

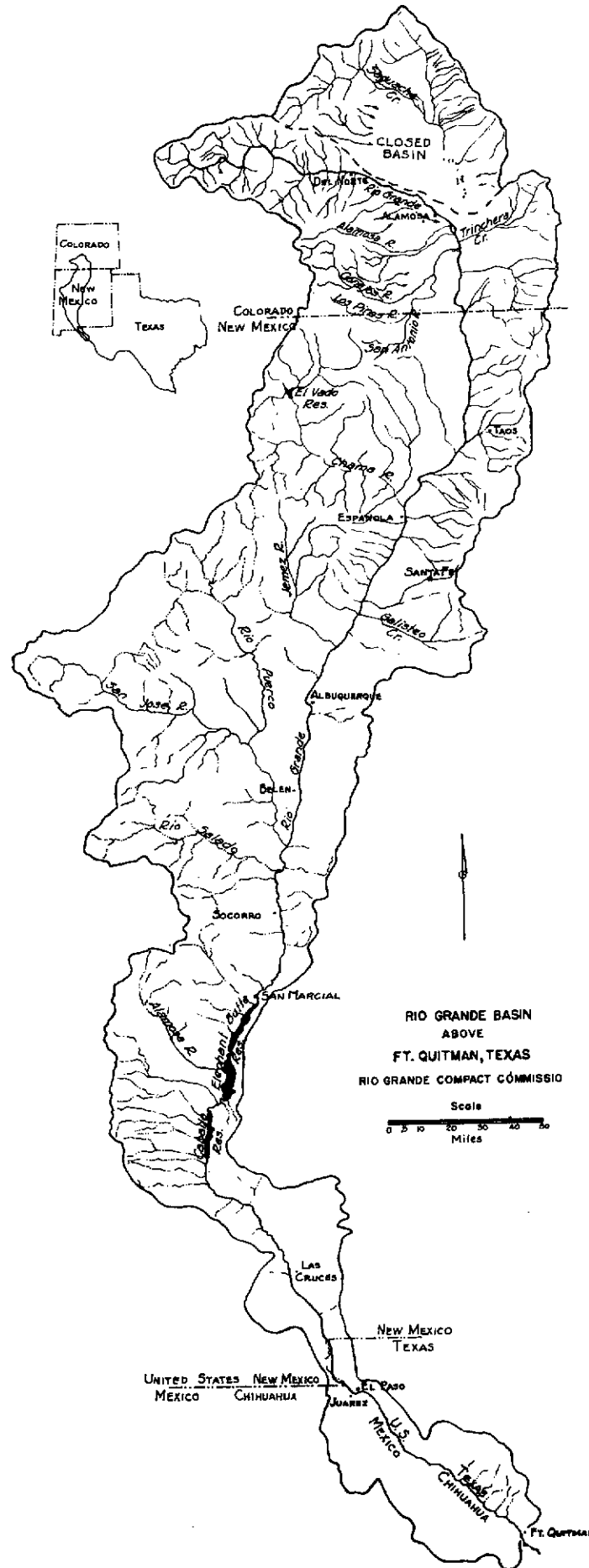
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REPORT
of the
RIO GRANDE COMPACT
COMMISSION

1973



TO THE GOVERNORS OF
Colorado, New Mexico and Texas



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RIO GRANDE COMPACT COMMISSION
COLORADO TEXAS NEW MEXICO

March 28, 1974

The Honorable John D. Vanderhoof
Governor of the State of Colorado
Denver, Colorado

The Honorable Bruce King
Governor of the State of New Mexico
Santa Fe, New Mexico

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

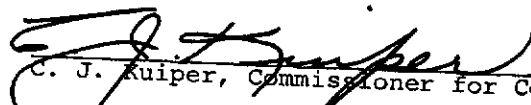
Sirs:

The 35th annual meeting of the Rio Grande Compact Commission was held at Santa Fe, New Mexico, on March 28, 1974.

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 520,700 acre-feet, which was 21,700 acre-feet in excess of the scheduled delivery in 1973. The accrued debit for Colorado was reduced to 744,000 acre-feet as of December 31, 1973. 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 1,098,400 acre-feet, which was 72,900 acre-feet less than the scheduled delivery in 1973. The accrued debit of New Mexico was 37,200 acre-feet as of December 31, 1973.
- (c) Releases of usable water in 1973 from Project Storage amounted to 618,300 acre-feet.
- (d) Expenses of administration of the Rio Grande Compact were \$39,750 in the fiscal year ending June 30, 1973. The United States bore \$17,720 of this total; the balance of \$22,530 was borne equally by the three States party to the Compact.

Respectfully,


C. J. Kuiper, Commissioner for Colorado


S. E. Reynolds, Commissioner for New Mexico


J. B. Gilmer, Commissioner for Texas

RIO GRANDE COMPACT COMMISSION REPORT

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.

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(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.

RIO GRANDE COMPACT COMMISSION REPORT

ARTICLE II

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

- (a) On the Rio Grande near Del Norte above the principal points of diversion to the San Luis Valley;
- (b) On the Conejos River near Mogote;
- (c) On the Los Pinos River near Ortiz;
- (d) On the San Antonio River at Ortiz;
- (e) On the Conejos River at its mouths near Los Sauces;
- (f) On the Rio Grande near Lobatos;
- (g) On the Rio Chama below El Vado Reservoir;
- (h) On the Rio Grande at Otowi Bridge near San Ildefonso;
- (i) On the Rio Grande near San Acacia;
- (j) On the Rio Grande at San Marcial;
- (k) On the Rio Grande below Elephant Butte Reservoir;
- (l) On the Rio Grande below Caballo Reservoir.

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

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

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thousand acre feet less than the sum of those quantities set forth in the two following tabulations of relationship, which correspond to the quantities at the upper index stations:

DISCHARGE OF CONEJOS RIVER

Quantities in thousands of acre feet

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

Intermediate quantities shall be computed by proportional parts.

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

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

DISCHARGE OF RIO GRANDE EXCLUSIVE OF CONEJOS RIVER

Quantities in thousands of acre feet

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

RIO GRANDE COMPACT COMMISSION REPORT

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.

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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	0
200	65
300	141
400	219
500	300
600	383
700	469
800	557
900	648
1,000	742
1,100	839
1,200	939
1,300	1,042
1,400	1,148
1,500	1,257
1,600	1,370
1,700	1,489
1,800	1,608
1,900	1,730
2,000	1,856
2,100	1,985
2,200	2,117
2,300	2,253

Intermediate quantities shall be computed by proportional parts.

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

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

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

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

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

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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

RIO GRANDE COMPACT

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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.

RIO GRANDE COMPACT COMMISSION REPORT

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

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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.

RIO GRANDE COMPACT COMMISSION REPORT

- (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

RESOLUTION OF COMMISSION

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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	
2,200	1,695
2,300	1,795
2,400	1,895
2,500	1,995
2,600	2,095
2,700	2,195
2,800	2,295
2,900	2,395
3,000	2,495
	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").

RULES AND REGULATIONS FOR
ADMINISTRATION OF THE RIO GRANDE COMPACT

19

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.

RULES AND REGULATIONS

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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.

RIO GRANDE COMPACT COMMISSION REPORT

RECORDS OF DELIVERIES AND RELEASES

At the annual meeting of the Compact Commission on March 28, 1974, the records of deliveries and releases for calendar year 1973 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 NM5, Reduction of Credits by Evaporation, was computed in accordance with the Rules and Regulations. Item NM6, Revisions 1972, is in accordance with Article VI.

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.

003764

1973

Quantities in Thousands of Acre Feet to Nearest Hundred

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Quantities in Thousands of Acre Feet to Nearest Hundred

MONTH	COMOJOS INDEX SUPPLY										RIO GRANDE INDEX SUPPLY										DELIVERIES				
	MEASURED FLOW				ADJUSTMENTS				SUPPLY		RECORDED FLOW NEAR DEL WORTH	ADJUSTMENTS						SUPPLY		CONOJOS RIVER AT MOUTHS NEAR LOS SAUCES	RIO GRANDE LESS CONOJOS RIVER	RIO GRANDE AT LOBATOS	ACCUMULATED AT LOBATOS		
	CONOJOS AT MOSCOTE	LOS PINOS NEAR ONITE	SAN ANTONIO AT ONITE	TOTAL	STORAGE AT END OF MONTH	CHANGE IN STORAGE	OTHER ADJUSTMENTS	NET ADJUSTMENT	SUPPLY IN MONTH	ACCUMULATED TOTAL		13	14	15	16	17	18	19	20					21	22
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
					a2.9					Φ		1.5						Φ				Φ			
JAN	3.2				a2.9	0	0	0	3.2	3.2	10.6	1.5	0	0	0	0	10.6	10.6	5.0	12.2	17.2	17.2			
FEB	3.0				a2.9	0	0	0	3.0	6.2	9.8	1.5	0	0	0	0	9.8	20.4	4.7	11.7	16.4	33.6			
MAR	4.0				3.0	+1	0	+1	4.1	10.3	14.5	1.5	0	0	0	0	14.5	34.9	7.7	25.8	33.5	67.1			
APR	9.5	5.0	4.5	19.0	4.6	+1.6	0	+1.6	20.6	30.9	27.1	1.5	0	0	0	0	27.1	62.0	9.5	20.5	30.0	97.1			
MAY	68.9	49.6	19.1	137.6	11.8	+7.2	+1	+7.3	144.9	175.8	196.3	1.5	0	0	0	0	196.3	258.3	52.8	54.7	107.5	204.6			
JUN	104.1	35.5	1.9	141.5	31.3	+19.5	+1	+19.6	161.1	336.9	280.6	1.5	0	0	0	-9	279.7	538.0	61.4	78.7	140.1	344.7			
JUL	60.5	8.8	.2	69.5	36.9	+5.6	+1	+5.7	75.2	412.1	154.2	1.5	0	0	0	0	154.2	692.2	30.2	41.0	71.2	415.9			
AUG	13.4	2.0	0	15.4	37.0	+1	+1	+2	15.6	427.7	70.7	1.5	0	0	0	0	70.7	762.9	2.8	19.0	21.8	437.7			
SEP	6.4	1.2	0	7.6	36.9	-1	+1	0	7.6	435.3	26.6	1.5	0	0	0	0	26.6	789.5	2.8	14.9	17.7	455.4			
OCT	4.3	1.2	.2	5.7	36.9	0	+1	+1	5.8	441.1	20.5	1.5	0	0	0	0	20.5	810.0	4.8	20.6	25.4	480.8			
NOV	3.2			3.2	a36.9	0	0	0	3.2	444.3	11.6	1.5	0	0	0	0	11.6	821.6	3.7	17.6	21.3	502.1			
DEC	2.9			2.9	a36.9	0	0	0	2.9	447.2	10.6	1.5	0	0	0	0	10.6	832.2	3.5	15.1	18.6	520.7			
YEA	283.4	103.3	25.9	412.6		+34.0	+6	+34.6	447.2		833.1		0	-9	0	-9	832.2		188.9	331.8	520.7				

REMARKS: Storage in recreational reservoirs not included.

a Estimated.

b Annual evaporation loss recreational reservoirs.

c 1149 acre-ft minus 243 acre-ft, pre-compact; also 452 acre-ft of transmountain water was applied to offset evaporation from Compact reservoirs above Del Norte gage.

SUMMARY OF DEBITS AND CREDITS			
ITEM			
	DEBIT	CREDIT	BALANCE
C1 Balance at Beginning of Year			Dr 766.2
C2 Scheduled Delivery from Conchos River	229.5		Dr 995.7
C3 Scheduled Delivery from Rio Grande	279.5		Dr 1,275.2
C4 Actual Delivery at Lobatos plus 10,000 Acre Feet		530.7	Dr 744.5
C5 Reduction of Debits % Evaporation		0.5	Dr 744.0
C6 Reduction of Credits % Evaporation			
C7			
C8 Balance at End of Year			Dr 744.0

RIO GRANDE COMPACT DELIVERIES BY NEW MEXICO AT ELEPHANT BUTTE

YEAR 1973

Quantities in Thousands of Acre Feet to Nearest Hundred

MONTH	OTOWI INDEX SUPPLY										Total Water Stored in New Mexico Above San Marcial at End of Month	ELEPHANT BUTTE EFFECTIVE SUPPLY				
	ADJUSTMENTS											STORAGE IN ELEPHANT BUTTE RESERVOIR		Recorded Flow Below Elephant Butte Dam	EFFECTIVE SUPPLY	
	RESERVOIRS: LORANOS TO OTOWI											End of Month	Change Gain (+) Loss (-)		During Month	Accumulated Total
	Recorded Flow at Otowi Bridge	Storage - End of Month	Change in Storage	Reservoir Evaporation	Other Adjustments	Trans- mountain Diversions	Net Adjustment	INDEX SUPPLY								
								3	4	5						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		87.7								89.3	301.6					
JAN	42.1	8.0	+0.3	0	0	0	+0.3	42.4	42.4	9.8	343.4	+41.8	0.3	42.1	42.1	
FEB	38.4	9.4	+1.4	0	0	0	+1.4	39.8	82.2	11.1	384.4	+41.0	.7	41.7	83.8	
MAR	71.4	25.6	+16.2	+ .2	0	0	+16.4	87.8	170.0	27.8	366.1	-18.3	86.0	67.7	151.5	
APR	110.1	80.7	+55.1	+ .2	0	0	+55.3	165.4	335.4	92.3	386.7	+20.6	65.0	85.6	237.1	
MAY	339.0	299.1	+218.4	+1.3	0	0	+219.7	558.7	894.1	324.1	675.9	+124.0	108.4	232.4	752.9	
JUN	292.1	357.4	+58.3	+3.1	0	0	+61.4	353.5	1,247.6	360.9	699.1	+23.2	108.3	131.5	884.4	
JUL	192.2	288.2	-69.2	+2.2	0	0	-67.0	125.2	1,372.8	291.5	705.3	+6.2	48.0	54.2	938.6	
AUG	99.1	227.2	-61.0	+2.0	b+ .1	0	-58.9	40.2	1,413.0	230.0	663.8	-41.5	68.8	27.3	965.9	
SEPT	61.5	200.6	-26.6	+1.5	0	0	-25.1	36.4	1,449.4	203.4	671.8	+8.0	.6	8.6	974.5	
OCT	52.0	193.8	-6.8	+1.0	0	- .1	-5.9	46.1	1,495.5	196.3	706.6	+34.8	.8	35.6	1,010.1	
NOV	54.8	179.8	-14.0	+ .5	0	-2.2	-15.7	39.1	1,534.6	185.5	794.2	+87.6	.7	88.3	1,098.4	
DEC	103.3	118.3	-61.5	0	0	- .1	-61.6	41.7	1,576.3	124.4						
YEAR	1,456.0		+110.6	+12.0	+ .1	-2.4	+120.3	1,576.3				+492.6	605.8	1,098.4		

SUMMARY OF DEBITS AND CREDITS			
ITEM	DEBIT	CREDIT	BALANCE
NM1 Balance at Beginning of Year			Cr 41.7
NM2 Scheduled Delivery of Elephant Butte	1,171.3		Dr 1,129.6
NM3 Actual Elephant Butte Effective Supply		1,098.4	Dr 31.2
NM4 Reduction of Debits % Evaporation		0	Dr 31.2
NM5 Reduction of Credits % Evaporation	6.0		Dr 37.2
NM6 Revisions 1972	0		Dr 37.2
NM7			
NM8 Balance at End of Year			Dr 37.2

REMARKS: Storage in recreational reservoirs not included.
a Rio Grande water in Heron Reservoir revised from 1,380 acre-ft to 1,620 acre-ft.
b Annual evaporation from recreational reservoirs.
NM6 No adjustment necessary because 150,000 acre-ft credit limitation was imposed on 1972 delivery.

REMARKS: Storage in recreational reservoirs not included.

a Rio Grande water in Heron Reservoir revised from 1,380 acre-ft to 1,620 acre-ft.

b Annual evaporation from recreational reservoirs.

NM6 No adjustment necessary because 150,000 acre-ft credit limitation was imposed on 1972 delivery.

NIO GRANDE COMPACT

RELEASE AND SPILL FROM PROJECT STORAGE

YEAR - 1973

Quantities in Thousands of Acre Feet to Nearest Hundred

Quantities in Thousands of Acre Feet to Nearest Hundred

MONTH	USABLE WATER IN STORAGE				UNFILLED CAPACITY OF PROJECT STORAGE AT END OF MONTH	CREDIT WATER IN STORAGE				FLOOD WATER IN STORAGE IN CABALLO RESERVOIR AT END OF MONTH	TOTAL WATER IN PROJECT STORAGE AT END OF MONTH	MEASURED FLOW AT CABALLO GAGING STATION	INTERVENING DIFFERENCES TO CABLES	TOTAL RELEASE AND SPILL	SPILL FROM STORAGE				USABLE RELEASE	
	ELIANT BUTTE RESERVOIR	CABALLO RESERVOIR	TOTAL AT END OF MONTH	COLORADO CREDIT WATER		NEW MEXICO CREDIT WATER	TOTAL AT END OF MONTH	CABALLO FLOOD WATER	CREDIT WATER						USABLE WATER	NET DURING MONTH	ACCUMULATED TOTAL			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
		2,481.2	301.6	68.1	369.7	2,111.5	0	0	0	0	369.7	—	—	—	—	—	—	—		
JAN		2,481.2	301.7	69.4	371.1	2,110.1	0	41.7	41.7	0	412.8	0.1	0	0.1	0	0	0	0.1		
FEB		2,481.2	342.7	73.6	416.3	2,064.9	0	41.7	41.7	0	458.0	.1	0	.1	0	0	0	.1		
MAR		2,481.2	324.4	83.0	407.4	2,073.8	0	41.7	41.7	0	449.1	73.9	.1	74.0	0	0	0	74.0		
APR		2,481.2	345.0	74.3	419.3	2,061.9	0	41.7	41.7	0	461.0	72.9	.1	73.0	0	0	0	73.0		
MAY		2,481.2	510.2	119.2	629.4	1,851.8	0	41.7	41.7	0	671.1	70.4	.1	70.5	0	0	0	70.5		
JUN		2,381.2	634.2	119.7	753.9	1,627.3	0	41.7	41.7	0	795.6	103.4	.2	103.6	0	0	0	103.6		
JUL		2,381.2	657.4	128.7	786.1	1,595.1	0	41.7	41.7	0	827.8	92.4	.1	92.5	0	0	0	92.5		
AUG		2,381.2	663.6	42.8	706.4	1,674.8	0	41.7	41.7	0	748.1	129.3	.3	129.6	0	0	0	129.6		
SEPT		2,381.2	622.1	31.8	653.9	1,727.3	0	41.7	41.7	0	695.6	74.4	.1	74.5	0	0	0	74.5		
OCT		2,481.2	630.1	35.5	665.6	1,815.6	0	41.7	41.7	0	707.3	.2	0	.2	0	0	0	.2		
NOV		2,481.2	664.9	37.8	702.7	1,778.5	0	41.7	41.7	0	744.4	.1	0	.1	0	0	0	.1		
DEC		2,481.2	752.5	40.0	792.5	1,688.7	0	41.7	41.7	0	834.2	.1	0	.1	0	0	0	.1		
YEAR		—	—	—	—	—	—	—	—	—	617.3	1.0	618.3	0	0	0	0	618.3		

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

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

a 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 in violation by the Bureau of Reclamation for flood control purposes from June 1 to October 1.

Note.--Usable water in Project Storage was less than 400,000 acre-feet from Jan. 1 to Feb. 18 inclusive.

ACCUMULATED DEBIT FROM NORMAL RELEASE

ITEM	DEBIT		CREDIT		BALANCE
	PI	P2	PI	CREDIT	
P1	Accrued Debiture 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 Debiture				
P6					
P7	Accrued Debiture at End of Year				
TIME OF HYPOTHETICAL SPILL					

COST OF OPERATION, IN DOLLARS, FOR FISCAL YEAR ENDING JUNE 30, 1973

Adopted at the Thirty-fifth Annual Meeting

Item	Total cost	Borne by United States	Borne by		
			Colorado	New Mexico	Texas
GAGING STATIONS					
In Colorado	10,800	5,400	5,400		
In New Mexico, above Caballo Reservoir	15,210	9,740		5,020	450
In New Mexico, Caballo Reservoir and below	5,710	380		380	4,950
Subtotal	31,720	15,520	5,400	5,400	5,400
ADMINISTRATION					
U.S.G.S. Contract	6,800	1,700	1,700	1,700	1,700
Other expense	1,230		410	410	410
Subtotal	8,030	1,700	2,110	2,110	2,110
GRAND TOTAL	39,750	17,220	7,510	7,510	7,510
EQUAL SHARES OF STATES			7,510	7,510	7,510
CASH ADJUSTMENT BETWEEN STATES			0	0	0

BUDGET, IN DOLLARS, FOR FISCAL YEAR ENDING JUNE 30, 1975

Adopted at the Thirty-fifth Annual Meeting

Item	Total cost	Borne by United States	Borne by		
			Colorado	New Mexico	Texas
GAGING STATIONS					
In Colorado	12,730	6,365	6,365		
In New Mexico, above Caballo Reservoir	17,300	11,395		5,915	
In New Mexico, Caballo Reservoir and below	7,265	450		450	6,365
Subtotal	37,295	18,200	6,365	6,365	6,365
ADMINISTRATION					
U.S.G.S. Contract	8,400	2,100	2,100	2,100	2,100
Other expense	1,800		600	600	600
Subtotal	10,200	2,100	2,700	2,700	2,700
GRAND TOTAL	47,495	20,300	9,065	9,065	9,065
EQUAL SHARES OF STATES			9,065	9,065	9,065
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:

- Willow Creek above Azotea Creek near Park View, N. Mex.
- 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.

ERRATA

The minutes of the Sixth Annual (Sixteen) Meeting of the Rio Grande Compact Commission state in part:

"--factual data used in the compilation of reports of the Commission which factual data had been revised and published by the U.S.G.S. ---subsequent to use by the Compact Commission in computing debits and credits should be published in succeeding reports of the Commission together with proper explanatory notes."

The Rio Grande Compact provides that the Annual Report of the Commission for each calendar year shall be transmitted to the Governors of the signatory states before March first of the following year. Although every effort is made to furnish correct data to the Commission for use in their report, the limited time available to the collecting agency does not permit a thorough analysis of the data and they are necessarily subject to revision.

The Commission bases all computations of debits and credits on volumes in thousands of acre-feet, expressed to the nearest hundred. A check was made of all records published in these annual reports against those published by the U.S.G.S. and it was found that in most instances the changes were not of sufficient magnitude to affect the computations of debits and credits; other changes were of items not used by the Commission; but whenever a corrected value affected the computations of credits or debits, such revisions have been published. The effect of changes or revisions on the credits, debits or departures from normal release have been adjusted from time to time by appropriate correction entries.

The figures shown below are the corrected values of runoff in acre-feet for the calendar year 1972.

Willow Creek above Heron Reservoir
near Chama, N. Mex.

January	307
February	3,320
March	6,500
April	9,200
May	10,910
June	8,910
July	621
August	90
September	890
October	16,350
November	4,750
December	2,130

Calendar year 1972

63,000

STREAMFLOW

33

Rio Grande near Del Norte, Colo.

Location.--Water-stage recorder, lat. $37^{\circ}41'22''$, long $106^{\circ}27'38''$, in NW $\frac{1}{4}$ 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.--84 years (1890-1973), 906 cfs (656,400 acre-ft per year).

Extremes.--1889-1973: 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	5,325	180	160	172	10,560
February	4,930	195	165	176	9,780
March	7,287	280	200	235	14,450
April	13,667	1,330	194	456	27,110
May	98,962	5,070	992	3,192	196,300
June	141,460	5,970	3,620	4,715	280,600
July	77,760	4,560	1,460	2,508	154,200
August	35,636	1,830	618	1,150	70,680
September	13,412	745	318	447	26,600
October	10,340	377	264	334	20,510
November	5,858	258	150	195	11,620
December	5,362	217	130	173	10,640
Calendar year 1973	419,999	5,970	130	1,151	833,100

Conejos River below Platoro Reservoir, Colo.

Location.--Water-stage recorder and concrete control, lat $37^{\circ}21'18''$, long $106^{\circ}32'37''$, in NW $\frac{1}{4}$ sec. 22, T. 36 N., R. 4 E., on left bank 1,100 ft downstream from valve house for Platoro Reservoir, and 0.7 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.--21 years (1953-73), 87.4 cfs (63,320 acre-ft per year).

Extremes.--1952-73: 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	279.0	-	-	9.0	553
February	252.0	-	-	9.0	500
March	294.5	-	-	9.5	584
April	573	64	10	19.1	1,140
May	3,781	336	12	122	7,500
June	9,354.0	680	4.8	312	18,550
July	11,107	690	120	358	22,030
August	2,260	131	31	72.9	4,480
September	856	78	12	28.5	1,700
October	473	39	12	15.3	938
November	420	-	-	14.0	833
December	434	-	-	14.0	861
Calendar year 1973	30,083.5	690	-	82.4	59,670

RIO GRANDE COMPACT COMMISSION REPORT

Conejos River near Mogote, Colo.

Location.--Water-stage recorder, lat 37°03'14", long 106°11'13", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--63 years (1904, 1912-73), 333 cfs (241,300 acre-ft per year).

Extremes.--1903-05, 1911-73: 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	1,619	65	45	52.2	3,210
February	1,513	66	44	54.0	3,000
March	2,016	72	59	65.0	4,000
April	4,773	498	59	159	9,470
May	34,757	1,940	356	1,121	68,940
June	52,470	2,640	1,150	1,749	104,100
July	30,510	1,660	384	984	60,520
August	6,757	384	119	218	13,400
September	3,212	204	75	107	6,370
October	2,193	101	59	70.7	4,350
November	1,592	59	40	53.1	3,160
December	1,472	59	39	47.5	2,920
Calendar year 1973	142,884	2,640	39	391	283,400

San Antonio River at Ortiz, Colo.

Location.--Water-stage recorder, lat 36°59'35", long 106°02'17", in New Mexico in NE $\frac{1}{4}$ SE $\frac{1}{4}$ 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.--33 years (1941-73), 25.0 cfs (18,110 acre-ft per year).

Extremes.--1920, 1925-73: 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	88.3	3.3	1.9	2.85	175
February	128.3	6.1	1.8	4.58	254
March	193.1	8.0	5.0	6.23	383
April	2,266.0	291	6.0	75.5	4,490
May	9,637	644	109	311	19,110
June	968.0	101	5.0	32.3	1,920
July	105.60	11	.10	3.41	209
August	5.63	2.0	0	.18	11
September	20.63	3.0	0	.69	41
October	84.20	5.2	.90	2.72	167
November	77.7	3.4	1.8	2.59	154
December	69.3	2.7	1.9	2.24	137
Calendar year 1973	13,643.76	644	0	37.4	27,060

STREAMFLOW

35

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.--55 years (1915-20, 1925-73), 121 cfs (87,660 acre-ft per year).

Extremes.--1915-20, 1925-73: 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	590	20	18	19.0	1,170
February	575	22	18	20.5	1,140
March	744	31	20	24.0	1,480
April	2,509	305	18	83.6	4,980
May	25,025	1,520	235	807	49,640
June	17,879	939	386	596	35,460
July	4,442	359	48	143	8,810
August	982	55	22	31.7	1,950
September	623	36	17	20.8	1,240
October	627	26	18	20.2	1,240
November	517	19	15	17.2	1,030
December	479	21	11	15.5	950
Calendar year 1973	54,992	1,520	11	151	109,100

Conejos River near Lasasues, 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 downstream 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 Lasasues. 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.--52 years (1922-73), 184 cfs (133,300 acre-ft per year).

Extremes.--1921-73: 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	2,510	89	68	81.0	4,980
February	2,382	99	72	85.1	4,720
March	3,874	148	108	125	7,680
April	4,785	442	82	160	9,490
May	26,619	1,650	136	859	52,800
June	30,946	1,560	628	1,032	61,380
July	15,246	863	280	492	30,240
August	1,423.10	288	.15	45.9	2,820
September	1,394	87	25	40.5	2,760
October	2,413	116	31	77.8	4,790
November	1,886	80	39	62.9	3,740
December	1,748	82	36	56.4	3,470
Calendar year 1973	95,226.10	1,650	.15	261	188,900

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.--74 years (1900-73), 595 cfs (431,100 acre-ft per year).

Extremes.--1899-1973: 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	8,690	290	265	280	17,240
February	8,280	350	265	296	16,420
March	16,888	643	400	545	33,500
April	15,144	768	335	505	30,040
May	54,172	3,500	395	1,747	107,500
June	70,630	2,970	1,810	2,354	140,100
July	35,890	1,790	832	1,158	71,190
August	11,016	792	216	355	21,850
September	8,948	450	216	298	17,750
October	12,802	544	216	413	25,390
November	10,715	455	270	357	21,250
December	9,360	380	245	302	18,570
Calendar year 1973	262,535	3,500	216	719	520,700

Willow Creek above Azotea Creek, near Park View, N. Mex.

Location.--Water-stage recorder, lat 36°48'15", long 106°39'30", in Tierra Amarilla Grant, on right bank 200 ft upstream from Azotea Creek, 7.1 miles northwest of Park View, and 8.3 miles southwest of Chama. Datum of gage is 7,404.00 ft above mean sea level.

Drainage area.--42 sq mi.

Extremes.--1971-73: Maximum daily discharge, 125 cfs April 25, 1973; no flow at times.

Remarks.--Nonrecording gage prior to Nov. 18, 1971. Six-inch Parshall flume Apr. 21 to Nov. 18, 1972. Station discontinued December 31, 1973.

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	457.2	30	8.6	14.7	907
April	1,981.0	125	8.7	66.0	3,930
May	1,327.1	73	8.0	42.8	2,630
June	77.59	14	.11	2.59	154
July	95.30	14	.27	3.07	189
August	52.70	4.1	.34	1.70	105
September	8.83	1.3	0	.29	18
October	3.10	.42	0	.10	6.1
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1973	-	125	0	-	-

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.---1962-73: 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 Rutherford 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-ft Creek	*Drain
January	786	37	11	25.4	1,560	0
February	702	40	14	25.1	1,390	0
March	2,439	172	42	78.7	4,840	0
April	11,679	870	51	389	23,160	0
May	25,206	980	418	813	50,000	12
June	27,048	1,010	738	902	53,650	12
July	14,516	929	154	468	28,790	22
August	2,401	242	11	77.5	4,760	0
September	1,137.2	207	5.4	37.9	2,260	0
October	540.8	62	3.7	17.4	1,070	0
November	12.99	2.2	.20	.43	26	0
December	5.89	-	-	.19	12	0
Calendar year 1973	86,473.88	1,010	-	237	171,500	46

* Rutherford Drain

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.---1963-73: 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	0	0	0	0	0
February	0	0	0	0	0
March	235.1	26	0	7.58	466
April	603.2	56	4.0	20.1	1,200
May	110.26	15	.06	3.56	219
June	.66	.19	0	.022	1.3
July	0	0	0	0	0
August	14.44	2.5	0	.47	29
September	56.78	5.2	.45	1.89	113
October	2.24	.36	.02	.072	4.4
November	.10	.02	0	.003	.2
December	0	0	0	0	0
Calendar year 1973	1,022.78	56	0	2.80	2,030

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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.--1971-73: 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	Releases in Acre-feet *TMW Total	
January	86.2	20	0	2.78	0	171
February	290.5	40	0	10.4	0	576
March	2,847	302	0	91.8	5	5,650
April	7,401	781	14	246.7	0	14,680
May	1,030	261	0	33.2	11	2,040
June	0	0	0	0	0	0
July	964.7	103	0	31.1	11	1,910
August	1,467.2	155	0	47.3	16	2,910
September	61	29	0	2.03	25	121
October	8.1	8.1	0	.26	16	16
November	1,131	283	0	37.7	2,240	2,240
December	19,429	2,220	0	627	38,540	38,540
Calendar year 1973	34,715.7	2,220	0	95.1	40,860	68,860

*Transmountain Water

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, 1936-73: 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 Reservoir 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	2,695	122	57	86.9	5,350
February	2,089	125	24	74.6	4,140
March	861	30	26	27.8	1,710
April	995	49	27	33.2	1,970
May	77,469	5,790	49	2,499	153,700
June	33,212	2,060	663	1,107	65,880
July	7,444	664	148	240	14,770
August	12,228	638	80	394	24,250
September	14,699	619	125	490	29,160
October	5,001	361	42	161	9,920
November	2,188	306	32	72.9	4,340
December	20,594	2,230	35	664	40,850
Calendar year 1973	179,475	5,790	24	492	356,000

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.--12 years (1926-73), 368 cfs (266,600 acre-feet per year).

Extremes.--1961-73: 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	3,018	135	51	97.4	5,990
February	2,769	165	33	98.9	5,490
March	5,882	389	59	190	11,670
April	12,898	940	36	430	25,580
May	17,887	1,310	24	577	35,480
June	24,250	2,020	64	808	48,100
July	46,126	2,020	109	1,488	91,490
August	33,606	1,730	281	1,084	66,660
September	15,368	688	141	512	30,480
October	5,282	415	20	170	10,480
November	9,910	980	25	330	19,660
December	32,820	1,130	969	1,059	65,100
Calendar year 1973	209,816	2,020	20	575	416,200

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.--74 years (1896-1905, 1910-73) 1,514 cfs (1,097,000 acre-ft per year).

Extremes.--1895-1905, 1910-73: 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	21,242	722	633	685	42,130
February	19,394	776	610	693	38,470
March	35,987	1,640	797	1,161	71,380
April	55,530	3,650	1,030	1,851	110,100
May	170,930	8,000	2,860	5,514	339,000
June	147,260	5,940	3,560	4,909	292,100
July	96,880	4,620	1,740	3,125	192,200
August	49,987	2,660	696	1,612	99,150
September	30,986	1,670	738	1,033	61,460
October	26,210	992	750	845	51,990
November	27,656	1,500	564	922	54,860
December	52,100	1,730	1,620	1,681	103,300
Calendar year 1973	734,162	8,000	564	2,011	1,456,000

RIO GRANDE COMPACT COMMISSION REPORT

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.--60 years (1913-73), 8.07 cfs (5,850 acre-ft per year).

Extremes.--1813-73: 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	44.6	1.5	1.3	1.44	88
February	194.7	9.7	1.4	6.95	386
March	139.9	7.9	1.9	4.51	277
April	380.0	79	5.1	12.7	754
May	2,437	134	46	78.6	4,830
June	1,304	56	34	43.5	2,590
July	440.7	32	8.2	14.2	874
August	161.40	11	.80	5.21	320
September	68.3	6.2	1.2	2.28	135
October	199.7	6.5	6.2	6.44	396
November	176.3	6.0	5.3	5.88	350
December	69.5	5.3	1.0	2.24	138
Calendar year 1973	5,616.1	134	.80	15.4	11,140

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STREAMFLOW

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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.--1971-73: 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	21,704	751	628	700	43,050
February	20,284	827	648	724	40,230
March	33,670	1,550	770	1,086	66,780
April	53,356	3,530	955	1,779	105,800
May	170,900	8,100	2,940	5,513	339,000
June	146,300	5,900	3,800	4,877	290,200
July	99,680	4,700	1,700	3,215	197,700
August	49,034	2,830	666	1,582	97,260
September	29,086	1,770	735	970	57,690
October	22,925	863	656	740	45,470
November	24,477	1,360	44	816	48,550
December	48,190	1,650	1,420	1,555	95,580
Calendar year 1973	719,606	8,100	44	1,972	1,427,000

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.--1970-73: 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	40.4	1.7	1.1	1.30	80
February	111.2	12	1.7	3.97	221
March	154.6	12	1.7	4.99	307
April	715	57	10	23.8	1,420
May	426.7	39	1.3	13.8	846
June	16.92	7.5	0	.56	34
July	506.88	203	0	16.4	1,010
August	79.38	37	0	2.56	157
September	342.90	267	0	11.4	680
October	11.70	4.1	0	.38	23
November	18.45	1.2	0	.62	37
December	41.40	1.6	.80	1.34	82
Calendar year 1973	2,465.53	267	0	6.75	4,890

RIO GRANDE COMPACT COMMISSION REPORT

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.--31 years (1937, 1944-73), 54.3 cfs (39,340 acre-ft per year).

Extremes.--1937, 1944-73: 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	555.5	45	3.0	17.9	1,100
February	819	48	12	29.2	1,620
March	2,363	124	21	76.2	4,690
April	10,287	816	102	343	20,400
May	29,994	2,410	26	968	59,490
June	15,587	1,760	29	520	30,920
July	663.3	51	4.8	21.4	1,320
August	416.6	46	.30	13.4	826
September	78.50	30	.30	2.62	156
October	231.5	15	.30	7.47	459
November	350	20	4.2	11.7	694
December	616.6	36	7.0	19.9	1,220
Calendar year 1973	61,962.00	2,410	.30	170	122,900

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.--59 years (1915-73), 996 cfs (721,600 acre-ft per year).

Extremes.--1915-73: 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	159.6	26	3.0	5.15	317
February	335.3	23	7.5	12.0	665
March	43,325.3	2,040	9.3	1,398	85,940
April	32,769	1,920	323	1,092	65,000
May	59,610	1,990	1,870	1,923	118,200
June	54,640	1,930	1,760	1,821	108,400
July	54,590	1,990	1,390	1,761	108,300
August	24,190	1,440	648	780	47,980
September	34,704	1,610	23	1,157	68,840
October	320.4	16	7.5	10.3	636
November	386.1	16	7.5	12.9	766
December	368.6	15	8.1	11.9	731
Calendar year 1973	305,398.3	2,040	3.0	837	605,800

STREAMFLOW

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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.--36 years (1938-73) 868 cfs (628,900 acre-ft per year).

Extremes.--1938-73: 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	61.9	2.3	1.3	61.9	123
February	64.4	2.3	2.3	2.30	128
March	37,274.4	2,050	2.3	1,202	73,930
April	36,780	1,590	1,040	1,226	72,950
May	35,474	1,640	717	1,144	70,360
June	52,130	2,640	1,160	1,738	103,400
July	46,592.2	2,650	3.2	1,503	92,420
August	65,170	2,810	900	2,102	129,300
September	37,510	1,770	169	1,250	74,400
October	99.5	10	1.7	3.21	197
November	40.3	1.7	1.2	1.34	80
December	41.9	1.4	1.2	1.35	83
Calendar year 1973	311,238.6	2,810	1.2	853	617,300

Bonito ditch below Caballo Dam, N. Mex.

Records available.--January 1938 to December 1972. 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	62.4	10	0	2.01	124
April	32.9	7.5	0	1.10	65
May	72.5	10	0	2.34	144
June	89.8	10	0	2.99	178
July	59.9	10	0	1.93	119
August	133.6	10	0	4.31	265
September	63.2	10	0	2.11	125
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1973	514.3	10	0	1.41	1,020

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.

[illegible]

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.

[illegible]

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.

[illegible]

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.

[illegible]

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

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

Big Meadows Reservoir.--In NW $\frac{1}{4}$ 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

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

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

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

[illegible]

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STORAGE IN RESERVOIRS

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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 NW $\frac{1}{4}$ SW $\frac{1}{4}$ 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, 1972	-	a2,900	-
January 31, 1973	-	a2,900	0
February 28	-	a2,900	0
March 31	-	a3,000	+100
April 30	9,948.0	4,600	+1,600
May 31	9,967.1	11,800	+7,200
June 30	9,999.8	31,300	+19,500
July 31	10,007.5	36,900	+5,600
August 31	10,007.6	37,000	+100
September 30	10,007.5	36,900	-100
October 31	-	a36,900	0
November 30	-	a36,900	0
December 31	-	a36,900	0
Calendar year 1973	-	-	+34,000
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. As of Dec. 31, 1973 storage included 1,990 acre-feet of Rio Grande water.

Month-end elevation, in feet, and contents, in acre-feet			
Date	Elevation	Contents	Change in Contents
December 31, 1972	7,088.23	53,840	-
January 31, 1973	7,089.36	55,420	+1,580
February 28	7,090.27	56,710	+1,290
March 31	7,091.37	58,310	+1,600
April 30	7,098.55	69,630	+11,320
May 31	7,120.69	118,400	+48,770
June 30	7,137.49	171,300	+52,900
July 31	7,144.53	197,700	+26,400
August 31	7,144.60	198,000	+300
September 30	7,144.81	198,800	+800
October 31	7,144.75	198,500	-300
November 30	7,143.92	195,300	-3,200
December 31	7,133.05	156,000	-39,300
Calendar year 1973	-	-	+102,160

RIO GRANDE COMPACT COMMISSION REPORT

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 ft 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, 1972	6,812.3	21,710	-
January 31, 1973	6,812.3	21,800	+90
February 28	6,814.0	23,250	+1,450
March 31	6,829.2	39,500	+16,250
April 30	6,863.6	93,690	+54,190
May 31	6,886.4	148,100	+54,410
June 30	6,895.8	176,200	+28,100
July 31	6,896.3	177,800	+1,600
August 31	6,890.5	160,000	-17,800
September 30	6,880.7	132,700	-27,300
October 31	6,878.0	125,800	-6,900
November 30	6,878.1	126,000	+200
December 31	6,878.2	126,300	+300
Calendar year 1973	-	-	+104,590

Abiquiu Reservoir.--Water-stage recorder in SW $\frac{1}{4}$ 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 ft (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, 1972	6,108.74	1,960	-
January 31, 1973	6,109.90	2,180	+220
February 28	6,109.35	2,070	-110
March 31	6,109.07	2,020	-50
April 30	6,112.15	3,120	+1,100
May 31	6,209.58	164,800	+161,680
June 30	6,217.14	194,000	+29,200
July 31	6,197.95	124,200	-69,800
August 31	6,183.48	83,200	-41,000
September 30	6,183.46	83,150	-50
October 31	6,183.46	83,150	0
November 30	6,177.39	68,980	-14,170
December 31	6,165.28	45,550	-23,430
Calendar year 1973	-	-	+43,590

McClure (Granite Point) Reservoir.--Water-stage recorder in NE $\frac{1}{4}$ SW $\frac{1}{4}$ 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-ft; in 1947 both dam and spillway were raised increasing capacity to 2,615 acre-ft (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-ft.

Month-end gage height, in feet, and contents, in acre-feet			
Date	Gage height	Contents	Change in Contents
December 31, 1972	71.0	1,100	-
January 31, 1973	74.0	1,240	+140
February 28	69.4	1,030	-210
March 31	78.1	1,450	+420
April 30	97.2	2,660	+1,210
May 31	97.1	2,650	-10
June 30	97.0	2,640	-10
July 31	96.0	2,570	-70
August 31	94.9	2,490	-80
September 30	95.0	2,500	+10
October 31	90.5	2,190	-310
November 30	86.2	1,920	-270
December 31	85.2	1,860	-60
Calendar year 1973	-	-	+760

STORAGE IN RESERVOIRS

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Reservoirs in Rio Grande Basin in New Mexico

Nichols Reservoir.--Water-stage recorder in E $\frac{1}{4}$ NE $\frac{1}{4}$ 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	150.1	154.5	162.4	167.8	167.8	167.6	167.5	158.8	158.0	159.0	160.5	159.6	-
Contents	281	365	555	710	710	704	701	463	444	468	504	482	-
Change	-73	+84	+190	+155	0	-6	-3	-238	-19	+24	+36	-22	+128

Cochiti Lake.--Water-stage recorder and manometer in SW $\frac{1}{4}$ SW $\frac{1}{4}$ 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
October 31	-	0	-
November 30	5,265.22	5,330	+5,330
December 31	5,266.38	5,770	+440
Calendar year 1973	-	-	+5,770

Galisteo Reservoir.--Water-stage recorder and manometer in NW $\frac{1}{4}$ sec. 9, T. 14 N., R. 7 E., at dam on Galisteo Creek. Storage records begin in October 1970. Capacity 89,800 acre-ft 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 SW $\frac{1}{4}$ NE $\frac{1}{4}$ 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-ft 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	220	260	320	270	220	170	140	120	140	160	-
Change	+20	+20	+40	+40	+60	-50	-50	-50	-30	-20	+20	+20	+20

Jemez Canyon Reservoir.--Water-stage recorder in SW $\frac{1}{4}$ SW $\frac{1}{4}$ 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			
Date	Elevation	Contents	Change in Contents
December 31, 1972	-	0	-
January 31, 1973	-	0	0
February 28	-	0	0
March 31	-	0	0
April 30	-	0	0
May 31	5,170.85	7,920	+7,920
June 30	5,185.55	21,420	+13,500
July 31	5,142.20	32	-21,388
August 31	5,139.85	15	-17
September 30	-	0	-15
October 31	-	0	0
November 30	-	0	0
December 31	-	0	0
Calendar year 1973	-	-	0

Acoma Reservoir.--Staff gage in SE $\frac{1}{4}$ sec. 29, T. 10 N., R. 7 W., on San Fidel Arroyo; water for reservoir is diverted from Rio San Jose. Completed in 1938; original capacity, 850 acre-ft; present capacity 650 acre-ft on basis of 1956 sediment survey. Water is used for irrigation on Acoma 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	640	630	610	585	522	438	296	232	320	380	494	620	-
Change	+5	-10	-20	-25	-63	-84	-42	-64	+88	+60	+114	+126	-15

RIO GRANDE COMPACT COMMISSION REPORT

Reservoirs in Rio Grande Basin in New Mexico

Elephant Butte Reservoir.--Water-stage recorder in NW $\frac{1}{4}$ sec. 30, T. 13 S., R. 3 W., at dam on Rio Grande. Storage began Jan. 6, 1915; capacity, 2,137,200 acre-feet at gage height 4,407.0 ft (crest of spillway), by survey of 1969. 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, 1972	4,319.02	301,600	-
January 31, 1973	4,323.10	343,400	+41,800
February 28	4,326.80	384,400	+41,000
March 31	4,325.18	366,100	-18,300
April 30	4,327.00	386,700	+20,600
May 31	4,339.99	551,900	+165,200
June 30	4,348.38	675,900	+124,000
July 31	4,349.84	699,100	+23,200
August 31	4,350.22	705,300	+6,200
September 30	4,347.61	663,800	-41,500
October 31	4,348.12	671,800	+8,000
November 30	4,350.30	706,600	+34,800
December 31	4,355.52	794,200	+87,600
Calendar year 1973	-	-	+492,600

Caballo Reservoir.--Water-stage recorder in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 16 S., R. 4 W., at dam on Rio Grande. Storage began Feb. 8, 1938; capacity, 344,000 acre-ft (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-ft 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, 1972	4,147.28	68,070	-
January 31, 1973	4,147.59	69,450	+1,380
February 28	4,148.49	73,560	+4,110
March 31	4,150.45	83,020	+9,460
April 30	4,148.64	74,260	-8,760
May 31	4,156.72	119,200	+44,940
June 30	4,156.80	119,700	+500
July 31	4,158.14	128,700	+9,000
August 31	4,140.76	42,800	-85,900
September 30	4,137.18	31,850	-10,950
October 31	4,138.45	35,540	+3,690
November 30	4,139.20	37,810	+2,270
December 31	4,139.89	39,970	+2,160
Calendar year 1973	-	-	-28,100

Project Storage.--This is the combined storage in Elephant Butte and Caballo Reservoirs. Total Project Storage capacity is 2,381,200 acre-feet which excludes the 100,000 acre-ft 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, 1972	-	369,700	-
January 31, 1973	-	412,800	+43,100
February 28	-	458,000	+45,200
March 31	-	449,100	-8,900
April 30	-	461,000	+11,900
May 31	-	671,100	+210,100
June 30	-	795,600	+124,500
July 31	-	827,800	+32,200
August 31	-	748,100	-79,700
September 30	-	695,600	-52,500
October 31	-	707,300	+11,700
November 30	-	744,400	+37,100
December 31	-	834,200	+89,800
Calendar year 1973	-	-	+464,500

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. Also known as Pine River - Weminuche Pass Ditch.

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

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.

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. Also known as Don La Font No. 1 & No. 2 Ditches.

Treasure Pass 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, 1972

Month	Fuchs ditch	Raber-Lohr ditch	Squaw Pass ditch	Tabor ditch	Piedra Pass ditch	Treasure Pass ditch	Azotea tunnel
January	0	0	0	0	0	0	1,560
February	0	0	0	0	0	0	1,180
March	0	0	0	0	0	0	1,740
April	0	0	0	0	0	0	11,850
May	0	0	0	176	0	13	47,330
June	242	816	0	678	88	420	53,560
July	238	644	168	345	293	271	28,650
August	148	384	46	102	7	6	4,310
September	73	140	0	32	0	0	2,060
October	0	0	0	0	0	0	1,040
November	0	0	0	0	0	0	26
December	0	0	0	0	0	0	20
Calendar year	701	1,984	214	1,333	388	710	153,300

RIO GRANDE COMPACT COMMISSION REPORT

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 minimum thermometers, and standard 8-inch rain gage at elevation 4,576 ft.

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

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

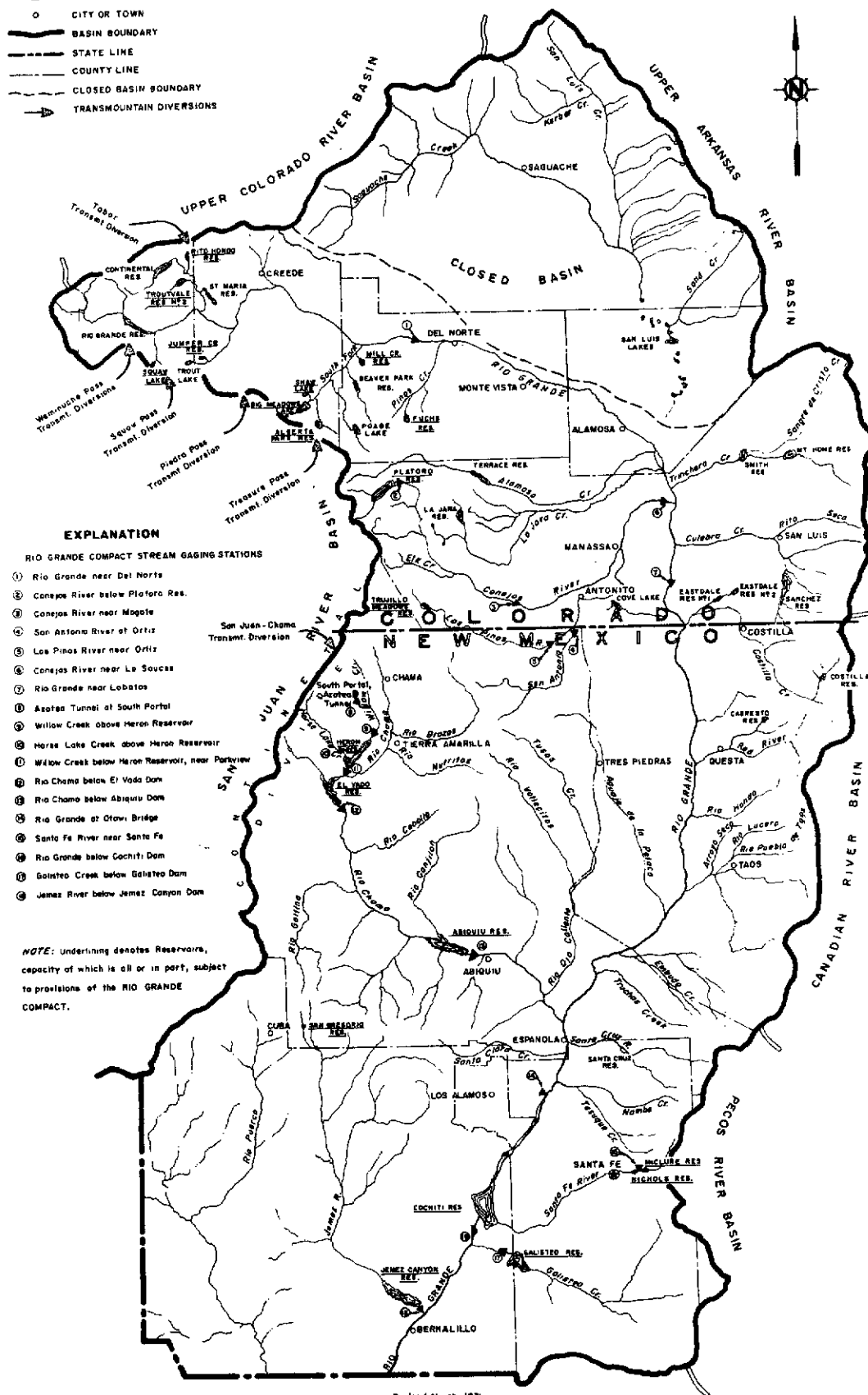
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Evaporation and precipitation, in inches

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Alamosa Airport	Evap.	-	-	-	-	-	-	-	-	-	-	-	-	-
	Precip.	0.16	0.12	1.42	0.41	1.85	0.69	1.09	0.65	1.06	0.64	0.11	0.19	8.39
Platoro Dam	Evap.	-	-	-	-	-	6.56	5.88	5.00	4.94	-	-	-	-
	Precip.	-	-	-	-	2.27	1.40	2.89	3.17	1.37	1.14	-	-	-
El Vado Dam	Evap.	-	-	-	4.36	7.12	8.56	8.29	7.51	6.74	4.32	-	-	-
	Precip.	.81	.78	2.38	.74	1.78	.65	2.16	1.06	1.41	.52	.34	1.03	13.66
Abiquiu Dam	Evap.	-	-	-	-	9.43	10.78	10.60	10.35	8.41	5.65	-	-	-
	Precip.	.19	.21	2.42	.33	.67	.46	2.18	.64	.86	.72	.14	.07	8.89
Santa Fe College	Evap.	-	-	-	-	9.13	10.30	9.98	9.75	7.43	5.39	-	-	-
	Precip.	.54	.49	1.28	.11	1.07	1.81	3.56	1.27	1.78	.55	.32	.14	12.92
Cochiti Dam	Evap.	-	-	-	4.97	10.38	12.93	12.94	10.86	9.03	6.82	-	-	-
	Precip.	.67	.37	1.65	.40	.89	.77	3.82	.82	2.49	.52	.20	.01	12.61
Jemez Dam	Evap.	-	-	-	-	11.01	13.93	12.28	12.38	8.25	7.29	-	-	-
	Precip.	.50	.22	1.37	.85	.44	.25	2.07	.87	1.65	.38	.11	0	8.71
Bosque del Apache	Evap.	-	-	-	-	9.38	-	-	-	9.35	-	-	-	-
	Precip.	.65	.87	.81	.02	1.29	.18	.75	1.09	.22	.13	0	0	6.01
Elephant Butte Dam	Evap.	2.73	2.85	7.22	10.49	12.32	15.36	12.67	12.85	11.07	8.91	6.89	4.13	107.49
	Precip.	.67	1.42	.22	0	.52	.31	1.27	1.92	.04	.17	.04	0	6.58
Caballo Dam	Evap.	2.97	2.82	7.52	10.67	11.79	14.24	13.45	11.69	11.12	8.84	6.42	4.20	105.73
	Precip.	.45	1.25	.28	0	.53	.02	1.62	2.82	.23	0	.09	0	7.29
State University	Evap.	2.66	2.80	6.56	9.43	11.53	13.21	11.31	10.47	8.43	6.40	4.64	3.93	91.37
	Precip.	.93	1.27	.30	0	.40	1.19	4.12	.73	.15	.02	.03	0	9.14

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- LEGEND**
- ▲ GAGING STATION
 - CITY OR TOWN
 - BASIN BOUNDARY
 - STATE LINE
 - COUNTY LINE
 - CLOSED BASIN BOUNDARY
 - TRANSMOUNTAIN DIVERSIONS



EXPLANATION

RIO GRANDE COMPACT STREAM GAGING STATIONS

- ① Rio Grande near Del Norte
- ② Conejos River below Platoro Res.
- ③ Conejos River near Magale
- ④ San Antonio River at Ortiz
- ⑤ Los Pinos River near Ortiz
- ⑥ Conejos River near La Soucas
- ⑦ Rio Grande near Lobatos
- ⑧ Ascan Tunnel at South Portal
- ⑨ Willow Creek above Heron Reservoir
- ⑩ Horse Lake Creek above Heron Reservoir
- ⑪ Willow Creek below Heron Reservoir, near Portview
- ⑫ Rio Chama below El Vado Dam
- ⑬ Rio Chama below Abiquiu Dam
- ⑭ Rio Grande at Otowi Bridge
- ⑮ Santa Fe River near Santa Fe
- ⑯ Rio Grande below Cochiti Dam
- ⑰ Galisteo Creek below Galisteo Dam
- ⑱ Jemez River below Jemez Canyon Dam

NOTE: Underlining denotes Reservoirs, capacity of which is all or in part, subject to provisions of the RIO GRANDE COMPACT.

Revised March, 1971

**RIO GRANDE BASIN
ABOVE BERNALILLO, NEW MEXICO**

