

FIRST ANNUAL REPORT

**Arkansas River
Compact
Administration**

For the Year 1949



LAMAR, COLORADO

December 13, 1949

First
Annual Report
**ARKANSAS RIVER COMPACT
ADMINISTRATION**

For the Year 1949

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THE ADMINISTRATION

HANS KRAMER, *Federal Representative and Chairman*

HARRY B. MENDENHALL, HARRY C. NEVIUS AND CLIFFORD H. STONE
for Colorado

GEORGE S. KNAPP, WILLIAM E. LEAVITT AND ROLAND H. TATE
for Kansas

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Annual Report of
ARKANSAS RIVER COMPACT ADMINISTRATION

For the Year 1949

TO: THE PRESIDENT OF THE UNITED STATES AND TO THE
GOVERNORS OF THE STATES OF COLORADO AND
KANSAS

Sirs:

Pursuant to Article VIII of the Arkansas River Compact, the Arkansas River Compact Administration submits its 1949 annual report as follows:

1. Provisions of Administration's By-Laws for Annual Report

Article VIII of its By-Laws provides that the Administration shall make and transmit on or before January 1 of each year to the President of the United States and to the Governors of the States of Colorado and Kansas a report covering its activities for the preceding "report-year". The report-year commences on November 1 of each year and ends on the succeeding October 31. The Arkansas River Compact became effective on May 31, 1949, when the Act granting Congressional consent thereto was approved by the President of the United States. Accordingly, this report covers only a portion of the "report-year"; and for the purpose of this first report of the Administration, it is deemed advisable also to include the period of time subsequent to October 31, 1949 to December 31, 1949 in order to bring up to date the status of the organization of the Administration.

2. Appointment of Members of the Administration

The members of the Administration, appointed pursuant to the provisions of the Arkansas River Compact and the respective Acts of the States of Colorado and Kansas ratifying such Compact, are:

Representative of the United States:

Hans Kramer (Brig. General U.S.A.-Ret.)

Colorado Representatives:

Harry B. Mendenhall—Rocky Ford, Colorado

Harry C. Nevius—Lamar, Colorado

Clifford H. Stone—Denver, Colorado

Kansas Representatives:

George S. Knapp—Topeka, Kansas

William E. Leavitt—Garden City, Kansas

Roland H. Tate—Garden City, Kansas

3. Organization of the Administration

(a) Four meetings of the Administration have been held at Lamar, Colorado, on these dates:

July 22, 1949; September 12, 1949; November 14, 1949; and December 13, 1949.

(b) The principal office of the Administration has been established at Lamar, Colorado. The Board of County Commissioners of Prowers County has made available, without charge to the Administration, office space in the courthouse at Lamar, Colorado.

(c) On November 14, 1949, in accordance with Article VIII (1) of the Compact, the Administration adopted By-Laws, consistent with the provisions of the Compact, a copy of which is marked Appendix "A" and attached hereto.

(d) Under Article VIII C of the Compact, the President of the United States designated Hans Kramer (Brigadier-General U.S.A.-Ret.) as Representative of the United States to serve as ex-officio member of the Administration and to act as Chairman thereof, without vote.

(e) As required by the By-Laws, the following additional officers of the Administration have been elected:

Vice Chairman—William E. Leavitt of Garden City, Kansas; and
Secretary-Treasurer—Harry C. Nevius of Lamar, Colorado.

(f) Harry C. Nevius, as treasurer of the Administration, and in accordance with the provisions of the By-Laws, has filed with the Administration a bond for the performance of his duties in the amount of \$10,000, being the amount fixed by the Administration. Such bond was approved by the Administration on the 14th day of November, 1949, and copies thereof filed with appropriate fiscal officials in each of the States of Colorado and Kansas.

(g) Under Article V of the By-Laws the following Standing Committees have been appointed by the Administration, namely:

- (1) Administrative and Legal:
Clifford H. Stone of Colorado and Roland H. Tate of Kansas.
- (2) Engineering Committee:
George S. Knapp of Kansas and Harry C. Nevius of Colorado.
- (3) Operations Committee:
Harry B. Mendenhall of Colorado and William E. Leavitt of Kansas.

Hans Kramer, Representative of the United States, is ex-officio member of all Standing Committees.

4. Fiscal — Receipts and Expenditures of Funds

(a) In accordance with Article VIII E of the Compact, requiring the State of Colorado to pay 60 per cent and the State of Kansas 40 per cent of expenses incident to the administration of the Compact, there has been paid by such States to the Secretary-Treasurer of the Administration the following amounts:

Colorado	\$1,200
Kansas	800
	<hr/>
Total	\$2,000

(b) Expended by the Administration to December 13, 1949 (date of last meeting)—Nil.

(c) The Administration on November 14, 1949, approved a preliminary budget to cover initial office expenses totaling approximately \$1,500.

(d) The First National Bank of Lamar, Colorado has been designated by the Administration as the official depository of its funds. Article VIII (2) of the By-Laws provides that disbursements of Administration funds shall be made by check, signed by the Treasurer, and countersigned by the Chairman or Vice-Chairman of the Administration. In order to protect Administration funds against loss, the Administration, on November 14, 1949, adopted a resolution, a copy of which is marked Appendix "B" and attached hereto.

5. Hydrologic Data Relating to the Arkansas River — Water Supply and Reservoir Operation

(a) In view of the short operating period covered by this report, it contains limited detailed data on stream flow and diversions. It is contemplated that additional engineering data and operation studies will be incorporated in future reports.

(b) During the Compact year commencing on November 1, 1948 and ending on October 31, 1949, 252,900 acre-feet (USGS provisional data) entered John Martin Reservoir. During that same period, 202,300 acre-feet (USGS provisional data) were released from the reservoir. The demand for water by Colorado was 157,700 acre-feet (Information supplied by R. J. McGrath), and the Kansas demand was 62,700 acre-feet (Information supplied by William E. Leavitt). Water crossing the Colorado-Kansas state line during the period Kansas demands were in effect totaled 80,100 acre-feet (Official River and Ditch Reports, State of Colorado). This state line flow, however, included water from two flood freshets running from 330 c.f.s. to 2,500 c.f.s. above the then effective Kansas demand.

The report year started with 100,003 acre-feet left in the reservoir from the preceding year. At the end of the report year there was a carry-over of 128,676 acre-feet—a net gain for the year of 28,673 acre-feet. The maximum amount of water in storage at any time during the year was 228,792 acre-feet on July 20, 1949, and the minimum was 100,003 acre-feet on November 1, 1948.

Tables showing inflow into the John Martin Reservoir, consisting of the Arkansas River at Las Animas and the Purgatoire River at the mouth (Appendices "C-1" and "C-2", respectively); table of reservoir releases (Appendix "D"); demands on the reservoir by Colorado and Kansas (Appendices "E" and "F", respectively); and table showing State Line releases to Kansas on days of Kansas demand (Appendix "G") are attached to this report.

The amount of water withdrawn from the John Martin Reservoir during the irrigation season of 1949 probably would have been greater had it not been for a very severe storm which occurred over the Arkansas

River valley between Las Animas and Garden City during the period June 3 to 10, 1949.

The irrigated land lying between the reservoir on the west and Garden City on the east during this period received amounts of rainfall ranging from around seven inches to more than eight inches. These amounts were more than ample for crop needs.

Another factor contributing to the smaller demand on the reservoir was the damaged condition of diversion works and canals along the river in both states resulting from the flood caused by this storm. There was no canal in this area that was not damaged and most of the larger ones were breached in many places. In some instances it was more than a month until sufficient repairs had been made to place the canal back in service.

Runoff from the storm was principally in that portion of the valley below the dam; however, reservoir storage during that period increased in the amount of 63,649 acre-feet.

6. Rules and Regulations

(a) In accordance with Article VIII B(1) of the Compact, the By-Laws of the Administration (Article VI) set up the procedure for the promulgation of Rules and Regulations for the administration of the Arkansas River Compact.

(b) Effective administration of the Arkansas River Compact requires cooperation among all interested officials and agencies and must be accomplished under Rules and Regulations which delineate the respective functions of the Corps of Engineers in the operation of John Martin Dam and Reservoir, of the Chief Official of each of the States of Colorado and Kansas charged with the administration of water rights, and of the Administration. A tentative draft of such Rules and Regulations has been prepared and is being considered by the Administration. This matter must be concluded by the Administration well in advance of the commencement of the irrigation season of 1950.

7. Cooperative Studies and Activities – Gaging Stations

(a) Article VIII G(1) of the Arkansas River Compact requires the Administration to cooperate with the Chief Official of each of the States of Colorado and Kansas charged with the administration of water rights and with the Federal agencies in a systematic determination and correlation of the facts as to the flow and diversion of the water of the Arkansas River and as to the operation and siltation of John Martin Reservoir and other related structures; and Article VIII G(2) requests the Director of the United States Geological Survey, the Commissioner of Reclamation, and the Chief of Engineers, United States Army, to collaborate with the Administration and with appropriate State officials in such determination and correlation of stream flow and of related data. The carrying out of the cooperative studies and activities herein mentioned is assigned, under the By-Laws of the Administration, to the Engineering Committee. The activities of this Committee with respect to gaging stations are covered in its report, dated September 12, 1949, a copy of which is marked Appendix "H" and attached hereto.

(b) On the basis of this report, the Administration designated the following gaging stations for the purposes of Compact administration, namely:

Arkansas River at Las Animas, Colorado
Arkansas River at Holly, Colorado
Arkansas River at Coolidge, Kansas
Purgatoire River at Las Animas, Colorado
Holly Drain at Holly, Colorado
Frontier Ditch at Coolidge, Kansas

(c) The Administration, at its meeting on November 14, 1949, adopted a resolution, requesting the Director of the United States Geological Survey, pursuant to the provisions of Article VIII G(2) of the Compact, to allot sufficient Federal funds for the fiscal year 1951, and from year to year thereafter, for the purpose of installing, maintaining and operating the above-mentioned stations. A copy of this resolution is marked Appendix "I" and attached hereto.

8. Findings of Fact by the Administration

The Administration has had no occasion, prior to the date of this report, to make any findings of fact under the provisions of the Arkansas River Compact.

Respectfully submitted,

ARKANAS RIVER COMPACT ADMINISTRATION

By:

HANS KRAMER

Representative of the United States and Chairman

HARRY B. MENDENHALL

HARRY C. NEVIUS

CLIFFORD H. STONE

Colorado Members of the Administration

GEORGE S. KNAPP

WILLIAM E. LEAVITT

ROLAND H. TATE

Kansas Members of the Administration

Lamar, Colorado
December 13, 1949

APPENDICES

For

Annual Report of the Arkansas River Compact Administration

For the Year 1949

APPENDIX "A"—By-Laws of the Administration

APPENDIX "B"—Bank Deposits Resolution

APPENDIX "C"—Inflow into John Martin Reservoir ("C-1" plus
"C-2")

APPENDIX "D"—Outflow from John Martin Reservoir

APPENDIX "E"—Demands by Colorado for Water

APPENDIX "F"—Demands by Kansas for Water

APPENDIX "G"—State Line Releases to Kansas on Days of Demand

APPENDIX "H"—Gaging Stations Report

APPENDIX "I"—Resolution on USGS Allocation of Funds

APPENDIX "A"

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BY-LAWS

Of

ARKANSAS RIVER COMPACT ADMINISTRATION

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PREAMBLE

Pursuant to Article VIII B(1) of the Arkansas River Compact, these by-laws were adopted by the Arkansas River Compact Administration on the 14th day of November, 1949, namely:

ARTICLE I

THE ADMINISTRATION

1. The Arkansas River Compact Administration is herein referred to as "the Administration."

2. Membership of the Administration shall consist of three representatives from each of the States of Colorado and Kansas, designated or appointed as provided by the Arkansas River Compact and the law of each of such States, and, if designated by the President, one representative of the United States of America.

3. The credentials of each such representative shall be filed with the Secretary of the Administration.

4. Each representative shall advise in writing the Secretary of the Administration as to his address, to which all official notices and other communications of the Administration shall be sent and shall further promptly advise in writing the Secretary as to any change in such address.

ARTICLE II

OFFICERS

1. The officers of the Administration shall be:

Chairman
Vice Chairman
Secretary
Treasurer

2. The representative of the United States of America shall be the Chairman of the Administration. The Chairman shall preside at meetings of the Administration. His duties shall be such as are usually imposed on such an officer and such as may be assigned to him by these by-laws or by the Administration from time to time.

3. The Vice-Chairman shall be a member of the Administration. He shall be elected at the annual meeting of the Administration, and shall hold office until the next annual meeting of the Administration and

until his successor is elected. In the case of a vacancy in the office of Vice-Chairman, the Administration at its next meeting, whether regular or special, shall elect a Vice-Chairman to serve for the unexpired term; and the election of a Vice-Chairman may be made at any meeting of the Administration prior to the holding of its first annual meeting, and in such case he shall hold office until such annual meeting. The Vice-Chairman shall perform all duties of the Chairman when the latter is unable for any reason to act or when, for any reason, there is a vacancy in the office of the Chairman. In addition, the Vice-Chairman shall perform such other duties as may be assigned to him by these by-laws or by the Administration from time to time.

4. The Secretary may or may not be a member of the Administration. He shall be elected by the Administration at its annual meeting and shall serve until the next annual meeting and until his successor is elected, except that he may be elected at any meeting of the Administration prior to the holding of the first annual meeting, and in such case shall hold office until such annual meeting. In the case of a vacancy in the office of Secretary, the Administration shall, at its next meeting, whether regular or special, elect a Secretary to serve for the unexpired term. The Secretary shall perform such duties as are usually imposed on such an officer and such as may be assigned to him by these by-laws or by the Administration from time to time. He shall furnish a bond for the faithful performance of his duties if the Administration so directs. The cost of such bond shall be paid by the Administration.

5. The Treasurer may or may not be a member of the Administration; and the office of Secretary and Treasurer may be held by the same person if directed by the Administration. He shall be elected at the annual meeting of the Administration and shall hold office until his successor is elected and shall have qualified, except a treasurer may be elected prior to the first annual meeting of the Administration and in such case shall hold office until such annual meeting. He shall receive, hold, disburse and keep records of all funds of the Administration; and he shall furnish a bond for the faithful performance of his duties in such amount as the Administration may direct. The cost of such bond shall be paid by the Administration. In the case of a vacancy in the office of Treasurer, the Administration shall, at its next meeting, whether regular or special, appoint a successor to serve for the unexpired term.

6. The Administration may employ such engineering, legal, clerical, and other personnel as, in its judgment, may be necessary. They shall receive such compensation and perform such duties as may be fixed by the Administration. Such employees shall not be considered as employees of either Colorado or Kansas.

ARTICLE III

PRINCIPAL OFFICE

1. The principal office and place of business of the Administration shall be located in the City of Lamar, Colorado.

2. The principal office shall be open for business on such hours and days as the Administration may from time to time direct.

3. All books and records of the Administration shall be kept in the principal office of the Administration.

ARTICLE IV MEETINGS

1. The annual meeting of the Administration shall be held on the second Tuesday in December of each year.

2. The Administration shall hold regular meetings on the third Tuesdays in March and July of each year.

3. Special meetings of the Administration may be called by the Chairman, or in the case of a vacancy in the office of Chairman or inability of the Chairman to act, by the Vice-Chairman. Upon the written request of two or more representatives, it shall be the duty of the Chairman, or Vice-Chairman, as the case may be, to call such a meeting.

4. Notices of all annual and regular meetings of the Administration shall be sent by the Secretary, or in the case of a vacancy in the office of Secretary, or the inability of the Secretary to act, by the Chairman or Vice-Chairman, as the case may be, to the members of the Administration by ordinary mail at least ten days in advance of such annual or regular meetings. Notices of special meetings shall be given by the Secretary to the members of the Administration by the most expeditious method so as to allow as much time prior to such special meetings as conditions permit.

5. All annual and regular meetings of the Administration shall be held at the principal office of the Administration. Unless otherwise agreed to in advance by all members of the Administration, special meetings shall be held at the office of the Administration.

6. The Administration shall keep a record of the proceedings of all its meetings. The minutes of such proceedings shall be preserved in a suitable manner as directed by the Administration. Minutes of proceedings until approved by the Administration shall not be official and shall be furnished only to members of the Administration, its employees, and committees. Distribution of official minutes shall be made by the Secretary in accordance with directives of the Administration.

7. A quorum for any meeting of the Administration and the casting of votes by representatives of the States on the Administration shall be in accord with Paragraph D of Article VIII of the Arkansas River Compact; and any action by the Administration shall be determined by vote as required by such Paragraph D of Article VIII of the Compact.

8. At each meeting of the Administration, the order of business, unless otherwise agreed, shall be as follows:

Call to order;	Report of Treasurer;
Reading of minutes of last meeting;	Report of Committees;
Approval of minutes of last meeting;	Unfinished business;
Report of Chairman;	New business;
Report of Secretary;	Adjournment.

9. All meetings of the Administration, except executive sessions, shall be open to the public.

10. Any meeting of the Administration may be adjourned or continued from time to time and from the place set for the meeting to another place.

11. Public notice of all annual, regular, and special meetings shall be given in an appropriate manner, determined by the Administration, except in cases where the Administration determines to hold an executive session.

ARTICLE V

COMMITTEES

1. There shall be the following standing committees:

Administrative and Legal Committee
Engineering Committee
Operations Committee

2. Each of such committees shall be made up of two representatives of the Administration and the Chairman shall be ex-officio member of all committees. In all committee action a vote shall be taken by States with each State having one vote.

3. The standing committees shall have the following duties:

- (a) The Administrative and Legal Committee shall advise the Administration with respect to budgets and accounting, office personnel, equipment, records, and legal matters; and shall prepare the draft of the annual report of the Administration.
- (b) The Engineering Committee shall advise the Administration on all engineering matters; and shall compile all pertinent engineering data and records.
- (c) The Operations Committee shall advise the Administration concerning, and shall have direct supervision over, rules and regulations governing the storage and releases of water from John Martin Reservoir and over such other Arkansas River interstate administration and operation between the States of Colorado and Kansas as come within the purview of the Arkansas River Compact, subject at all times to the provisions of such compact and the directives of the Administration thereunder. This committee shall be responsible for maintaining appropriate relations, under the direction of the Administration, with the chief officials of each of the States of Colorado and Kansas charged with the administration of water rights, and for maintaining appropriate relations with interested Federal agencies. The Operations Committee shall also be responsible, under directives and orders of the Administration, for supervision over the employees of the Administration engaged in the interstate administration of the waters of the Arkansas River pursuant to the Arkansas River Compact.

4. The Chairman of each Committee shall be designated by the Administration.

5. The Administration may, from time to time, create special committees composed of such members of the Administration and others as it may determine and assign to such committees such tasks as the Administration may designate.

6. Each committee shall make a report to the Administration at each annual and regular meeting and shall make such further reports as may be directed by the Administration. Unless otherwise authorized, all such reports shall be in writing and filed with the Secretary of the Administration.

ARTICLE VI

RULES AND REGULATIONS

1. The Administration shall adopt Rules and Regulations necessary for the administration of the Arkansas River Compact, consistent therewith and with these by-laws.

2. All proposals for Rules and Regulations, or for changes in them, shall be presented to the Administration in writing and shall not be acted on at the meeting when first presented, but shall go over for action at a designated subsequent meeting of the Administration.

3. Following the presentation to the Administration, public notice of all proposed Rules and Regulations and changes in Rules and Regulations shall be given by two publications, at least one week apart, in some newspaper of general circulation in the area of each State affected by the Arkansas River Compact. The representatives on the Administration from each State shall designate the newspaper in their State in which such publication shall be made. No Rule or Regulation and no change in any Rule or Regulation shall be effective until a date specifically stated in the published notice, which date shall be at least ten days after the last publication.

4. The provisions, contained in this Article, for Rules and Regulations and notice thereof shall not be effective in the case of any notice which is otherwise required under the Arkansas River Compact or in any case where, in the judgment of the Administration, effective administration and the public interest under the Arkansas River Compact, require more expeditious action.

5. It shall be the duty of the Secretary to see that the necessary notices are published as herein required.

6. It shall be the duty of the Secretary to compile the Rules and Regulations of the Administration and to prepare copies for distribution to the public under such terms and conditions as the Administration may prescribe.

ARTICLE VII

FISCAL

1. All funds of the Administration shall be received by the Treasurer and deposited by him to the credit of the Administration in a depository or depositories designated by the Administration.

2. Disbursement of such Administration funds shall be made by

check signed by the Treasurer and countersigned by the Chairman or Vice-Chairman of the Administration.

3. In each even numbered year the Administration shall adopt and transmit to the Governor of each State its budget covering anticipated expenses for the forthcoming biennium and the amount thereof payable by each State.

4. The fiscal accounts of the Administration and its employees shall not be subject to the auditing and accounting procedures of either the States of Colorado or Kansas; provided, that each State shall have the right to make an examination and audit of the accounts of the Administration at any time.

5. All receipts and disbursements of the Administration shall be audited yearly by a certified public accountant to be selected by the Administration, and the report of audit shall be included in the annual report of the Administration.

6. The Treasurer shall prepare and keep an up-to-date inventory of all the property of the Administration.

7. The fiscal year of the Administration shall begin July 1 of each year and end June 30 of the next succeeding year.

ARTICLE VIII

ANNUAL REPORT

1. The report-year referred to in this Article for the making of the annual report shall commence on November 1 and end on the succeeding October 31.

2. The Administration shall make and transmit on or before January first of each year to the Governors of the States of Colorado and Kansas and to the President of the United States a report covering its activities for the preceding report-year. The annual report shall include, among other things, the following:

- (a) The receipts and expenditures of all funds of the Administration and all pertinent financial data.
- (b) All hydrologic data relating to the Arkansas River which the Administration deems pertinent.
- (c) Statements as to cooperative studies of water supplies made during the preceding year, including cooperative studies and activities with any Federal agency.
- (d) All findings of fact made by the Administration during the preceding year.
- (e) Such other pertinent matters as the Administration may deem advisable.

ARTICLE IX

SEAL

7. The official seal of the Administration shall be circular in form with the words "Arkansas River Compact Administration" imprinted around the border and the word "Seal" in the center thereof.

2. The Secretary of the Administration shall have custody of the seal of the Administration.

ARTICLE X

MISCELLANEOUS

1. The Administration and its Secretary on request shall furnish to the Governor of each of the States of Colorado and Kansas any information within its possession at any time, and shall always provide free access by the public to its records. Except in the case of the Governor of each of the States of Colorado and Kansas, or interested Federal agencies, the cost of furnishing information shall be paid by the person seeking it at such rates as may be fixed by the Administration.

2. All contracts and other instruments in writing required to be signed for and on behalf of the Administration, except matters relating to the receipt and disbursement of funds, shall be signed by the Chairman or Vice-Chairman and Secretary. The seal of the Administration shall be affixed thereto.

ARTICLE XI

AMENDMENTS TO BY-LAWS

1. Amendments to the By-Laws may be made at any meeting of the Administration, provided notice of the proposed amendment shall have been given in the notice of the meeting.

APPENDIX "B"

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BANK DEPOSITS RESOLUTION

WHEREAS, the activities of the Arkansas River Compact Administration are financed by funds made available by the States of Colorado and Kansas, under the provisions of the Arkansas River Compact, and such Administration is responsible and accountable to such States for the proper handling and expenditure of such money; and

WHEREAS, appropriate security should be provided in the deposit of such funds in any bank or banks, designated by the Administration as depository, in addition to the bond required of the Secretary-Treasurer of the Administration;

NOW, THEREFORE BE IT RESOLVED, that if the Arkansas River Compact Administration should request and receive a total amount of funds from the States of Colorado and Kansas exceeding \$5,000 in its hands at any one time, then arrangements shall be made by the Secretary-Treasurer of the Administration with the depository bank, in the usual and approved manner, for the protection of such deposit, or in lieu of such arrangements, Administration funds, where the total amount in its hands at any one time exceeds \$5,000, shall be deposited in two banks, approved as depositories by the Administration, it being the intent and purpose of this resolution to assure protection of Administration funds on deposit in banks which exceed the amount secured under the Federal Deposit Insurance Corporation.

ARKANSAS RIVER AT LAS ANIMAS, COLO.

Report Year Ending October 31, 1949
 U S G S Records — Preliminary, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	44	111	199	155	166	46	26	21	58	56	26	25
2	29	104	202	158	147	47	26	19	43	38	27	30
3	28	102	186	147	139	77	16	24	136	34	25	28
4	27	94	131	158	118	58	21	231	580	29	73	28
5	62	100	180	150	114	43	24	3710	550	32	36	26
6	80	98	234	152	106	25	39	1790	277	39	24	22
7	80	92	281	152	90	24	62	1900	202	36	22	21
8	64	92	293	172	86	22	56	515	1030	32	23	21
9	43	102	231	158	82	35	144	349	562	25	26	26
10	41	100	225	163	90	43	225	212	1040	21	29	33
11	50	90	205	196	82	40	81	161	589	29	51	34
12	52	152	212	202	88	36	61	123	1530	36	59	32
13	45	109	225	100	118	26	44	428	1300	38	30	37
14	50	104	228	144	75	24	57	894	1100	66	28	32
15	49	121	234	215	50	26	90	2340	1920	33	26	30
16	34	106	212	193	40	24	113	1280	1340	25	24	71
17	32	121	166	247	38	50	75	880	924	29	23	57
18	38	147	172	212	34	57	41	505	1460	28	23	48
19	58	175	147	169	44	35	29	1240	1040	22	22	44
20	123	175	169	166	43	27	30	2550	685	24	38	50
21	133	166	166	172	37	24	30	1920	233	28	50	29
22	96	161	175	175	33	24	79	1460	115	30	36	29
23	73	175	193	169	31	25	41	1580	79	27	29	36
24	68	163	142	158	30	23	27	1240	157	23	29	73
25	63	166	126	144	28	23	32	880	86	21	29	50
26	57	166	161	152	27	23	24	1220	198	22	27	44
27	118	183	189	161	26	24	21	575	160	24	30	41
28	80	183	180	161	25	25	25	205	126	24	28	39
29	109	152	152		40	27	32	126	96	22	39	48
30	102	158	136		47	25	34	84	50	28	25	77
31		169	150		47		19		94	37		66
TOTAL												
Sec. Ft.	1928	4137	5902	4701	2121	1008	1624	28462	17760	958	957	1227
Ac. Ft.	3820	8210	11710	9320	4210	2000	3220	56450	35230	1900	1900	2430

THE YEAR 140400 Ac. Ft.

INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "C-1"
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105-150
 105-150
 105-150

PURGATOIRE RIVER NEAR LAS ANIMAS, COLO.

Report Year Ending October 31, 1949
 U S G S Records — Preliminary, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	7.5	49	25	15	31	6.7	3.8	5.2	7.8	96	74	2.6
2	18	31	25	20	20	8.0	4.3	4.0	0	149	17	2.6
3	27	44	25	25	18	7.0	3.4	5.5	1.3	96	56	2.6
4	38	38	25	30	22	4.3	4.0	734	19	41	132	2.6
5	24	24	25	27	27	3.0	4.0	10600	64	17	74	4.0
6	34	16	25	28	11	2.0	12	9360	32	4.0	68	2.6
7	24	38	25	30	10	1.8	62	1860	14	2.0	64	2.6
8	22	32	25	32	28	1.6	44	2330	21	3.3	18	2.6
9	38	47	25	47	23	4.9	134	1680	85	3.3	43	4.6
10	28	42	25	63	37	7.5	102	1880	347	4.6	54	5.9
11	42	56	25	42	13	10	89	868	347	14	295	5.9
12	32	37	25	26	7.0	12	215	681	430	102	185	6.6
13	24	32	25	26	4.3	3.6	215	486	374	38	99	14
14	14	75	25	26	4.0	2.8	179	678	225	13	68	13
15	4.0	60	25	28	3.0	2.6	102	1340	1700	7.8	48	.7
16	7.0	98	25	30	3.0	6.7	207	850	510	7.8	28	.7
17	7.5	95	25	31	2.6	3.4	301	700	347	6.6	12	2.0
18	34	86	25	31	2.4	5.5	142	609	220	7.8	9.1	6.0
19	32	35	25	29	1.9	4.6	95	690	162	4.0	4.6	15
20	18	66	25	27	1.6	7.0	56	830	111	5.3	10	12
21	26	109	25	34	1.6	5.8	45	978	99	5.3	7.8	4.6
22	45	102	25	42	1.2	4.6	9.0	830	71	4.0	3.3	4.6
23	78	35	25	39	1.2	3.6	5.5	1180	82	0	2.6	13
24	58	40	25	30	1.7	3.4	4.3	486	96	0	.7	92
25	62	25	25	24	1.8	3.0	20	321	36	2.0	.7	43
26	35	26	25	27	2.4	4.0	5.5	265	140	12	4.6	25
27	34	24	25	26	1.9	4.6	4.3	136	666	4.0	3.3	15
28	23	23	25	34	3.0	4.0	4.6	74	271	140	2.0	14
29	21	25	25		3.6	3.8	12	36	185	21	2.6	32
30	30	26	25		10	3.2	12	27	99	4.0	.7	54
31		30	25		9.5		4.3		172	103		18
TOTAL												
Sec. Ft.	887.0	1466	775	869	307.7	145.0	2101.0	40523.7	6934.1	917.8	1387.0	423.8
Ac. Ft.	1760	2910	1540	1720	610	288	4170	80380	13750	1820	2750	840

THE YEAR 112500 Ac. Ft.

INFLOW INTO JOHN MARTIN RESERVOIR

APPENDIX "C-2"

* * * *

ARKANSAS RIVER AT CADDOA, COLO.

Report Year Ending October 31, 1949
 U S G S Records — Preliminary, Subject to Revision

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	33	4.5	4.5	3.0	3.7	43	416	628	777	1010	366	764
2	8.2	4.5	4.5	2.6	3.7	147	416	622	770	974	356	764
3	6.0	4.5	4.1	2.6	3.7	94	568	580	764	974	340	718
4	6.0	6.0	3.7	3.0	3.4	91	757	208	750	966	275	634
5	4.5	4.5	3.4	3.0	3.4	140	861	84	724	974	243	604
6	5.2	4.5	3.0	3.0	3.4	193	333	14	744	1060	280	592
7	5.2	6.0	3.0	3.0	3.0	193	94	3.4	764	1080	350	604
8	6.8	6.0	3.0	3.0	3.7	248	48	1.1	812	1140	361	604
9	6.8	6.0	3.4	3.4	4.1	298	46	.4	805	1200	345	598
10	6.8	5.2	3.0	3.4	4.5	298	50	.4	686	1180	181	544
11	6.0	4.5	3.4	3.7	4.5	293	50	.4	640	1320	58	416
12	5.2	4.5	3.4	3.7	4.5	324	150	.4	574	1300	42	427
13	5.2	4.5	3.4	3.7	5.2	378	319	.4	574	1230	58	416
14	5.2	4.1	3.4	3.7	4.5	394	329	.4	580	1160	144	410
15	4.5	4.5	3.4	3.7	4.5	405	334	.4	628	1100	154	388
16	4.1	4.1	3.4	3.7	4.5	432	314	.4	610	1070	193	308
17	4.1	4.1	3.7	3.7	4.5	438	243	1.1	574	934	248	303
18	4.5	4.1	3.7	3.7	9.0	472	212	1.8	544	70	266	356
19	3.4	3.7	3.7	4.1	38	410	270	2.6	556	147	261	345
20	4.5	3.4	3.7	4.5	38	212	324	28	556	526	298	314
21	4.1	3.4	4.1	4.1	39	200	329	147	592	514	366	270
22	4.1	3.4	3.7	4.1	43	319	334	270	616	502	444	239
23	4.5	3.7	3.4	4.1	52	502	378	454	622	562	532	226
24	4.5	3.7	3.4	4.5	53	520	416	580	640	640	526	197
25	4.5	3.7	3.0	5.2	79	568	444	586	798	660	532	167
26	4.1	4.1	3.0	4.1	104	653	472	580	882	550	496	178
27	3.7	4.1	3.0	4.1	102	586	514	580	791	508	568	204
28	4.5	3.0	3.0	3.7	99	604	604	592	918	514	724	230
29	4.5	4.1	3.0		97	604	604	604	1100	622	777	234
30	4.5	4.5	3.0		94	472	604	622	1140	640	764	230
31		4.5	3.0		58		616		1090	520		230
TOTAL												
Sec. Ft.	178.2	135.4	106.4	102.1	973.8	10531	11449	7192.2	22621	25647	10548	12514
Ac. Ft.	353	269	211	203	1930	20890	22710	14270	44870	50870	20920	24820

THE YEAR 202300 Ac. Ft.

OUTFLOW FROM JOHN MARTIN RESERVOIR

APPENDIX "D"

DEMANDS BY COLORADO FOR WATER

Report Year Ending October 31, 1949

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	0	0	0	0	0	200	400	650	775	400	110	500
2	0	0	0	0	0	100	400	625	775	400	110	500
3	0	0	0	0	0	100	465	425	775	400	110	500
4	0	0	0	0	0	100	515	75	775	400	80	500
5	0	0	0	0	0	200	515	0	775	400	80	500
6	0	0	0	0	0	200	135	0	775	450	80	500
7	0	0	0	0	0	200	135	0	725	675	80	475
8	0	0	0	0	0	200	135	0	725	725	80	475
9	0	0	0	0	0	300	135	0	700	725	60	475
10	0	0	0	0	0	300	135	0	700	690	60	400
11	0	0	0	0	0	300	135	0	625	690	25	450
12	0	0	0	0	0	390	275	0	625	690	25	425
13	0	0	0	0	0	390	275	0	625	690	150	400
14	0	0	0	0	0	390	275	0	625	690	150	400
15	0	0	0	0	0	440	275	0	625	690	150	380
16	0	0	0	0	0	440	275	0	625	690	150	345
17	0	0	0	0	0	440	275	0	575	690	175	345
18	0	0	0	0	8	570	275	0	575	690	175	320
19	0	0	0	0	35	200	375	0	575	310	175	320
20	0	0	0	0	36	200	375	100	575	310	225	295
21	0	0	0	0	36	200	375	175	575	310	275	270
22	0	0	0	0	42	200	375	325	625	310	400	245
23	0	0	0	0	52	300	475	500	625	310	400	245
24	0	0	0	0	52	300	400	500	625	360	400	170
25	0	0	0	0	80	400	475	500	625	510	400	170
26	0	0	0	0	101	400	475	500	400	160	400	170
27	0	0	0	0	102	250	650	600	400	160	400	228
28	0	0	0	0	100	250	650	600	400	160	500	228
29	0	0	0	0	100	250	650	625	650	460	500	228
30	0	0	0	0	0	400	650	700	650	460	500	228
31	0	0	0	0	80	0	650	0	400	110	0	228
TOTAL												
Sec. Ft.	0	0	0	0	824	8610	11605	6900	19525	14715	6425	10915
Ac. Ft.	0	0	0	0	1634	17078	23018	13686	38728	29187	12744	21650

THE YEAR 157725 Ac.Ft.

DEMANDS BY COLORADO FOR WATER

APPENDIX "E"
* * * *

DEMANDS BY KANSAS FOR WATER
Report Year Ending October 31, 1949

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT	OCT.
1	0	0	0	0	0	0	0	0	0	500	0	350
2	0	0	0	0	0	0	0	0	0	500	0	350
3	0	0	0	0	0	0	250	0	0	500	0	350
4	0	0	0	0	0	0	250	0	0	500	0	350
5	0	0	0	0	0	0	400	0	0	500	0	350
6	0	0	0	0	0	0	300	0	0	500	0	350
7	0	0	0	0	0	0	300	0	0	500	0	350
8	0	0	0	0	0	0	300	0	400	500	0	350
9	0	0	0	0	0	0	300	0	0	500	0	350
10	0	0	0	0	0	0	300	0	0	500	0	350
11	0	0	0	0	0	0	300	0	0	500	0	0
12	0	0	0	0	0	0	300	0	0	500	0	0
13	0	0	0	0	0	0	300	0	0	500	0	0
14	0	0	0	0	0	0	250	0	0	500	0	0
15	0	0	0	0	0	0	250	0	0	500	0	0
16	0	0	0	0	0	0	250	0	0	500	0	0
17	0	0	0	0	0	0	250	0	0	500	0	0
18	0	0	0	0	0	0	150	0	0	500	0	0
19	0	0	0	0	0	0	150	0	0	500	0	0
20	0	0	0	0	0	0	150	0	0	500	0	0
21	0	0	0	0	0	0	150	0	0	500	0	0
22	0	0	0	0	0	0	150	0	0	500	0	0
23	0	0	0	0	0	0	300	150	0	500	0	0
24	0	0	0	0	0	0	300	0	0	500	0	0
25	0	0	0	0	0	0	300	0	0	400	500	0
26	0	0	0	0	0	0	300	0	0	400	500	0
27	0	0	0	0	0	0	300	0	0	400	500	350
28	0	0	0	0	0	0	300	0	0	500	500	350
29	0	0	0	0	0	0	300	0	0	500	500	350
30	0	0	0	0	0	0	300	0	0	500	500	350
31	0	0	0	0	0	0	0	0	0	500	500	0
TOTAL												
Sec. Ft.	0	0	0	0	0	2400	5200	0	3600	15500	1400	3500
Ac. Ft.	0	0	0	0	0	4760	10314	0	7140	30744	2777	6942

THE YEAR 62677 Ac. Ft.

DEMANDS BY KANSAS FOR WATER

APPENDIX "F"
* * * *

RELEASES TO KANSAS ON DAYS OF KANSAS DEMAND

At Colorado-Kansas State Line

Report Year Ending October 31, 1949 — (A.V.D.A. Report)

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1										622		369
2										505		377
3							135			600		427
4							134			597		447
5							141			484		382
6							930			392		334
7							923			342		264
8							463		460	460		264
9							254			455		313
10							326			769		287
11							261			423		
12							224			598		
13							198			708		
14							194			1143		
15							277			761		
16							358			824		
17							411			703		
18							370			3016		
19							274			2568		
20							231			793		
21							189			576		
22							195			578		
23							172			496		
24							167			477		
25							165		176	505		
26							231		400	543		
27							348		1047	680	222	
28							341		317	670	275	
29							324		290	587	262	
30							456		445	643	359	
31									652	601		
TOTAL												
Sec. Ft.						2204	6701		3787	23119	1118	3464
Ac. Ft.						4372	13291		7511	45856	2218	6871

THE YEAR 80119 Ac. Ft.

RELEASES TO KANSAS ON DAYS OF DEMAND

APPENDIX "G"
* * * *

APPENDIX "H"

* * * *

GAGING STATIONS REPORT

Your committee on Compact Gaging Stations Data submits here- with the following report:

- 1. On August 9, 1949 the Committee, accompanied by representa- tives of the State Engineer of Colorado, the District Engineer, Corps of Engineers, the U. S. Geological Survey and by Chairman Kramer made a trip to examine these gaging stations.
a. The Arkansas River at Holly
b. The Holly Drain at the State line, which now includes Cheyenne Creek and Wild Horse Creek
c. The Arkansas River below John Martin Dam
d. The Arkansas River at Las Animas
e. The Purgatoire River at the Las Animas highway bridge
f. The Purgatoire River at the Highland Dam

The committee also examined the Frontier ditch east of the state line and the Arkansas river at the Coolidge bridge.

2. It is the conclusion of the Committee that new state line gaging stations be established, one on the Frontier ditch about one-half mile east of the state line and one on the Arkansas River at or near the river bridge south of Coolidge. The Committee finds that the Arkansas River stations now below the dam and at Las Animas are well located and should be retained, and that the station on the Purgatoire at the Las Animas bridge should be designated the Compact Station on that stream.

3. Before they can be operated for Compact purposes the proposed new stations on the Frontier ditch and on the Arkansas at Coolidge must be supplied with telephone service such as to assure prompt reports to those administering the river and those operating the gates at the dam. Until the new state line stations have been in operation a sufficient time to demonstrate their accuracy and that communication lines are depend- able, the present state line stations should be retained.

4. The U. S. Geological Survey has made an estimate of the cost of improvements and operation of the Compact stations as follows:

Table with 3 columns: Station, Improvements, Operation. Rows include Arkansas River at Las Animas, Purgatoire River near Las Animas, Arkansas River at Caddoa, Arkansas River at State Line, and Total.

This can be used as a basis for the request of federal funds to finance the Compact stations.

Respectfully submitted,
HARRY C. NEVIUS
GEORGE S. KNAPP

Lamar, Colorado
September 12, 1949

APPENDIX "I"

* * * *

RESOLUTION ON USGS ALLOCATION OF FUNDS

WHEREAS the Arkansas River Compact between the States of Colorado and Kansas became effective on the 31st day of May 1949 and the Arkansas River Compact Administration, a body set up by the Compact, has organized to perform its administrative functions, and

WHEREAS the John Martin Dam and Reservoir project was constructed by the Corps of Army Engineers, is now in operation and will be maintained and operated by that agency; and

WHEREAS the administration of the Compact and the operation of John Martin Dam require the installation, maintenance and operation of certain gaging stations; and such stations will serve not only interstate purposes but also provide data essential to the satisfactory operation of John Martin Dam and Reservoir; and

WHEREAS pursuant to the terms of the Compact, the Administration has selected the following gaging stations for the purposes herein mentioned, namely:

Arkansas River at Las Animas, Colorado
Arkansas River at Caddoa, Colorado
Arkansas River at Holly, Colorado
Arkansas River at Coolidge, Kansas
Purgatoire River at Las Animas, Colorado
Holly Drain at Holly, Colorado
Frontier Ditch at Coolidge, Kansas

AND WHEREAS it is the desire of the Administration, as well as of the Corps of Army Engineers, that such stations be operated by a disinterested agency, using modern equipment and methods and capable of obtaining records of highest accuracy; and

WHEREAS the United States Geological Survey is recognized as the official Federal agency for collecting, publishing and disseminating stream-flow records.

NOW THEREFORE BE IT RESOLVED, that the Director of the United States Geological Survey be requested to allot sufficient Federal funds for the fiscal year 1951, and from year to year thereafter, for the purpose of installing, maintaining and operating the above-mentioned gaging stations for the reasons hereinabove set out.