TWENTIETH ANNUAL REPORT

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ARKANSAS RIVER COMPACT ADMINISTRATION

(1968)

For the Report-Year November 1, 1967 to October 31, 1968

DODODO

and By-Laws as Amended

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LAMAR, COLORADO

December 10, 1968

Twentieth Annual Report

(And By-Laws As Amended)

ARKANSAS RIVER COMPACT ADMINISTRATION

(1968)

For the Report Year November 1, 1967 to October 31, 1968

LAMAR, COLORADO

December 10, 1968

Supramora Common Common

THE ADMINISTRATION

WILBUR L. HECKLER, Chairman and Representative of the United States

ERNEST HOFMEISTER, GEORGE F. REYHER and FELIX L. SPARKS for Colorado

CARL E. BENTRUP, LOGAN N. GREEN and ROBERT V. SMRHA for Kansas

210 South Fifth Lamar, Colorado 81052

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Annual Report of

ARKANSAS RIVER COMPACT ADMINISTRATION

(1968)

Report-Year November 1, 1967 to October 31, 1968

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

Sirs:

Pursuant to Article VII of the Arkansas River Compact, the Arkansas River Compact Administration submits its report for the Report-year November 1, 1967 through October 31, 1968 as follows:

1. Members of the Administration

Representative of the United States:

Wilbur L. Heckler

Colorado Representatives:

Ernest Hofmeister, Lamar, Colorado George F. Reyher, McClave, Colorado Felix L. Sparks, Denver, Colorado

Kansas Representatives:

Carl E. Bentrup, Deerfield, Kansas Logan N. Green, Garden City, Kansas Robert V. Smrha, Topeka, Kansas

2. Officers of the Administration

Chairman:

Wilbur L. Heckler

Vice Chairman:

Carl E. Bentrup

Secretary:

Lane L. Hackett

Treasurer:

Ernest Hofmeister

3. Standing Committees

Administrative and Legal Committees:

Logan N. Green (Chairman) George F. Reyher

Engineering Committee:

Robert V. Smrha (Chairman) Felix L. Sparks

Operations Committee:

Ernest Hofmeister (Chairman) Carl E. Bentrup

The Representative of the United States is ex-officio member of all standing committees.

4. Meetings

January 16, 1968 Lamar, Colorado Annual Meeting

5. Fiscal

<u>5,490.00</u>

- (d) Disbursements by the Administration November 1, 1967 to October 31, 1968:

	Vouche	r	
Date	No.	Payee and Purpose	Amount
11/ 2/67	8	Mountain States Telephone - October Service	.\$ 20.36
12/ 4/67	9	Mountain States Telephone - November Service	
12/28/67	10	U. S. Treasurer - 4th Quarter FICA	
12/28/67	11	Lane Hackett - 4th Quarter	. 20.10
		Salary & Travel	. 336.64
1/ 5/68	12	Strait & Crimmond - Audit	
1/ 5/68	13	Mountain States Telephone - December Service	. 15.35
2/ 1/68	14	Mountain States Telephone -	
		January Service	
2/ 1/68		Lamar Typewriter Co Office Supplies	. 8.79
2/ 1/68	16	U. S. Geological Survey -	
0 / 4 /00		1st Half Coop Agreement	. 2,875.00
2/ 1/68	17	Allied Radio Corp	0.4.40
9/ 4/00	10	VHF Monitor & Antenna	. 94.40
2/ 4/68	18	Mountain States Telephone - February Service	. 14.44
2/ 4/68	19	Ronald Anderson - Bookkeeping Service	
3/27/68		Lane Hackett - 1st Quarter	. 20.00
0, 21, 00	20	Salary & Travel	. 345.36
3/27/68	21	U. S. Treasurer - 1st Quarter FICA	26.40
3/27/68		Mountain States Telephone -	
		March Service	. 13.35
3/27/68	23	Schoenith Office Equipment Co	
= / 0/00		Office Supplies	. 4.40
5/ 6/68	24	Mountain States Telephone -	27 50
E / C /CO	25	April Service	. 27.59
5/ 6/68	25	Lamar Daily News - Printing Annual Reports	. 489.55
5/ 6/68	26	Lane Hackett - Travel & Postage	
6/ 7/68		Mountain States Telephone - May Service.	
6/ 7/68		Mountain States Telephone -	
.,		June Service	. 20.77
6/26/68	29	U. S. Geological Survey -	
- / /		2nd Half Coop Agreement	. 2,875.00
6/26/68	30	Lane Hackett - 2nd Quarter	000 04
c /oc /co	91	Salary & Travel	
6/26/68 8/ 1/68		U. S. Treasurer - 2nd Quarter FICA Mountain States Telephone -	. 26.40
0/ 1/00	32	July Service	. 25.16
8/ 3/68	33	Milne-Hill Agents - Treasurer Bond.	
8/ 3/68		Mountain States Telephone -	. 20.00
0, 0, 00		August Service	. 37.25
9/30/68	35	Radio Specialists Co Monitoradio	. 182.30
9/30/68	36	Mountain States Telephone -	•,
- 15 - 1:-		September Service	
9/30/68	37	U. S. Treasurer - 3rd Quarter FICA	. 33.00

,

38	Lane	Hackett	-	3rd	Quar	ter	Salary.	• • • -	358.50
								\$	8,456.33
		(Return	ed	VHF	Mon	ito	r)	· · · <u>-</u>	84.95
	Total	Disburs	em	ents			· • • • • ·	\$	8,371.38
		,	19	67					
						\$1	8.416.57		
ents									
Balanc	e on Ha	and Octol	er	31,	1968	\$1	0,045.19		
	n Han State State nents	Total Le Total n Hand Nove State of Colo State of Kan	Total Disburs Less Refur (Return Total Disburs n Hand November 1, State of Colorado State of Kansas	Total Disbursem Less Refund k (Returned Total Disbursem n Hand November 1, 19 State of Colorado State of Kansas	Total Disbursements, Less Refund by All (Returned VHF Total Disbursements, In Hand November 1, 1967 State of Colorado State of Kansas	Total Disbursements Less Refund by Allied Regularity (Returned VHF Mon Total Disbursements In Hand November 1, 1967 State of Colorado State of Kansas	Total Disbursements Less Refund by Allied Radio (Returned VHF Monitor Total Disbursements	Total Disbursements	Total Disbursements

6. Cooperative Studies and Activities

- (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 in their respective States, and with the Federal agencies in systematically determining and correlating the facts pertaining to the flow and diversion of the waters of the Arkansas River and to the operation and siltation of John Martin Reservoir and other related structures. Article VIII G (2) requests the Director of the United States Geological Survey, the Commissioner of the United States Bureau of Reclamation, and the Chief of the Engineers, United States Army, to cooperate and collaborate with the Administration and with appropriate State officials in such determinations and correlations of streamflow and related data. Under the By-laws of the Administration, these cooperative studies and activities are assigned to the Engineering Committee of the Administration.
- (b) During the year covered by this report the Administration has received excellent cooperation from all agencies referred to in the foregoing provisions of the Compact. The United States Geological Survey has continued the operation of the compact gaging stations and the analyses and compilation of the hydrologic data presented in this report and used in the administration of the Compact. The Corps of Engineers continued to operate the conservation pool of John Martin Reservoir in accordance with the terms of the compact and the orders of the Administration.

7. Water Supply, Reservoir Operation and Hydologic Data

On November 1, 1967, the beginning of the Compact Year, there were 14,999 acre-feet of water in storage in John Martin Reservoir. Inflow to the reservoir during the winter storage period amounted to 21,520 acre-feet. Outflow from the reservoir during the same period was 2,250 acre-feet. On March 31, 1968, there were 42,949 acre-feet in storage which was a total gain in storage during the winter of 27,950 acre-feet.

Releases of stored water were begun at 8:30 a.m. on April 1, 1968, to meet the demands of Colorado and Kansas. Releases were continued until the reservoir was emptied at 9:00 a.m. on April 21, 1968.

River flow was passed through the reservoir until 3:15 p.m. on June 15, 1968, when the gates were closed to store runoff. Releases were made again at 10:00 a.m. on June 16, 1968, at the demand of Colorado and the reservoir was again emptied at 9:00 p.m. on June 23, 1968. Maximum water in storage during this period amounted to 2,812 acre-feet at midnight on June 16, 1968.

River flow was again passed through the reservoir until runoff above the reservoir provided an opportunity to store water. The gates were closed for 10 hours beginning at 9:00 a.m. on July 28, 1968, and again for 8 hours from midnight August 14, 1968, to 8:00 a.m. on August 15, 1968. Water accumulated in storage reached a maximum of 10,518 acre-feet at midnight on August 12, 1968. Releases were begun at 7:00 p.m. on July 28, 1968, to meet the demands of Colorado and increased on July 30, 1968, to meet the demands of Kansas. Demands by both states continued until the reservoir was declared empty at noon on August 22, 1968.

The reservoir remained empty and river flow was passed through the reservoir until the gates were closed at the end of the irrigation season at midnight on October 31, 1968.

Inflow into John Martin Reservoir during the irrigation season totaled 103,880 acre-feet which is 66 per cent of the nineteen-year average.

Total diversions downstream from John Martin Reservoir during the period April 1 through October 31 by the ditches in Colorado Water District No. 67 was 141,300 acre-feet. Ditch diversions in Kansas for the same period amounted to 80,903 acre-feet.

Reservoir releases April 1 through October 31 were 145,250 acre-feet which was 76,953 acre-feet less than total diversions below John Martin Reservoir. Runoff from areas below the reservoir and return flows provided 35 per cent of the water diverted during the irrigation season.

Releases from the reservoir averaged 7.5 c.f.s. from November 1, 1967, to March 31, 1968, and 342 c.f.s. from April 1, 1968, to Octo-

ber 31, 1968. Stateline flows for corresponding periods averaged 121 c.f.s. and 184 c.f.s. respectively.

The total discharge for the year at Garden City was 49,140 acrefeet of which 35,040 acrefeet or 71 per cent occurred as winter flows.

GAGING STATIONS

In general, streamflow records of satisfactory accuracy were obtained at the Compact stations. Emphasis was continued on performing additional field work to increase the accuracy of the records and on providing current streamflow data to the Administration and State officials as required.

It will be noted that there are differences in the releases from the reservoir, as measured at the gaging station, and the daily demands by Colorado and Kansas. Perfect agreement cannot be obtained, but the differences could be minimized by relocating the gaging station nearer to the dam and installing an artificial control. This would stabilize the rating and also reduce the time involved in adjusting the gates to the required release.

The recording gage for the Arkansas River at Lamar was relocated at the bridge on U. S. Highways 50 and 287 in March 1968 because channel improvements caused the previous gage, located 450 ft. above the bridge, to be isolated from the river at low stages. A 42-inch galvanized metal shelter was installed near the north end of the bridge for the gas-purge manometer. The old structure will be left in place for the time being.

The radio-relay stations between the Coolidge gaging stations and Garden City, one south of Syracuse and the other west of Lakin, were completed and the radio equipment was installed in March 1968.

The Administration approved a cooperative agreement with the U. S. Geological Survey for the fiscal year July 1, 1968 to June 30, 1969 in the amount of \$4,400; \$2,200 for each party. These funds are for the operation of the Compact station at Lamar, the additional field work at the other Compact stations, the providing of current streamflow data, and the preparation of records for the Annual Report.

9. Findings of fact by the Administration

The Administration has had no occasion, during the period cov-

ered by this report, to make any Findings of Fact under the provisions of the Arkansas River Compact.

Respectfully submitted

ARKANSAS RIVER COMPACT ADMINISTRATION RV-

WILBUR L. HECKLER

Representative of the United States and Chairman of the Administration

> ERNEST HOFMEISTER GEORGE F. REYHER FELIX L. SPARKS

Colorado Members of the Administration

CARL E. BENTRUP LOGAN N. GREEN ROBERT V. SMRHA

Kansas Members of the Administration

Lamar, Colorado December 10, 1968

APPENDICES

for

ANNUAL REPORT OF THE

ARKANSAS RIVER COMPACT

ADMINISTRATION

For the Report-Year November 1, 1967 to October 31, 1968

APPENDIX "A" — Auditor's Report.

APPENDIX "B" - Daily Discharges, Arkansas River near Pueblo, Colorado.

APPENDIX "B- 2" — Daily Discharges, Arkansas River at Las Animas, Colorado.

APPENDIX "B- 3" — Daily Discharges, Purgatoire River near Las Animas, Colorado.

APPENDIX "B- 4" - Inflow into John Martin Reservoir.

APPENDIX "B- 5" — Daily Contents, John Martin Reservoir.

APPENDIX "B- 6" - Outflow from John Martin Reservoir.

APPENDIX "B- 7" - Daily Discharges; Arkansas River at Lamar, Colorado.

APPENDIX "B- 8" — Daily Discharges, Arkansas River at Colorado-Kansas Stateline.

APPENDIX "B- 9" - Daily Discharges, Arkansas River at Garden City, Kansas.

APPENDIX "B-10" - Demands by Colorado for Water.

APPENDIX "B-11" — Demands by Kansas for Water.

APPENDIX "B-12" — Stateline Flow on Days of Kansas Demand. APPENDIX "B-13" — Diversions by Ditches in Colorado Water Districts 14 and 17.

APPENDIX "B-14" - Diversions by Ditches in Colorado Water District 67.

APPENDIX "B-15" - Diversions by Ditches in Kansas, Stateline to Garden City.

APPENDIX "B-16" - Summary Tabulation.

APPENDIX "C" — By-Laws As Amended to December 10, 1968.

PLATE I - Graphs showing inflow, outflow and contents of John Martin Reservoir and Stateline Flow for Report-Year.

APPENDIX "A"

AUDITOR'S REPORT STRAIT & CRIMOND

* * *

Certified Public Accountant Johnson-Strait Building Lamar, Colorado 81052

December 9, 1968

To the Representatives Arkansas River Compact Administration Lamar, Colorado

Gentlemen:

We have examined the receipts, disbursements and changes in Fund Balances of the Arkansas River Compact Administration for the fiscal year ended October 31, 1968. Our examination was made in accordance with generally accepted auditing standards and accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We submit herewith the following financial statements:

EXHIBIT A — Statement of Receipts, Disbursements and Changes in Fund Balances for the fiscal year ended October 31, 1968.

SCHEDULE 1 — Statement of Receipts and Disbursements Compared with Budget for the Budget Year July 1, 1967 to June 30, 1968.

COMMENTS

EXHIBIT A

Exhibit A presents the cash receipts and disbursements of the Arkansas River Compact Administration. The assessments for the current year were received in August, 1968.

SCHEDULE 1

The receipts and disbursements for the budget year of July 1, 1967 to June 30, 1968, as compared with budgeted amounts are shown in

Schedule 1. This schedule differs from the report year of November 1, 1967 to October 31, 1968, and is the result of combining the receipts and disbursements for the appropriate months of the current and previous report years.

Financial position of the administration as compared with fiscal year November 1, 1966 to October 31, 1968 is shown below:

COMPARATIVE BALANCE SHEET

ASSETS	OCT. 31, 19		T. 31, 1968
Cash in Bank	\$ 12,926	.57 \$	10,045.19
Equipment			959.25
TOTAL ASSETS	\$ 13,694	.07 \$	11,004.44
LIABILITIES AND FUND BALANC	CES		
Expended Fund Balances - Equipment			959.25
Unexpended Fund Balance	12,926	.57	10,045.19
TOTAL LIABILITIES AND			
FUND BALANCES	. \$ 13,694	.07 \$	11,004.44

OPINION

In our opinion the statement of receipts, disbursements and changes in fund balances presents fairly the financial position of the Arkansas River Compact Administration at October 31, 1968, and the results of operations for the fiscal year then ended on a basis consistent with that of the preceding year.

Respectfully submitted,

Strait & Crimond

EXHIBIT A

ARKANSAS RIVER COMPACT ADMINISTRATION

STATEMENT OF RECEIPTS, DISBURSEMENTS AND CHANGES IN FUND BALANCES FOR THE FISCAL YEAR ENDED OCTOBER 31, 1968

12,926.57
12,926.57
5,490.00
18,416.57
8,371.38
10,045.19

SCHEDULE 1

ARKANSAS RIVER COMPACT ADMINISTRATION

STATEMENT OF RECEIPTS AND DISBURSEMENTS WITH BUDGET FOR THE BUDGET YEAR JULY 1, 1967 TO JUNE 30, 1968

ACT	UAL	BUDGET
CASH IN BANK - July 1, 1967	\$ 2,000.70	\$ 400.00
RECEIPTS: Revenue from Assessments: Colorado Portion - 60% \$ 7,404.00 Kansas Portion - 40% 4,936.00 TOTAL RECEIPTS TOTAL TO	12,340.00	\$ 7,404.00 4,936.00 \$ 12,340.00
ACCOUNT FOR	\$ 14,340.70	\$ 12,740.00
DISBURSEMENTS: Investigation & Inspection Surface Water Investigations- U. S. Geological Service \$ 6,250.00 Secretary's Salary 1,500.00		\$ 100.00 9,500.00 1,200.00
Printing. 489.00 Travel. 342.48 Telephone. 243.59 Legal & Audit. 112.00		1,000.00 200.00 300.00 100.00
Office Supplies		300.00 75.00 15.00 300.00
Typing & Mailing 5.00 TOTAL DISBURSEMENTS	\$ 9,108.90	100.00 \$ 13,190.00
CASH IN BANK - JUNE 30, 1968	\$ 5,231.80	\$ (450.00)

ARKANSAS RIVER NEAR PUEBLO, COLORADO Report-Year ending October 31, 1968 U S G S Records — Provisional, Subject to Revision

				((Colorado	State	Engine	er)				
DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JÚNE	JULY	AUG.	SEPT.	OCT.
1	175	269	296	254	222	391	508	1580	1490	2200	839	198
2	220	258	287	247	227	532	517	224 0	1510	2360	827	194
3	250	233	287	235	227	451	535	268 0	1390	2060	803	181
4	232	224	287	247	215	355	526	2880	1220	1970	748	183
5	243	229	287	241	197	294	517	2980	1260	1770	598	188
6	263	276	287	247	181	261	553	3320	1500	1620	524	194
7	257	382	277	254	181	263	562	3240	1530	1850	479	188
8	237	354	277	254	167	245	571	3120	1430	1790	428	174
9	278	358	276	241	167	201	599	288 0	1370	1880	409	198
10	292	313	276	236	181	169	612	2380	1340	2950	375	228
11	298	302	285	236	237	149	653	1900	1200	2090	344	225
12	292	299	294	241	232	146	735	1460	1070	2740	313	209
13	285	301	304	254	186	210	743	1390	1000	2720	286	211
14	271	296	314	241	196	262	755	1700	920	2440	252	210
15	263	290	324	241	185	239	702	1940	1000	2400	241	192
16	263	288	332	223	161	203	624	1990	1110	2040	253	194
17	237	290	342	229	151	209	607	2140	1110	1790	267	192
18	220	300	321	223	161	268	542	2280	1050	1690	305	207
19	232	309	331	229	160	323	497	2370	1350	1580	311	195
20	237	318	340	228_	160	317	569	2520	1160	1390	320	204
21	237	324	33 9	234	160	262	587	2670	1070	1180	317	222
22	237	302	328	273	154	227	339	26 90	1010	1070	315	206
23	237	291	347	300	154	245	347	2570	1170	994	333	193
24	250	300	358	287	153	211	560	2500	1160	945	336	186
<u>25</u>	243	308	366	286	163	195	706	2420	1200	1010	309	172
26	250	318	339	306	159	185	646	2140	1220	993	275	178
27	252	308	319	294	154	180	608	1920	1330	944	234	181
28	255	297	299	287	154	147	617	1780	2040	896	213	177
2 9	254	296	279	286	151	242	684	1890	2120	873	221	179
3 0	269	297	271		180	499	1030	1820	2200	862	214	179
31		297	262		201		1350		1980	850		175
TOTA												
sec. f	t. 7529	9227	9531	7354	5577	7881	19401	69390	41510	51947	11689	6004
	. 14930	18300	18900	14590	11060	15630	38480	137600	82330	103000	23180	
(a)ac.	.ft. 0	0	0	0	0	1332	16893	4128	20749	9433	2543	0
(b)ac.												
f+	1/030	18300	18000	1/1500	11060	14200	21500	122500	C1 E 0 0	00570	00040	11010

ft. 14930 18300 18900 14590 11060 14300 21590 133500 61580 93570 20640 11910 (a) Less upstream reservoir and transmountain water. (b) Corrected total ac. ft.

THE YEAR 489,900 CORRECTED 434,900

ARKANSAS RIVER AT LAS ANIMAS, COLORADO APPENDIX "B-2"

ARKANSAS RIVER AT LAS ANIMAS, COLORADO Report-Year ending October 31, 1968 -U S G S Records — Provisional, Subject to Revision

U S G S Records — Provisional, Subject to Revision												
DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	118	35	53	27	20	20	16	297	494	3 9	312	22
2	124	54	50	30	21	20	15	248	432	56	304	27
3	140	56	53	3 5	22	28	15	400	485	44	200	23
4	124	51	51	35	22	50	15	360	64 9	48	182	22
_5	216	30	47	34	22	36	14	306	304	54	216	23
6	256	40	40	31	21	25	14	304	336	32	368	23
7	146	6 0	35	36	20	21	15	408	352	23	416	20
8	107	58	37	32	21	18	15	352	416	22	320	22
9	58	45	39	34	21	18	15	440	424	19	256	20
10	49	64	40	31	21	17	15	590	424	75	264	20
11	44	73	40	26	22	17	15	539	424	755	240	21
12	3 9	70	40	24	20	17	15	458	416	136	200	21
13	35	65	50	24	20	17	23	440	490	222	200	21
14	31	62	60	23	21	17	28	416	530	37	152	27
15	30	60	68	23	20	17	25	1040	500	47	82	28
16	32	58	72	22	21	17	20	521	400	40	72	22
17	28	54	77	23	21	17	17	190	280	27	69	22
18	26	48	58	22	21	18	20	80	200	54	37	28
19	25	56	60	22	21	20	19	42	164	43	34	31
20	24	66	44	21	26	20	17	101	85	16	30	36
21	23	60	34	22	27	20	16	77	353	16	27	52
22	26	55	34	21	25	21	17	36	216	20	24	45
23	28	65	30	22	22	25	17	38	224	264	26	43
24	28	70	31	22	22	25	17	312	164	376	22	42
25	26	70	30	22	21	18	17	194	107	400	22	41
26	24	72	30	22	21	18	33	440	89	440	32	39
27	24	65	27	21	21	18	146	261	418	352	36	38
28	24	6 0	27	20	21	16	182	376	476	320	34	37
29	26	55	28	19	22	16	188	384	159	328	27	53
3 0	27	60	27		21	16	200	458	49	368	23	69
31		50	27		-21		208		35	328		69
TOTA	AL											
sec.ft.	.1908	1787	1339	746	668	623	1389	10108	10095	5001	4227	1007
ac. ft.		3540	2660	1480	1320	1240	2760	20050	20020	9920	8380	2000
								THE Y	EAR 7	7,150 ac	re-feet	

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PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO APPENDIX "B-3"

PURGATOIRE RIVER NEAR LAS ANIMAS, COLORADO Report-Year ending October 31, 1968

					2 2 2			,					
				US	G S R	ecords	- Pr	ovisiona	i, Subj	ect to Rev	ision		
		NOV.	DEC.	JAN.	FEB.	MAR.		MAY	JUNE	JULY	AUG.	SEPT	
	1	54	44	20	64	10	8.0	3.7	196	9.0	89	9.0	3.4
	2	57	33	20	56	10	7.2	23	70	5.6	70	10	3.7
	3	57	32	20	45	20	6.8	26	32	4.4	372	12	4.0
	4	52	37	22	43	23	8.5	15	25	4.4	1690	14	3.7
_	5	56	65	25	44	14	4.4	10	26	14	507	9.5	3.7
	6	58	35	23	39	17	4.0	10	56	6.4	167	6.8	3.7
	7	44	28	26	36	15	6.0	7.6	36	5.6	89	6.0	4.4
	8	39	22	27	25	8.5	15	6.8	26	3.7	57	5.6	4.4
	9	45	20	28	17	6.8	11	7.2	22	3.7	28	5.6	4.4
	0	49	24	29	12_	7.2	4.0	6.8	44	4.0	2520	6,8	4.4
	1	49	22	31	9.0	14	3.4	11	97	4.8	1010	6.4	4.4
	2	52	21	32	10	25	3.4	9.0	76	4.4	638	5.6	4.8
	3	54	17	33	15	21	4.0	9.0	52	4.0	549	5.2	5.2
	4	45	20	35	19	12	4.8	8.5	37	22	376	5.2	7.2
1	5	35	18	36	20	24	5.2	5.2	624	33	296	4.8	6.4
1	6	30	20	37	17	14	5.2	4.4	102	13	201	4.4	19
1	7	32	18	38	10	9.5	4.8	6.8	36	6.0	122	5.6	19
1	8	32	20	35	11	6.4	5.2	6.4	22	4.8	65	5.2	15
1	9	32	24	40	8.5	7.2	5.6	5.2	14	6. 8	44	4.8	16
2	0	33	23	43	11	7.6	4.4	5.6	22	7.6	26	4.4	16
2	1	37	21	. 66	28	10	3.7	6.0	24	7.2	19	4.0	16
2	2	36	20	76	21	7.2	5.6	6.4	19	4.0	14	4.0	16
2	3	36	23	81	10	6.4	4.8	6.0	14	4.8	12	4.8	26
2	4	43	26	79	10	6.4	4.8	7.6	10	8.0	9.0	6.0	26
2	5	37	27	87	9.0	6.8	4.4	12	36	441	6.4	6.0	28
	6	34	24	72	12	6.8	4.8	12	47	201	5.6	5.2	25
2	7	29	21	68	11	5.6	6.0	8.5	107	257	11	4.8	10
2	8	27	23	62	11	6.8	5.6	6.8	43	2000	12	4.0	10
2		33	24	59	11	6.4	4.8	19	27	1940	12	4.0	19
3		35	23	58		6.4	4.0	16	15	1190	10	4.0	15
3			21	58		11		306		240	9.0		16
	IATO'	,											
	ec.ft.		796	1366	634.5	352.0	169.4	593.5	1957	6460.2	9036.0	183.7	359.8
-		0400	1500	0510	1000	000	000	1100	0000	10010	15000	004	P1 4

ac.ft. 2480 1580 2710 1260 698 336 1180 3880 12810 17920 364 714 THE YEAR 45,930 acre-feet

APPENDIX "B-4" INFLOW INTO JOHN MARTIN RESERVOIR

INFLOW INTO JOHN MARTIN RESERVOIR
Report-Year ending October 31, 1968
U.S.G. S. Records — Provisional, Subject to Revision

							u, bub					
DAY	NOV.	DEC.	JAN.	FEB.		APR.		JUNE	JULY	AUG.	SEPT.	OCT.
1	172	79	73	91	30	28	20	493	503	128	321	25
2	181	87	70	86	31	27	38	318	438	126	314	31
4	197	88	73	80	42	35	41	432	489	416	212	27
4	176	88	73	78	45	58	30	385	653	1740	196	26
. <u>5</u> 6	272	95	72	78	36	40	24	332	318	561	226	27
6	314	75	63	70	38	29	24	360	342	199	375	27
7	190	88	61	72	35	27	23	444	35 8	112	422	24
8	146	80	64	57	30	33	22	378	420	79	326	26
9	103	65	67	51	28	2 9	22	462	428	47	262	24
10	98	88	69	43	28	21	22	634	428	2600	271	24
11	93	95	71	35	36	20	26	636	429	1760	246	25
12	91	91	72	34	45	20	24	534	420	774	206	26
13	89	82	83	39	41	21	32	492	494	771	205	26
14	76	82	95	42	33	22	36	453	552	413	157	34
15	65	78	104	43	44	22	30	1660	533	343	87	34
16	62	78	109	39	35	22	24	623	413	241	76	41
17	60	72	115	33	30	22	24	226	286	149	75	41
18	58	68	93	33	27	23	26	102	205	119	42	43
19	57	80	100	30	28	26	24	56	171	87	39	47
20	57	89	87	32	34	24	23	123	93	42	. 34	52
21	6 0	81	100	50	37	24	22	101	360	. 35	31	68
22	62	75	110	42	32	27	23	55	220	34	28	61
23	64	88	111	32	28	3 0	23	52	229	276	31	69
24	71	96	110	32	28	30	25	322	172	385	28	68
25	63	97	117	31	28	22	29	230	548	406	28	69
26	58	9 6	102	34	28	23	45	487	290	446	37	64
27	53	86	95	32	27	24	154	368	675	363	41	48
28	51	83	89	31	28	22	189	419	2480	332	38	47
29	59	79	87	30	28	21	207	411	2100	340	31	72
30	62	83	85		27	20	216	473	1240	378	27	84
31		71	85		32		514		275	337		85
TOTAL												
sec.ft.	3160	2583	2705	1380	1019	802	1982	12061	16562	14039	4412	1365
ac.ft.	62 70	5120	5370	2740	2020	1590	3930	23920	32850	27850	8750	2710

 sec.ft.
 3160
 2583
 2705
 1380
 1019
 802
 1982
 12061
 16562
 14039
 4412
 1365

 ac.ft.
 6270
 5120
 5370
 2740
 2020
 1590
 3930
 23920
 32850
 27850
 8750
 2710

 THE YEAR
 123,100 acre-feet

CONTENTS OF JOHN MARTIN RESERVOIR
Report-Year ending October 31, 1968
Corps of Engineers records — Provisional, subject to revision
Midnight contents in acre-feet from capacity table dated Apr. 3, 1967

	TAT	runigni c	onicine n	i acre-ice	t Hom c	apacity t	ante u	aicu np	1. 0, 10	J 1		
DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG. S	EPT.	OCT.
1	15271	22942	29228	36106	40029	41756	0	0	0	6966	0	0
2	15692	23087	29440	36310	40121	39725	0	0	0	6291	0	0
3	16032	23232	29520	36484	40273	37628	0	0	0	6291	0	0
4	16524	23498	29680	366 59	40365	35528	0	0	0	8056	0	0
5	17042	23644	29867	36805	40457	33397	0	0	0	8707	0	0
6	17631	23838	30027	36980	40549	31378	0	0	0	8471	0	0
7	18183	24034	30188	37186	40733	29228	0	0	0	7905	0	0
8	18583	24181	30376	37333	40764	27142	0	0	0	7305	0	0
9	18852	24328	30564	37481	40826	24797	0	0	0	6449	0	0
10	19122	24451	30754	37628	41104	22439	0	0	0	7564	0_	0
11	19348	24623	30998	37746	41258	20146	0	0	0	10099	0	0
12	19575	24871	31160	37865	41382	17984	0	0	0	10518	0	0
13	19871	25069	31296	37983	41538	15968	0	0	0	10394	0	0
14	20100	25294	31488	38132	41693	13926	0	0	0	9978	0	0
15	20261	25569	31707	38251	41818	11778	0	982	0	9740	0	0
16	20446	25820	32009	38340	41943	9538	0	2812	0	8565	0	0
17	20607	26072	32367	38459	42099	7506	0	2796	0	7376	0	0
18	20792	26249	32617	385 79	42162	5440	0	2409	0	5944	0	0
19	20932	26401	32894	38699	42193	33 99	0	1926	0	4404	0	0
20	21118	26732	33173	38819	42287	1112	0	1541	0	2708	0	0
21	21211	26886	33425	38939	42381	0	0	1143	0	1040	0	0
22	21399	27040	335 93	39120	42476	0	0	662	0	0	0	0
23	21634	27168	33847	39241	42570	0	0	0	0	0	0	0
24	21 799	27451	34157	39362	42602	0	0	0	0	0	0	0
25	21964	27762	34413	39452	42665	0	00	0	0	0	0	0
26	22106	28021	34697	39574	42728	0	0	0	0	0	0	0
27	22249	28281	34954	39664	42759	0	0	0	0	0	0	0
28	22391	28543	35212	39816	42822	0	0	0	2637	0	0	0
29	22582	28701	35413	39907	42885	0	0	0	5585	0	0	0
30	22726	28964	35614		42949	0	0	0	7667	0	0	0
31		29096	35874		42949		0		7506	0		0

CONTENTS OF JOHN MARTIN RESERVOIR APPENDIX "B-5"

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OUTFLOW FROM JOHN MARTIN RESERVOIR Report-Year ending October 31, 1968

			USGS	Records	Prov	visional, S	Subject to	Revision	ì			
DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	78	8.1	2.3	3.0	3.0	561	56	913	426	5677	369	63
2	54	7.1	2.6	3.3	3.3	1020	54	431	431	54 0	341	59
3	53	7.6	2.3	3.3	3.3	1000	71	404	400	475	310	63
4	42	11	2.0	3.8	3.3	1080	67	440	612	422	261	61
$\frac{5}{6}$	31	14	2.0	3.8	3.3	1120	59	333	460	404	253	56
6	19	12	2.3	3.8	3.0	1100	57	404	436	408	265	54
7	7.1	12	2.3	3.8	3.0	1110	48	365	378	431	374	57
8	12	13	2.3	3.6	2.8	1130	49	369	400	436	344	57
9	25	11	2.3	3.6	2.8	1140	54	356	418	512	291	59
10	18	11	2.0	3.6	2.8	1200	61	506	408	595	268	59
11	14	11	2.0	3.0	2.6	1200	79	490	395	630	242	59
12	14	9.0	2.0	3.0	2.6	1070	71	528	404	666	211	57
13	14	6.6	2.0	2.8	2.6	1020	65	445	408	762	189	56
14	14	3.6	2.0	2.8	2.6	1020	65	378	404	854	162	57
15	15	3.3	2.0	2.8	2.6	1020	61	443	450	613	131	65
16	15	3.0	2.0	2.8	2.6	1030	59	214	400	882	111	67
17	15	2.8	2.0	2.8	2.6	1010	59	378	322	847	108	75
18	14	2.8	2.0	2.8	2.6	987	51	382	280	828	103	71
19	13	2.8	2.0	2.8	2.6	987	54	352	276	816	85	77
20 21	13	2.8	2.0	2.8	2.6	1020	48	322	181	804	75	83
21	13	2.8	2.0	2.8	2.6	457	49	333	230	810	67	94
22	13	2.8	2.0	2.8	2.6	77	51	361	253	494	67	100
23	13	2.8	2.3	2.8	4.8	73	49	369	215	185	67	103
24	11	3.0	2.3	2.8	14	75	49	268	185	348	69	108
25	11	3.0	2.6	2,8	14	69	54	341	369	361	61	114
26	11	3.0	2.8	2.8	14	67	56	352	338	395	61	114
27	9.9	3.0	2.6	3. 0	13	94	126	480	378	386	75	117
28	9.0	2.6	2.3	3.0	20	67	242	512	477	306	83	114
2 9	9.0	2.6	2.6	3.0	20	63	246	490	431	272	83	92
3 0	9.0	2.6	2.8		20	59	253	418	5457	310	69	108
31		2.6	3.0		20		276		636	356		120
TOT												
sec.												
	589.0	185.3	69.7	89.8	201.6	21926	2639	12377	11946	16715	5195	2439
ac. ft	1.1170	368	138	178	400	43490	5 23 0	24550	236 90	33150	10300	4840
								THE Y	EAR 14	7,500 ac	re-feet	

APPENDIX "B-6"
OUTFLOW FROM JOHN MARTIN RESERVOIR

	U S G S Records — Provisional, Subject to Revision												
NOV	DEG												
NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.		
15	36	40	29	3.5	6.7	9.9	290	7.3	186	7.9	6.2		
9.8		45	24	4.0	466	9.2	160	7.3	177	7.9	6.7		
9.0		50	25	4.0	492	8.5	43	6.2	219	7.3	6.7		
8.2		52	24	4.0	486	7.9	17	21	212	7.3	6.2		
7.4		47	21	4.0	534	43	11	37	188	7.3	6.2		
6.6		43	20	4.0	52 0	54	3 0	6.2	182	7.3	5.7		
5.8		44	16	4.0	500	12	41	8.5	177	7.3	5.2		
5.8		45	16	4.0	478	8.5	23	7.3	171	6.7	6.7		
5.8	26	45	13	4.5	506	8.5	9.9	7.3	149	6.2	6.2		
5.0		44	15	4.5	538	8.5	8.5	14	222	6.7	6.7		
5.0	22	44	12	4.5	538	9,2	11	6.7	252	6.7	5.7		
7.4		43	23	5.0	517	8.5	9.9	5.7	264	6.7	5.7		
16	34	43	20	5.0	468	8.5	7.9	4.7	282	6.7	5.7		
18	33	44	18	5.2	478	8.5	6.7	3.8	461	6.7	5.2		
24	34	44	15	5.2	468	7.9	50	3.4	704	6.7	5.7		
28	36	40	9.8	5.6	454	7.9	90	3.0	517	6.7	5.2		
28	38	44	5.0	6.0	464	7.9	12	3.4	500	6.7	5.2		
28	40	44	5.8	6.4	402	7.3	8.5	4.2	461	5.7	8.5		
28	42	41	4.0	6.8	405	7.3	7.9	33	436	5.7	16		
28	46	45	4.0	7.2	430	7.3	6.7	6.2	402	5.7	43		
28	44	49	3.5	7.2	357	7.9	6.7	5.2	377	5.2	36		
27	42	54	3.0	7.1	26	7.9	6.7	5.7	366	5.2	29		
27	41	54	3.0	7.1	15	7.9	6.7	4.7	41	5.2	27		
28	40	47	3.0	6.9	14	7.9	7.9	49	14	5.2	28		
·28	39	36	3.0	6.9	12	7.3	22	6.7	11	5.2	21		
32	39	30	3.0	6.9	12	7.3	7.9	59	9.9	5.2	7.9		
39	37	30	3.0	5.8	12	7.8	8.5	13	9.2	5.2	6.2		
42	37	29	3.0	6.0	9.9		8.5	446	9.2		5.2		
40	37	29	3.5	6.2	9.9		7.3	27					
37	37	24	3.3	5.7	9.9				8.5		5.7		
31	37	23			9.9		8.5	5.2	8.5		5.2		
	37			5.7		50		164	7.9		5.2		

ARKANSAS RIVER AT LAMAR, COLORADO

APPENDIX "B-7"

ARKANSAS RIVER AT LAMAR, COLORADO Report-Year ending October 31, 1968 USGSRecords - Provisional, Subject to Revision

TOTAL

DAY NOV.

1 2 3

sec. ft.

616.8	1109	1292	347.6	168.9	9628.4	377.7	934.7	981.7	7024.2	189.4	345.3
ac. ft. 1220	2200	256 0	689	335	19100	749 THE	1850 YEAR	1950 45 640 acı	13930 re-feet	376	685

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE Report-Year ending October 31, 1968

	Report-Year ending October 31, 1968 U S G S Records — Provisional, Subject to Revision												
			USG	S Record	s — Pro	visional,	Subject	to Revisio	n				
DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	
1	208	119	90	135	83	62	116	256	129	295	62	57	
2	200	136	90	151	77	68	98	579	95	358	56	46	
3	196	122	95	133	89	184	101	368	68	343	80	47	
4	181	126	100	122	98	424	87	260	91	433	95	44	
5	174	119	105	122	92	426	86	223	105	338	112	39	
6	170	126	100	116	89	419	122	216	140	271	93	47	
7	158	130	110	116	86	459	201	164	127	249	88	65	
8	155	136	120	116	83	444	144	171	116	244	87	61	
9	151	130	125	126	80	473	116	179	93	233	121	49	
10	140	107	130	133	92	459	114	169	86	511	139	35	
11	136	116	140	147	98	526	134	172	107	292	135	39	
12	126	122	130	130	92	560	155	192	87	278	110	28	
13	133	130	145	144	92	587	154	201	78	290	90	34	
14	133	130	150	158	92	542	127	157	79	302	82	3 9	
15	122	133	160	162	83	506	116	275	79	860	67	37	
16	126	133	170	130	74	506	115	350	74	757	60	67	
17	126	147	170	109	71	512	133	33 0	72	582	74	66	
18	112	130	151	112	77	518	122	160	54	524	72	85	
19	112	147	174	116	75	500	123	188	132	473	61	89	
20	122	136	177	109	74	476	122	168	158	421	86	80	
21	126	136	147	130	80	500	125	147	144	437	68	75	
22	130	109	151	109	81	440	129	102	68	422	43	72	
23	133	112	144	112	78	220	121	110	54	403	44	84	
24	144	155	170	107	71	168	122	111	209	232	56	86	
25	144	151	155	98	62	164	122	251	212	146	58	87	
26	136	147	151	93	59	153	117	163	125	140	53	93	
27	133	144	144	93	58	169	116	149	130	110	55	89	
28	112	133	135	90	56	155	116	137	226	89	59	84	
29	112	119	145	85	55	140	107	132	412	75	56	85	
30	112	116	145		56	127	116	120	243	72	63	79	
31		80	140		62		158		198	68		63	
TOT	AL												
sec.													
	4263	3977	4259	3504	2415	10887	3835	6200	3991	10248	2325	1951	
ac. f	t.												

ARKANSAS RIVER AT THE COLORADO-KANSAS STATELINE

APPENDIX "B-8"

THE YEAR 114,800 acre-feet
The daily discharges shown are the sum of the flows of the Arkansas River near Coolidge, Kansas, and the Frontier ditch.

12300 7920

APPENDIX "B-9" ARKANSAS RIVER AT GARDEN CITY, KANSAS

A	RK	AN	ISAS	RIVE	₹ AT	\mathbf{G}_{I}	ARDEN	CITY	Y, K	AN	ISAS
		Re	eport	-Year	endi	ng	Octobe:	r 31	, 19	68	
•		C	Doo	anda	D.		inianal	Ch	inat	40	Dore

		τ				ovisional,			ision			
DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE		AUG.	SEPT.	OCT.
1	157	91	60	189	78	19	18	38	15	54	4.3	5.1
2	172	82	57	187	75	24	14	54	14	54	4.3	6.5
3	184	63	48	185	74	25	11	72	15	53	3.6	11
4	198	65	53	177	72	24	14	99	14	55	4.7	14
5	202	60	72	177	68	26	13	130	13	51	2.9	13
6	200	71	82	175	55	23	13	82	16	53	2.5	14
7	186	76	68	177	45	20	11	61	16	46	4.3	13
8	160	79	81	179	36	15	11	49	17	37	4.1	13
9	141	90	116	174	28	12	13	45	22	28	4.2	14
10	127	115	152	167	28	12	21	132	16	23	6.0	14
11	111	132	181	165	27	14	26	177	17	18	6.4	14
12	101	132	187	164	30	14	46	160	43	16	4.1	16
13	88	143	184	162	28	12	51	154	35	17	7.9	17
14	78	173	197	162	30	15	46	160	21	13	12	16
15	72	141	197	158	28	16	29	178	18	10	14	13
16	69	105	152	146	23	13	27	201	14	8.8	13	9.6
17	65	117	172	148	17	15	28	219	9.9	5.3	9.7	8.5
18	59	124	190	153	22	17	26	257	12	4.9	9.9	15
19	57	141	174	144	19	19	31	267	24	3.0	12	16
20	59	208	190	141_	19	15	33	222	12	3.8	11	_16
21	59	200	23 0	146	20	12	33	179	12	5.5	9.7	16
22	59	155	265	141	19	15	34	135	14	5.4	12	15
23	60	104	263	129	22	14	35	104	15	2.1	12	16
24	60	141	278	131	20	18	40	67	16	3.1	15	17
25	64	185	229	124_	17	32	41	48	109	3.6	14	17
26	64	188	209	122	15	34	39	32	110	4.1	12	17
27	62	180	208	125	20	32	39	22	69	4.6	12	16
28	63	180	204	112	19	17	37	15	69	4.1	12	16
29	70	168	198	92	20	20	35	13	73	3.4	8.5	16
30	84	181	195		19	18	37	13	69	4.7	10	17
31		100	190		19		38		57	5.0		18
TOT												
sec.												
	3131	3990	5082	4452	1012	562	890	3385	976.9	599.4	258.1	439.7
ac. ft		7010	10000	0.000	0010	1110	1.770	C71C	1040	1100	510	0.70
	6210	7910	10080	8830	2010	1110	1770	6710	1940	1190	512	872
							THE	YEAR	49,140 ac	re-reet		

DEMANDS BY FROM CONSERVATION POOL COLORADO ATER RELEASES

APPENDIX

"B-10

DEMANDS BY COLORADO FOR WATER RELEASES FROM CONSERVATION POOL REPORT YEAR ENDING OCTOBER 31, 1968 U. S. CORPS OF ENGINEERS AND ORDERS BY THE SECRETARY OF THE ARKANSAS RIVER COMPACT ADMINISTRATION

(PROVISIONAL, SUBJECT TO REVISION)

Units i	in Cubic	Feet	per	Second
---------	----------	------	-----	--------

DAY	NOV. DEC. JAN. FEB. MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
1	105 Closed: 9:00 A. M. Open: 8:30 A. M.	358	0	0			0	0
2	Α.		0	0	0	al 250 228	0	0
3		550	0	0	0	167	0	0
4		615	0	0	0	119	0	0
5	Note: Variations of discharge	650	0	0	0	100	0	0_
6	represent release changes by	650	0	0	0	118	0	0
7	order of the Compact Secretary.	650	0	0	0	150	0	0
8	Thirty five change orders	650	0	0	0	150	0	0
9	were issued for Colorado	650	0	0	0	199	0	0
10	during the Compact Year.	683	0	0	0	225	0	0
11		700	0	0	0	225	0	0
12		635	0	0	0	288	0	0
13		600	0	0	0	406	0	0
14		600	0	0	0			: Midnight
15	*(June) Closed: 3:15 P. M.	600	0	N *0	0		Open: 8	3:00 A.M.
16		600	0	221	0	500	0	0
17		6 00	0	375	0	467	0	0
18		6 00	0	375	0	450	0	0
19		6 00	0	346	0	450	0	0
20		600	0	325	0	450	0	0
21	Empty: 9:00 A. M.	222	0	341	0	482	0	0
22		0	0	370	0		Empty:	
23	Note:	0	0			. M.	0	0
24	*Reservoir gates closed by order	0	0	0	0	0	0	0
25	of Compact Secretary for periods	0	0	0	0	0	0	0
26	of: 18.75 hours on June 15-16 (#12),	0	0	0	0	9	0	0
27	10 hours on July 28 (#18), and 8	0	0	0	0	0	0	0
28	hours on August 15 (#30) due to heavy	0	0	0	*90	0	0	0 *(July) Closed: 9 A. M.
29	rains on the river.	0	0	0	430	0	0	0
30		0	0	0	373	0	0	0
31	1.		0		289	0	0	0 Closed: Midnight
Tota			•	0004	1100	CEOO	0	0
	Ft. 105	12363	0	2684	1182	6509	- 0	0 The Year: 45,297
Ac.	Ft. 208	24516	0	5322	2344	12907	· U	0 THE TEAT: 40,257

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DEMANDS BY KANSAS FOR WATER RELEASES FROM CONSERVATION POOL REPORT YEAR ENDING OCTOBER 31, 1968 U. S. CORPS OF ARMY ENGINEERS, AND ORDERS BY THE SECRETARY

OF THE ARKANSAS RIVER COMPACT ADMINISTRATION (PROVISIONAL, SUBJECT TO REVISION) Units in Cubic Feet Per Second

DAY	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN	E JULY	AUG.	SEPT	COCT.		
1				Open 8:	30 A.M.	325	0	0	0	300	0	0		
2						500	0	0	0	300	0	0		
3						500	0	0	0	300	0	0		
4				harge rep		500	0	0	0	300	0	0		
5	resent	release c	hanges	by order o	f	500	0	0	0	300		0		
6				Eight char		500	0	0	0	300	0	0		
7	orders	were iss	ued for	Kansas du	r-	500	0	0	0	300	0	0		
8	ing the	Compact	Year.			500	0	0	0	300	0	0		
9						500	0	0	0	346		0		
10						500	0	0	0	400		0		
11						500	0	0	0	400	0	0		
12						435	0	0	0	400	0	0		
13						400	0	0	0	400		0		
14						400	0	0	0			ed: Midnigh		
15		*(June)	Closed	: 3:15 P.M		400	0	*0	0	*268	Open:	8:00 A. M		
16						400	0	0	0	400	0	0		
17						400	0	0	0	400	0	0		
18						400	0	0	0	400	0	0		
19						400	0	0	0	400	0	0		
20						400	0	0	0	400		0		
21			Empt	y: 9:00 A.N	Λ.	148	0	0	0	400		0		
22						0	0	0	0		Empt	y Noon 0		
23						0	0	0	Empty 9:00	P. M.	0	0		
24	Note:					0	0	0	0	C) 0	0		
25				d by order		0	0	0	0		0	0		
26		mpact Sec				0	0	0	0	(0 (0		
27		f: 18.75 h				0	0	0	0	(0 (0		
28		l2), 10 ho				0	0	0	*0	C	0 (0 *(,	July) Closed:	9:00 A. M.
29	(#18)	and 8 hou	rs on A	ugust 15		0	0	0	0	C	0 (0		
30	(#30)	due to he	avy raii	s below		0	0	0	132	C	0 (0		
31	the re	eservoir.				0	0		300	()	0 C1	osed: Midnigl	ht
Total	ls													
Sec.	Ft.					9108	0	0	432	7614	0	0	- Tr 04 016	7
Acre	Ft.					18061	0	0	857	15099	0	0 Th	ie Year 34 , 01'	(

DEMANDS BY KANSAS FOR WATER RELEASES FROM CONSERVATION POOL

APPENDIX "B-11"

-28-

DEMAND*

STATELINE FLOW ON DAYS OF KANSAS DEMAND*

Report-Year ending October 31, 1968 U S G S Records — Provisional, Subject to Revision

DAY	NOV.	DEC.		MAR.		JUNE	JULY	AUG.	SEPT.	OCT.
1										
2								358		
3								343		
4					424			433		
_5			 		426	 		338		
6					419			271		
7					459			249 244		
8					444 473			233		
10					459			511		
2 3 4 5 6 7 8 9 10			 		526	 		292		
12					5 6 0			278		
13					587			290		
14					542			302		
15					506			860		
15 16					506	·		757		
17					512			582		
18					518			524		
19					500			473		
20 21					476			421		
21					500			437		
22					440			422		
23					220			403		
24					168			232		
25 26								146		
26										
27										
28										
29										
30										
31			 			 				
TOT.					0005			0200		
Sec.					9665			9399		
Ac. f	t.				19170	TUEV	EAD 97	18640		
						ine Y	EAR 37,	010		

^{*}Three days' time is allowed for water released from John Martin Reservoir to reach State line.

APPENDIX "B-13"

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICTS 14 AND 17

DIVERSION BY DITCHES IN COLORADO WATER DISTRICTS #14 and #17, DIVISION #2

REPORT YEAR ENDING OCTOBER 31, 1968

SOURCE OF INFORMATION:

WATER COMMISSIONERS SPECIAL REPORTS TO DIVISION ENGINEER RESERVOIR WATER IS THAT FROM UPSTREAM RESERVOIRS ABOVE PUEBLO, COLO.

Units in Acre Feet Compact May June July Aug. Sept. Oct. Year DITCHES Nov. Dec. Feb. Mar. Apr. Jan. 4364 51,220 Bessemer (River) Res. or Imported 0 2,419 4364 53,639 Total Bessemer Ō West Pueblo (River) 2,411 Booth-Orchard Grove (Riv) 8,354 Excelsior (River) n 3,934 Collier (River) 1.236 0 36,425 Colorado Canal (River) n n 0 48,262 Res. or Imported n n 0 84,687 Total Colo, Canal 313 15416 3760 78,119 Highline Canal (River) 0 4,451 Res. or Imported 3760 82,570 Total Highline 862 23,162 Oxford Farmers (Riv) Res. or Imported 862 23,162 Total Oxford Farmers 10066 204,861 Total Dist. 14 (Riv.) 0 4,998 Otero Canal (River) 5862 93,152 Catlin Canal (River) Res. or Imported 0 1.285 Total Catlin Canal 5862 94,437 Holbrook Canal (Riv.) 0 33,943 n n Rocky Ford Canal (Riv.) 4505 51,871 0 1,703 Ft. Lyon Storage (Riv) n n n Ω Ft. Lyon Canal (Riv.) 10413234,515 Las Animas Town and 3159 40,665 Jones Consld. Ditch 99 23939460,847 Total Dist. 17 (Riv.) Total Dists, 14 & 17 35521 40141 137911 64274 121754 34005 665,708 0 56,417 Res. or Imported 56703 141958 86064 131775 41353 34005722,125 GRAND TOTAL

APPENDIX "B-14"

DIVERSIONS BY DITCHES IN COLORADO WATER DISTRICT 67

DIVERSION BY DITCHES IN COLORADO WATER DISTRICT #67, DIVISION #2
REPORT YEAR ENDING OCTOBER 31, 1968
SOURCE OF INFORMATION:

WATER COMMISSIONERS SPECIAL REPORT TO DIVISION ENGINEER Units in Acre Feet

													Compact
NAME OF DITCH	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Year
Fort Bent Canal	668	208	0	0	319	3210	1104	1561	2217	2181	1688	1392	14,548
Keesee Ditch	210	79	0	0	34	535	664	599	611	748	452	599	4,531
Amity Canal	208	0	0	0	0	14353	1140	15933	14807	12802	4241	643	64,127
Lamar Canal	2104	567	454	1075	1128	6437	3439	5334	6121	5749	4204	2729	39,341
Hyde Ditch	177	115	0	0	0	222	52	167	345	282	232	246	1,838
Manvel Canal	0	0	0	0	0	0	0	0	0	0	0	0	. 0
X.Y. & Graham Canals	781	153	0	0	902	1160	327	1237	926	1487	968	416	8,357
Buffalo Canal	1763	2132	1458	934	1265	3197	3185	1850	2253	2766	2294	2195	25,292
Sisson-Stubbs Canal	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	5911	3254	1912	2009	3648	29114	9911	26681	27280	26015	14079	8220	158,034

APPENDIX "B-15"

DIVERSIONS BY DITCHES IN KANSAS

DIVERSIONS BY DITCHES IN KANSAS
REPORT YEAR ENDING OCTOBER 31, 1968
SOURCE OF INFORMATION: FRONTIER DITCH U. S. G. S. RECORDS
OTHER DITCHES, KANSAS DIVISION OF WATER RESOURCES RECORDS Units in Acre Feet

												C	compact
NAME OF DITCH	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Year
Frontier Ditch	0	0	0	0	1220	944	2480	1160	2150	2130	2140	2050	*14274
Alamo Canal	0	0	0	0	0	0	0	0	0	0	0	0	0
Ft. Aubrey Canal	0	0	0	0	0	890	2068	148	1259	537	2063	1527*	**8492
TOTAL State Line to													
Syracuse	0	0	0	0	1220	1834	4548	1308	3409	2667	4203	3577	22766
Amazon Canal	2535	940	0	456	2614	4163	2473	3 2 6 9	0	5510	1256	2267	25483
Great Eastern Canal	0	0	0	0	627	5359	2112	0	3622	5486	0	0	17206
South Side Ditch	2918	536	0	0	0	3045	1182	482	1341	2382	0	303	12189
Farmers Ditch	1771	359	0	0	2809	4879	436	1859	1503	2277	1654	785	18332
Garden City Canal	0	0	0	0	234	50	560	70	347	534	151	0	1946
TOTAL Syracuse to													
Garden City	7224	1835	0	456	6284	17496	6763	56 80	6813	16189	3061	3355	75156
•													
TOTAL State Line to													
Garden City	7224	1835	0	456	7504	19330	11311	6 988	10222	18856	7264	6932	97922

^{*6030} Acre Feet Returned Directly to River.
**1930 Acre Feet Returned Directly to River.

APPENDIX "B-16"

SUMMARY TABULATION

SUMMARY TABULATION (Acre-Feet)

FROM

APP. NOV. DEC. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. JAN. OCT. YEAR NO. Arkansas River at Las Animas, Colo. B-2 Purgatoire River near Las Animas, Colo. B-3 Inflow to John Martin Reservoir B-4* Reservoir contents at end of month B-5 Net change in reser-*‡*7727 **/6370 ≠6778 ≠**4033 **≠3042** -42949 **≠**7506 -7506 -14999 voir storage B-5 Outflow from John Martin Reservoir B-6 Diversions in District 67, Colo. B-14 Flow at Colorado-Kansas Stateline B-8 Diversions in Kansas B-15 Arkansas River at Garden City, Kansas B-9

^{*}Because of computation rules, figures in B-4 are not necessarily the exact sum of B-2 and B-3.

Appendix "C"

By-Laws

Of

Arkansas River Compact Administration

(As Amended November 1, 1953 to October 31, 1968)

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 im-

posed 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 prinicipal 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 IV1 Meetings

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

2. (a) 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 meet-

- (b) Special telephonic meetings of the Administration may be held by telephonic communications between the several members of the Administration in respect to all matters arising under Article VF of the Compact; Provided that such special telephonic meetings may be called by the Chairman, Vice-Chairman or any member of the Operations Committee, and in any case at least two representatives of each State shall participate personally in such special telephonic meetings and concur in the action taken as a result of such meeting. And provided further, that the Secretary of the Administration shall prepare minutes of any special telephonic meeting and such minutes shall be acted upon by the Administration at the next Annual meeting or special meeting held under sub-section (a) hereof.
- 3. Notices of all annual 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 meetings. Notice 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.
- 4. All annual 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.
- 5. 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 proceed-

¹As amended March 27, 1962 and September 21, 1962

ings 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.

- 6. 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. If a quorum is not present at any meeting, the members present, one or more, may adjourn from time to time without further notice until a quorum is obtained.
- 7. At each meeting of the Administration, the order of business, unless otherwise agreed, shall be as follows:

Call to order;

Reading of minutes of last meeting;

Approval of minutes of last meeting;

Report of Chairman;

Report of Secretary;

Report of Treasurer;

Report of Committees;

Unfinished business;

New business:

Adjournment.

- 8. All meetings of the Administration, except executive sessions, shall be open to the public.
- 9. 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.
- 10. Public notice of all annual 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

- 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 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 specific-

ally 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 Regularitions 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 expenditious 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. The Administration shall annually adopt and transmit to the Governor of each State its tudget covering anticipated expenses for the ensuing fiscal year, and the amount thereof payable by each State. ²
- 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

²As amended December 11, 1956.

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

- 1. 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.



