276	16,970
April	8,625	521	94	288	17,110
May	17,125	832	345	552	33,970
June	22,317	929	436	744	44,270
July	15,786	957	155	509	31,310
August	18,181	878	162	586	36,060
September	3,132	144	87	104	6,210
October	2,689	257	17	86.7	5,330
November	2,179	160	41	72.6	4,320
December	1,360	80	27	43.9	2,700
Calendar year 1974	125,295	1,110	17	343	248,500

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

Location.--Water-stage recorder, lat 35°52'29", long 106°08'30", in San Ildefonso Pueblo Grant, 400 ft downstream from bridge on State Highway 4, 1.8 miles southwest of San Ildefonso Pueblo, 2.5 miles downstream from Pojoaque River, and 6.8 miles west of Pojoaque. Datum of gage is 5,488.48 ft above mean sea level, datum of 1929. Prior to May 19, 1904, and July 25 to Oct. 1, 1904, staff gage at site 180 ft upstream at datum 2.02 ft lower.

Drainage area.--14,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Average discharge.--75 years (1896-1905, 1910-74) 1,504 cfs (1,090,000 acre-ft per year).

Extremes.--1895-1905, 1910-74: Maximum discharge, 24,400 cfs May 23, 1920 (gage height, 14.1 ft); minimum daily, 60 cfs July 4, 5, 1902.

Remarks.--Records good. Flow partly regulated by Heron, El Vado, and Abiquiu Reservoirs. Diversions above station for irrigation of about 600,000 acres in Colorado and 75,000 acres in New Mexico. Subsequent to May 1971 flow affected by releases of transmountain water from Heron Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	41,100	1,720	1,170	1,326	81,520
February	20,063	1,320	625	717	39,790
March	35,995	1,550	754	1,161	71,400
April	28,071	1,640	564	936	55,680
May	31,987	1,580	844	1,032	63,450
June	30,937	1,410	575	1,031	61,360
July	20,708	1,130	310	668	41,070
August	23,837	1,100	338	769	47,280
September	7,893	357	216	263	15,660
October	11,195	625	250	361	22,210
November	12,860	498	385	429	25,510
December	13,961	534	380	450	27,690
Calendar year 1974	278,607	1,640	216	763	552,600

Santa Fe River near Santa Fe, N. Mex.

Location.--Water-stage recorder and concrete control, lat 35°41'12", long 105°50'35", in NE¼SE¼ sec. 23, T. 17 N., R. 10 E., 0.4 mile downstream from McClure Dam, and 5.3 miles east of Santa Fe. Datum of gage is 7,718 ft above mean sea level, datum of 1929. Prior to Nov. 4, 1930 at site 1.5 miles downstream, and Apr. 11, 1931 to Sept. 1947 at site 0.3 mile upstream.

Drainage area.--18.2 sq mi.

Average discharge.--62 years (1913-74), 8.00 cfs (5,800 acre-ft per year).

Extremes.--1813-74: Maximum discharge, 1,500 cfs Aug. 14, 1921; minimum daily, 0.1 cfs Feb. 7-10, 20, 21, 1927, Aug. 1-4, 1951.

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

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	38.3	1.5	1.1	1.24	76
February	60.6	4.1	1.5	2.16	120
March	195.8	12	2.8	6.32	388
April	85.2	3.0	2.8	2.84	169
May	201.1	9.0	3.0	6.49	399
June	243.6	8.4	7.3	8.12	483
July	194.9	7.3	3.0	6.29	387
August	95.0	3.2	2.8	3.06	188
September	84.0	2.8	2.8	2.80	167
October	75.6	3.2	1.0	2.44	150
November	28.88	1.0	.96	.96	57
December	30.00	1.0	.96	.97	60
Calendar year 1974	1,332.98	12	.96	3.65	2,640

Rio Grande below Cochiti Dam, N. Mex.

Location.--Water-stage recorder, lat 35°37'05", long 106°19'26", in SW¼NE¼ sec. 17, T. 16 N., R. 6 E., Sandoval County, in Pueblo de Cochiti Grant, on pier near right bank, 1,000 feet downstream from Cochiti Dam, and 1.4 miles northeast of Cochiti Pueblo.

Drainage area.--14,900 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Extremes.--1971-74: Maximum discharge, 10,300 cfs July 26, 1971, at site 2.4 miles downstream and prior to closure of Cochiti Dam; minimum discharge, 8.1 cfs Nov. 13, 1973 during closure of dam.

Remarks.--Records good except those for May, June, and July, which are poor. Includes inflow from Santa Fe River. Flow affected by storage in several reservoirs and by releases of transmountain water. Subsequent to Nov. 11, 1973 flow governed by head on outlet structure in dam.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	40,320	1,690	1,140	1,301	79,970
February	20,253	1,250	571	723	40,170
March	30,467	1,320	650	983	60,430
April	23,430	1,400	461	781	46,470
May	25,721	1,130	658	830	51,020
June	23,921	993	434	797	47,450
July	14,464	876	164	467	28,690
August	18,042	833	277	582	35,790
September	3,626	288	55	121	7,190
October	6,630	337	96	214	13,150
November	13,187	471	418	440	26,160
December	14,637	531	394	472	29,030
Calendar year 1974	234,698	1,690	55	643	465,500

Galisteo Creek below Galisteo Dam, N. Mex.

Location.--Water-stage recorder, lat 35°27'56", long 106°12'57", in SE¼SE¼ sec. 5, T. 14 N., R. 7 E., on right bank, 0.6 mile downstream from Galisteo Dam, and 5.5 miles northwest of Cerrillos. Altitude of gage is 5,450 ft.

Drainage area.--597 sq mi.

Extremes.--1970-74: Maximum discharge, 2,000 cfs July 27, 1971 (gage height, 7.00 ft); maximum gage-height, 7.33 ft July 20, 1971; no flow many days.

Remarks.--Records fair. Flow partly regulated by uncontrolled outlet in Galisteo Dam. Capacity of outlet, 5,000 cfs when reservoir is full. Diversions for irrigation of about 50 acres above reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	49.28	4.0	0.80	1.59	98
February	55.68	3.3	.80	1.99	110
March	19.55	5.5	0	.63	39
April	5.22	1.6	0	.17	10
May	14.52	12	0	.47	29
June	0	0	0	0	0
July	363.25	66	0	11.7	721
August	180.88	96	0	5.83	359
September	212.19	147	0	7.07	421
October	340.51	84	0	11.0	675
November	36.79	7.1	.30	1.23	73
December	13.63	.60	.23	.44	27
Calendar year 1974	1,291.50	147	0	3.54	2,560

Jemez River below Jemez Canyon Dam, N. Mex.

Location.--Water-stage recorder, lat 35°23'24", long 106°32'03", in NE¼ sec. 5, T. 13 N., R. 4 E., on right bank 0.8 mile downstream from Jemez Canyon Dam, 1.5 miles upstream from mouth, and 6 miles north of Bernalillo. Datum of gage is 5,095.60 ft above mean sea level, datum of 1929. Prior to April 24, 1951, at site three-quarters of a mile upstream at datum 24.51 ft higher. April 24, 1951 to June 25, 1958, at site 37 ft upstream at datum 4.40 ft higher.

Drainage area.--1,038 sq mi.

Average discharge.--32 years (1937, 1944-74), 53.4 cfs (38,690 acre-ft per year).

Extremes.--1937, 1944-74: Maximum discharge, 16,300 cfs Aug. 29, 1943 (gage height, 5.62 ft) no flow at times.

Remarks.--Records 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	941.0	70	7.0	30.4	1,870
February	858.0	76	7.5	30.6	1,700
March	2,052	265	18	66.2	4,070
April	1,611	113	19	53.7	3,200
May	1,060.60	81	0	34.2	2,100
June	0	0	0	0	0
July	67.7	32	0	2.18	134
August	293.1	35	0	9.45	581
September	15.10	5.1	0	.50	30
October	803.81	56	0	25.9	1,590
November	882	39	16	29.4	1,750
December	355.2	15	6.0	11.5	705
Calendar year 1974	8,939.51	265	0	24.5	17,730

Rio Grande below Elephant Butte Dam, N. Mex.

Location.--Water-stage recorder, lat 33°08'54", long 107°12'22", in SW¼ sec. 25, T. 13 S., R. 4 W., (projected) in Pedro Armendariz Grant, on left bank 1.0 mile downstream from dam and 1.5 miles upstream from Cuchillo Negro River. Datum of gage is 4,242.09 ft above mean sea level, datum of 1929. Prior to April 23, 1942 at several different sites and datums.

Drainage area.--29,450 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Average discharge.--60 years (1915-74), 995 cfs (720,900 acre-ft per year).

Extremes.--1915-74: Maximum daily discharge, 8,200 cfs May 22, 1942; no flow at times prior to 1929.

Remarks.--Records good. Flow regulated by Elephant Butte Reservoir. Diversions for irrigation of about 800,000 acres above station.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	620.7	215	9.3	20.0	1,230
February	16,359	2,180	16	584	32,450
March	65,000	2,190	1,670	2,097	128,900
April	43,840	1,960	1,020	1,461	86,960
May	52,360	2,290	1,030	1,689	103,900
June	67,150	2,350	2,110	2,238	133,200
July	59,350	2,290	1,430	1,915	117,700
August	25,390	1,420	673	819	50,360
September	8,084	675	13	269	16,030
October	395.5	20	8.1	12.8	784
November	253.9	11	5.0	8.46	504
December	250.5	19	4.7	8.08	497
Calendar year 1974	339,053.6	2,350	4.7	929	672,500

Rio Grande below Caballo Dam, N. Mex.

Location.--Water-stage recorder, lat 32°53'05", long 107°17'31", in NE¼SW¼ sec. 30, T. 16 S., R. 4 W., 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1.3 miles upstream from Percha diversion dam, and 3 miles northeast of Arrey. Datum of gage is 4,140.9 ft above mean sea level, datum of 1929. October 13, 1938 to December 31, 1945 at datum 5.0 ft higher.

Drainage area.--30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Average discharge.--37 years (1938-74) 868 cfs (628,900 acre-ft per year).

Extremes.--1938-74: Maximum daily discharge, 7,650 cfs May 20, 1942; minimum daily, 0.1 cfs Oct. 31 to Nov. 14, 1954, Nov. 7 to Dec. 31, 1955.

Remarks.--Records good. Considerable diversion above station for irrigation. Flow regulated by Caballo and Elephant Butte Reservoir.

Monthly and yearly discharge, in cubic feet per second

Month	Second-foot-days	Maximum daily	Minimum daily	Mean	Runoff in Acre-feet
January	32.0	1.3	1.0	1.03	63
February	30.8	1.1	1.1	1.10	61
March	61,730.1	2,680	1.1	1,991	122,400
April	37,468	1,990	832	1,249	74,320
May	41,693	1,700	955	1,345	82,700
June	61,170	2,540	1,290	2,039	121,300
July	46,694	2,450	74	1,506	92,620
August	48,971	2,530	734	1,580	97,130
September	25,183.3	2,110	2.2	839	49,950
October	76.3	5.0	2.2	2.46	151
November	47.3	2.2	1.4	1.58	94
December	32.4	1.4	.9	1.05	64
Calendar year 1974	323,128.2	2,680	.9	885	640,900

Bonito ditch below Caballo Dam, N. Mex.

Records available.--January 1938 to December 1974. Published as supplementary data with Rio Grande below Caballo Dam in U.S.G.S. Water-Supply Papers beginning with October 1947.

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

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	134.9	10	0	4.35	268
April	79.2	10	0	2.64	157
May	69.9	10	0	2.25	139
June	84.2	10	0	2.72	167
July	57.8	10	0	1.86	115
August	79.6	10	0	2.57	158
September	41.7	10	0	1.39	83
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1974	547.3	10	0	1.50	1,090

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. yr.
Gage height	–	–	–	–	–	–	–	–	–	–	–	–	–
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

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

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

Hermit Lakes Reservoir No. 3.--In sec. 25, T. 41 N., R. 4 W., on South Clear Creek. Completed prior to 1960; capacity, 192 acre-ft. Capacity table based on elevation above bottom of outlet. Water is used for fish culture. Storage omitted from accounting by action of Commission on Feb. 15, 1962.

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

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 E½ 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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal. yr.
Gage height	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	–
Contents	257	257	257	257	257	257	257	257	257	257	257	257	–
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

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

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 NW¼ sec. 17, T. 38 N., R. 2 E., on South Fork about 0.9 mile 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; and 347 acre-ft, by exchange, in 1969. The remainder (1,112 acre-ft) was removed from call status, as debit water, by action of the Commission on March 5, 1970.

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

Date	Gage height	Contents	Change in Contents
December 31, 1973	45.0	2,437	0
January 31, 1974	45.0	2,437	0
February 28	45.0	2,437	0
March 31	45.0	2,437	0
April 30	45.0	2,437	0
May 31	45.0	2,437	0
June 30	45.0	2,437	0
July 31	45.0	2,437	0
August 31	45.0	2,437	0
September 30	45.0	2,437	0
October 31	45.0	2,437	0
November 30	45.0	2,437	0
December 31	45.0	2,437	0
Calendar year 1974	-	-	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. Includes 244 acre-ft transmountain water, imported in 1963. Remainder of storage removed from call status, as debit water, by action of the Commission on March 5, 1970.

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

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

Shaw Lake.--In 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 transmountain water imported in 1965.

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Gage height	16.0	16.4	16.9	17.0	18.5	16.4	14.9	14.9	14.9	14.9	15.7	16.1	-
Contents	498	518	538	542	608	517	455	455	455	455	486	503	-
Change	+20	+20	+20	+4	+66	-91	-62	0	0	0	+31	+17	+25

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. Storage removed from call status, as debit water, by action of Commission on March 5, 1970.

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Gage height	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	-
Contents	43	43	43	43	43	43	43	43	43	43	43	43	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Reservoirs in Rio Grande Basin in Colorado or New Mexico
(Constructed or enlarged since 1937)

Fuchs Reservoir.--Staff gage in sec. 2, T. 37 N., R. 4 E., on East Pinos Creek. Completed in 1939; capacity, 237 acre-feet with 2 feet of flash boards in spillway. Pinos Creek enters Rio Grande below station near Del Norte.

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Gage height	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	-
Contents	238	238	238	238	238	238	238	238	238	238	238	238	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Platoro Reservoir.--Water-stage recorder in NW¼SW¼ sec. 22, T. 36 N., R. 4 E., on Conejos River. Completed in 1951; capacity, 60,000 acre-feet at crest of spillway. Reservoir is used for irrigation and flood control. Storage affects Conejos Index Supply.

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

Date	Elevation	Contents	Change in Contents
December 31, 1973	-	a36,900	-
January 31, 1974	-	a36,900	0
February 28	-	a36,900	0
March 31	-	a35,000	-1,900
April 30	10,004.9	34,900	-100
May 31	9,989.9	24,400	-10,500
June 30	9,983.5	20,500	-3,900
July 31	9,980.2	18,600	-1,900
August 31	9,980.1	18,600	0
September 30	9,980.0	18,500	-100
October 31	9,980.3	18,700	+200
November 31	-	a18,700	0
December 31	-	a18,700	0
Calendar year 1974	-	-	-18,200

a Estimated

Trujillo Meadows Reservoir.--In sec. 5, T. 32 N., R. 5 E., on Los Pinos River. Completed in 1957; capacity, 913 acre-feet. Water is used for fish culture. Storage affects Conejos Index Supply. Storage removed from debit status by exchange of transmountain water. (See minutes of meeting on Feb. 19, 1960.)

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Gage height	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	-
Contents	913	913	913	913	913	913	913	913	913	913	913	913	-
Change	0	0	0	0	0	0	0	0	0	0	0	0	0

Heron Reservoir.--Lat 36°39'56", long 106°42'12", at dam on Willow Creek. Storage began in October 1970. Capacity, 401,300 acre-feet at elevation 7,186.1 (low point on crest of spillway); dead storage, 1,340 acre-feet at elevation 7,003.0 ft. Used for storage of transmountain water.

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

Date	Elevation	Contents	Change in Contents
December 31, 1973	7,133.05	156,000	-
January 31, 1974	7,133.24	156,600	+600
February 28	7,133.24	156,600	0
March 31	7,133.31	156,800	+200
April 30	7,135.34	163,800	+7,000
May 31	7,141.02	184,200	+20,400
June 30	7,142.79	190,900	+6,700
July 31	7,142.78	190,900	0
August 31	7,143.07	192,000	+1,100
September 30	7,142.70	190,600	-1,400
October 31	7,142.61	190,300	-300
November 30	7,142.41	189,500	-800
December 31	7,131.19	149,800	-39,700
Calendar year 1974	-	-	-6,200

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

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, 196,500 acre-feet at gage height 6,902.0 feet (crest of spillway), as determined by survey in 1966. Datum of gage is 8.21 feet above mean sea level, datum of 1929.

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

Date	Gage height	Contents	Change in Contents
December 31, 1973	6,878.2	126,300	-
January 31, 1974	6,878.6	127,300	+1,000
February 28	6,878.7	127,500	+200
March 31	6,878.9	128,000	+500
April 30	6,884.7	143,400	+15,400
May 31	6,893.0	167,500	+24,100
June 30	6,879.4	129,300	-38,200
July 31	6,866.3	99,140	-30,160
August 31	6,849.8	68,830	-30,310
September 30	6,846.7	63,830	-5,000
October 31	6,845.8	62,420	-1,410
November 30	6,845.9	62,570	+150
December 31	6,859.8	86,400	+23,830
Calendar year 1974	-	-	-39,900

Abiquiu Reservoir.--Water-stage recorder in SW¼ sec. 8, T. 23 N., R. 5 E., on Rio Chama. Completed in February 1963; capacity, 1,216,000 acre-feet at elevation of 6,350 feet (crest of spillway). Reservoir is operated by Corps of Engineers for flood control and sediment storage. A resolution increasing pool for sediment retention to 4,000 acre-feet was approved by Rio Grande Compact Commission on Dec. 29, 1973.

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

Date	Elevation	Contents	Change in Contents
December 31, 1973	6,165.28	44,450	-
January 31, 1974	6,122.57	6,600	-38,590
February 28	6,116.60	4,030	-2,570
March 31	6,121.62	6,150	+2,120
April 30	6,116.54	4,010	-2,140
May 31	6,116.73	4,080	+70
June 30	6,116.56	4,020	-60
July 31	6,117.64	4,430	+410
August 31	6,116.77	4,100	-330
September 30	6,116.07	3,840	-260
October 31	6,116.76	4,090	+250
November 30	6,116.65	4,050	-40
December 31	6,142.03	18,330	+14,280
Calendar year 1974	-	-	-26,120

McClure (Granite Point) Reservoir.--Water-stage recorder in NE¼SW¼ sec. 24, T. 17 N., R. 10 E., on Santa Fe River. Original reservoir, capacity, 561 acre-ft, completed in 1926 and not subject to terms of Rio Grande Compact; in 1935, permanent flash boards were installed in spillway increasing capacity to 650 acre-feet; in 1947 both dam and spillway were raised increasing capacity to 2,615 acre-feet (gage height, 96.6 ft, crest of spillway). From 1953 to 1972 spillway was equipped with radial gates that opened automatically, increasing capacity to over 3,000 acre-feet.

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

Date	Gage height	Contents	Change in Contents
December 31, 1973	85.2	1,860	-
January 31, 1974	85.8	1,890	+30
February 28	85.4	1,870	-20
March 31	84.1	1,790	-80
April 30	86.2	1,920	+130
May 31	88.4	2,060	+140
June 30	82.0	1,670	-390
July 31	76.8	1,380	-290
August 31	79.8	1,540	+160
September 30	78.6	1,470	-70
October 31	80.8	1,600	+130
November 30	83.3	1,740	+140
December 31	84.1	1,790	+50
Calendar year 1974	-	-	-70

Reservoirs in Rio Grande Basin in New Mexico

Nichols Reservoir.--Water-stage recorder in E½NE¼ sec. 21, T. 17 N., R. 10 E., on Santa Fe River. Completed in 1942; capacity, 685 acre-ft. Water is for municipal use in Santa Fe.

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Gage height	152.7	147.8	155.4	151.3	151.9	150.3	155.0	149.7	148.3	152.7	151.8	151.0	-
Contents	331	245	384	304	315	285	375	274	253	331	313	298	-
Change	-151	-86	+139	-80	+11	-30	+90	-101	-21	+78	-18	-15	-184

Cochiti Lake.--Water-stage recorder and manometer in SW¼SW¼ sec. 5, T. 16 N., R. 6 E., in Pueblo de Cochiti Grant, on right bank. Cochiti Dam scheduled for completion in 1975; capacity 498,100 acre-ft at elevation 5,450.0 ft (crest of service spillway); dead storage 2,215 acre-ft at elevation 5,255.0 ft. Reservoir is operated by Corps of Engineers for flood control and sediment storage. Storage began Nov. 12, 1973.

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

Date	Elevation	Contents	Change in Contents
December 31, 1973	5,266.38	5,770	-
January 31, 1974	5,263.80	4,820	-950
February 28	5,261.53	4,050	-770
March 31	5,265.77	5,540	+1,490
April 30	5,264.00	4,890	-650
May 31	5,261.85	4,150	-740
June 30	5,260.57	3,740	-410
July 31	5,263.11	4,590	+850
August 31	5,262.75	4,450	-140
September 30	5,260.23	3,630	-820
October 31	5,263.05	4,560	+930
November 30	5,263.49	4,710	+150
December 31	5,262.61	4,410	-300
Calendar year 1974	-	-	-1,360

Galisteo Reservoir.--Water-stage recorder and manometer in NW¼ sec. 9, T. 14 N., R. 7 E., at dam on Galisteo Creek. Storage records begin in October 1970. Capacity 89,800 acre-feet at elevation 5,608.0 ft (crest of spillway). Reservoir is operated by Corps of Engineers for flood control and sediment storage. There was no storage at the end of each month during the calendar year.

San Gregorio Reservoir.--Staff gage in SW¼NE¼ sec. 20, T. 21 N., R. 1 E. (projected), on Clear Creek tributary to Rio Las Vacas and Jemez River. Completed in October 1958; capacity, 254 acre-feet at elevation 9,408.0 ft (crest of spillway).

Month-end contents, in acre-feet

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr
Contents	160	180	200	240	280	140	120	95	75	130	140	160	-
Change	0	+20	+20	+40	+40	-140	-20	-25	-20	+55	+10	+20	0

Jemez Canyon Reservoir.--Water-stage recorder in SW¼SW¼ sec. 32, T. 14 N., R. 4 E., on Jemez River 2.3 miles above mouth. Completed in 1953; capacity, 181,800 acre-ft at elevation of 5,252.3 ft. Capacity at elevation 5,232.0 ft (crest of spillway), 112,600 acre-ft by 1969 survey. Reservoir is operated by Corps of Engineers for flood control and sediment storage.

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

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Gage height	-	-	a49.25	a45.88	-	-	-	-	-	-	-	-	-
Contents	-	-	319	101	0	0	0	0	0	0	0	0	-
Change	-	-	+319	-218	-101	0	0	0	0	0	0	0	0

a For elevation add 5,100 ft.

Acomita Reservoir.--Staff gage in SE¼ 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 and Laguna Indian Reservations.

Month-end contents, in acre-feet

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Cal.yr.
Contents	620	618	590	485	330	270	200	---					
Change	0												

Reservoirs in Rio Grande Basin in New Mexico

Elephant Butte Reservoir.--Water-stage recorder in NW¼ sec. 30, T. 13 S., R. 3 W., at dam on Rio Grande. Storage began Jan. 6, 1915; capacity, 2,109,400 acre-feet at gage height 4,407.0 ft (crest of spillway), by survey of 1974. Datum of gage is 43.3 ft above mean sea level, datum of 1929. Water is used for power development and irrigation in New Mexico and Texas. Records furnished by Bureau of Reclamation.

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

Date	Gage height	Contents	Change in Contents
December 31, 1973	4,355.52	769,100	-
January 31, 1974	4,359.48	839,100	+70,000
February 28	4,359.89	846,600	+7,500
March 31	4,354.71	755,300	-91,300
April 30	4,350.53	687,300	-68,000
May 31	4,344.38	595,000	-92,300
June 30	4,335.35	473,900	-121,100
July 31	4,326.95	375,000	-98,900
August 31	4,323.00	333,500	-41,500
September 30	4,321.74	320,900	-12,600
October 31	4,323.99	343,600	+22,700
November 30	4,326.53	370,500	+26,900
December 31	4,329.40	402,500	+32,000
Calendar year 1974	-	-	-366,600

Caballo Reservoir.--Water-stage recorder in SE¼SW¼ sec. 19, T. 16 S., R. 4 W., at dam on Rio Grande. Storage began Feb. 8, 1938; capacity, 344,000 acre-feet (by 1958 survey), at gage height 4,182.0 ft (above which spillway gates open automatically). Datum of gage is 43.3 ft above mean sea level, datum of 1929. 100,000 acre-feet of storage reserved for flood control. Records furnished by Bureau of Reclamation.

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

Date	Gage height	Contents	Change in Contents
December 31, 1973	4,139.89	39,970	-
January 31, 1974	4,140.54	42,080	+2,110
February 28	4,147.50	69,050	+26,970
March 31	4,147.44	68,780	-270
April 30	4,148.84	75,190	+6,410
May 31	4,150.98	85,690	+10,500
June 30	4,149.89	80,230	-5,460
July 31	4,152.74	95,180	+14,950
August 31	4,143.28	51,700	-43,480
September 30	4,134.11	23,800	-27,900
October 31	4,137.60	33,050	+9,250
November 30	4,138.66	36,160	+3,110
December 31	4,139.61	39,090	+2,930
Calendar year 1974	-	-	-880

Project Storage.--This is the combined storage in Elephant Butte and Caballo Reservoirs. Total Project Storage capacity is 2,353,400 acre-feet which excludes the 100,000 acre-feet reserved for flood control in Caballo Reservoir.

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

Date	Gage height	Contents	Change in Contents
December 31, 1973	-	809,100	-
January 31, 1974	-	881,200	+72,100
February 28	-	915,600	+34,400
March 31	-	824,100	-91,500
April 30	-	762,500	-61,600
May 31	-	680,700	-81,800
June 30	-	554,100	-126,600
July 31	-	470,200	-83,900
August 31	-	385,200	-85,000
September 30	-	344,700	-40,500
October 31	-	376,600	+31,900
November 30	-	406,700	+30,100
December 31	-	441,600	+34,900
Calendar year 1974	-	-	-367,500

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

Weminuche Pass ditch (Raber-Lohr ditch).--Water-stage recorder and 4-ft rectangular flume in sec. 33, T. 40 N., R. 4 W., at Weminuche Pass in Colorado. Diversion is from Rincon la Vaca Creek in San Juan River Basin into Weminuche Creek in Rio Grande Basin. Second enlargememt 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 & No. 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 Creek in New Mexico. Construction completed in 1970.

Imported quantities, in acre-feet, 1974

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	3,140
April	0	0	0	0	0	0	8,520
May	98	513	0	149	42	64	22,080
June	37	200	20	59	67	90	8,990
July	0	0	25	0	0	.1	1,700
August	0	0	17	0	0	6	2,190
September	0	0	0	0	0	0	28
October	0	0	0	0	0	0	192
November	0	0	0	0	0	0	356
December	0	0	0	0	0	0	34
Cal. year	135	713	62	208	109	154	47,230

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 station at Bosque del Apache was established for the U.S. Fish and Wildlife Service; 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 U. S. Environmental Science Services Administration, U.S. 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. Records furnished by Bureau of Reclamation.

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.

Santa Fe College.--Lat 35°39', long 105°58', in Santa Fe, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 6,800 ft.

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

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

Bosque del Apache.--Lat 33°46", long 106°54', in Socorro County, 7 miles south of San Antonio, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 4,520 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 mimimum thermometers, and standard 8-inch rain gage at elevation 4,576 ft.

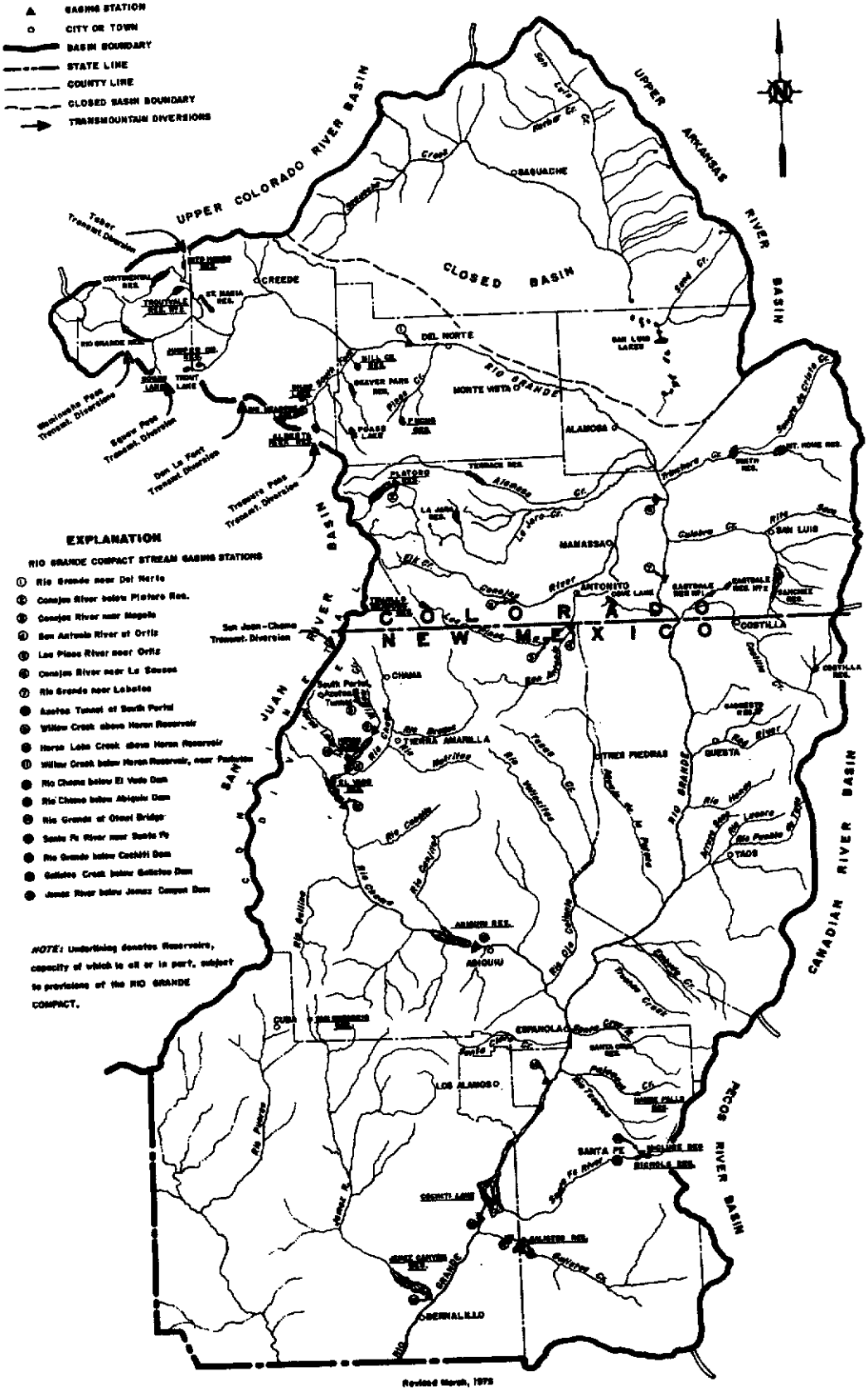
Caballo Dam.--Lat 32°54', long 107°18', in Sierra County at Caballo Dam, N. Mex. Standard class A pan, anemometer, maximum and minimum thermometers, standard 8-inch and recording rain gages at elevation 4,190 ft.

New Mexico State University.--Lat 32°17', long 106°45', in Dona 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, in inches

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Alamosa Airport	Evap.	-	-	-	-	-	-	-	-	-	-	-	-	-
	Precip.	0.70	0.08	0.24	0.18	0.09	0.72	1.78	0.72	0.62	0.74	0.15	0.74	6.76
Platoro Dam	Evap.	-	-	-	-	6.75	6.36	5.23	4.80	4.75	2.69	-	-	-
	Precip.	-	-	-	.40	.01	.54	3.71	2.15	.98	2.44	-	-	-
El Vado Dam	Evap.	-	-	-	6.08	9.93	9.39	8.68	7.29	6.85	3.50	1.77	-	-
	Precip.	1.53	.27	1.20	.46	T	.77	1.33	2.27	.58	2.33	.76	.69	12.19
Abiquiu Dam	Evap.	-	-	-	8.02	12.53	12.28	10.13	8.49	8.02	4.18	2.42	-	-
	Precip.	.59	.35	1.06	.21	.01	.38	1.43	1.41	.55	2.10	.61	.36	9.06
Santa Fe College	Evap.	-	-	-	8.24	12.05	12.15	10.16	7.59	7.51	4.66	-	-	-
	Precip.	1.56	.92	.50	.28	.35	.04	2.81	1.24	1.93	3.27	.14	.68	13.72
Cochiti Dam	Evap.	-	-	-	10.36	13.30	12.95	10.98	9.88	8.42	4.53	2.86	-	-
	Precip.	1.95	.25	1.18	.17	.34	.01	1.93	.91	1.41	2.60	.08	1.47	12.30
Jemez Dam	Evap.	-	-	-	11.93	14.49	16.19	11.88	10.65	9.05	4.83	3.15	-	-
	Precip.	.77	.28	.84	.03	.45	.14	2.07	1.05	1.17	2.73	.34	.23	10.10
Bosque del Apache	Evap.	-	-	-	-	10.84	-	-	-	-	-	-	-	-
	Precip.	.08	.00	.00	.00	.64	.00	1.36	1.38	1.53	3.97	.17	.61	9.74
Elephant Butte Dam	Evap.	3.73	5.07	9.56	12.82	15.82	17.50	12.38	11.04	8.32	5.41	3.84	2.46	107.95
	Precip.	.13	.04	.25	.00	.47	.00	.64	.35	1.54	2.77	.02	.73	6.94
Caballo Dam	Evap.	5.02	-	10.02	12.99	15.36	16.99	11.96	10.40	8.36	6.35	4.11	-	-
	Precip.	.20	.00	.04	.01	.70	.00	3.86	3.04	1.71	3.26	.06	.36	13.24
State University	Evap.	3.45	4.56	7.75	10.51	11.92	14.69	10.45	9.13	7.40	5.63	2.89	2.37	90.75
	Precip.	.64	T	.39	T	.00	.06	3.24	3.39	3.12	1.94	.31	.74	13.83

13846



Revised March, 1975

RIO GRANDE BASIN

ABOVE BERNALILLO, NEW MEXICO

0 5 10 20 30 40 50

SCALE IN MILES