JOHN A. LOVE Governor



A. RALPH OWENS State Engineer

**DIVISION OF WATER RESOURCES** 

232 STATE SERVICES BUILDING 1525 SHERMAN STREET DENVER, COLORADO 80203

> 208 Colorado Building Pueblo, Colorado January 5, 1967

Mr. A. Ralph Owens State Engineer State of Colorado 232 State Services Building Denver, Colorado 80203

Dear Mr. Owens:

I submit herewith my annual report of activities in Irrigation Division No. 2 for the 1966 water year.

Respectfully\_submitted,

John W. Patterson Division Engineer Irrigation Division No. 2

JWP:RB



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#### GENERAL ADMINISTRATION

Forecast for the 1966 water year was one of extreme drought for direct flow diversions from the Arkansas River and its tributaries. As late as May 1, 1966, the U. S. Weather Bureau was forecasting a May through September runoff of the Arkansas River at Canon City of only 118,000 acre feet or approximately 35% of average. The Soil Conservation Service in their May report estimated total runoff at Pueblo to be 46% of normal for the <u>entire</u> water year. Due to the above average runoff during the early part of the water year, the overall yearly total was higher than the weather bureau forecast. Snow water content for the Arkansas drainage as of May 1 was only 41% of the 15 year average.

However, actual conditions were far superior to the prognostication. Runoff at Canon City amounted to 472,300 acre feet, although a major part of the runoff was due to heavy rainfall. The 73 year long term average flow for Canon City is approximately 522,000 acre feet a year, or an underflow of approximately 10%. The runoff at Pueblo amounted to 410,200 acre feet which is a reduction of 21% below normal. It must be recognized that the totals at Canon City and Pueblo were partially supplemented by larger than normal reservoir releases from Twin Lakes, Sugar Loaf, and Clear Creek Reservoirs.

Major flows occurred in the Huerfano River for the first time in a number of years. A flow estimated at 12-14,000 cubic feet of water per second of time occurred on the night of September 27th at the Undercliffe gaging station. The water flowed approximately 2½ feet over the top of the Huerfano Valley headgate. During the same storm a flood occurred on the Purgatoire River which had a flow estimated conservatively at 30,000 cubic feet of water per second of time at the Nine Mile gaging station.

It was a combination of numerous small floods on the Purgatoire River and Arkansas River that contributed to the replenishment of storage in John Martin Reservoir. Storage on May 1 in John Martin Reservoir amounted to 340,000 acre feet. On November 1, there was 185,700 acre feet of water still remaining in storage after a delivery from the reservoir of 223,400 acre feet to users in Colorado and a 40% equivalent release to the State of Kansas, measured at the Colorado-Kansas State line. There should be enough water in John Martin Reservoir with winter storage and anticipated runoff to supply water for Water District No. 67 for the following year.

Total reservoir storage of major reservoirs in the Division (See Table B) changed by a minus acre feet during the period from October 1, 1965 to October 1, 1966.

#### GROUND WATER ADMINISTRATION

Administration was commented on May 17, 1966, of the ground water act (H.B. - 1066) which relates to those waters which are considered as being tributary to a surface stream. Administration was based upon a consensus agreement obtained from the senior appropriators of the stream system wherein they agreed not to place a demand upon any

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well during the period from September 15 around to May 1 of the following year. The reason for these dates is the recognition of the fact that the Arkansas River is usually at or near its lowest flow from the middle of the month of April up to the time that spring runoff occurs. Early pumping prior to this time---or we might also call it borrowing from the flowing, moving underground reservoir ---- makes water available that would not normally be so as of the moment from the observed surface flow. It can be said that this is a recognition of an attempt by all water users of the area to secure the maximum utilization of their water resource for the development of a higher type agricultural economy, while still recognizing the fact that a depletion affect will be felt by senior appropriators from the river until such time as adequate spring runoff has had an opportunity to recharge the underground. The general assumption for this program is that recharge takes place during the winter months, although the water required for recharge is generally water that may belong to senior appropriators.

It is certain that there will be considerable agitation during the next session of the Legislature for a modification or repeal of the existing ground water laws. My personal opinion is that the existing law which states that all waters will be administered according to "Priority of appropriation" is an excellent law with possibly some minor amendments. It is broad enough to meet the requirements of a particular watershed area and still is uniform as a law for the state as a whole. Amendments will be necessary to provide for alternate points of diversions for ditches so that a diversion from a well can be charged to a priority that is entitled to divert. It seems quite probable that the next session of the Legislature will insist that all diversions be

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administered according to priority rather than a consensus agreement. This means that any diversion from a well will be administered according to the particular priority of the well or its diversion as an alternate supply for another decreed right. It seems quite improbable that the zoning type administration that was established for the Arkansas Basin will be continued after the Legislature modifies the bill, although I think that the well owners in the Arkansas Basin were in a far superior position with this plan. However, due to the lobbying of a vociferous minority, the Legislature will have to do something, and this will probably be along the plans which I previously outlined.

#### INFORMATION AND EDUCATION PROGRAM

The water commissioners and deputies of Irrigation Division No. 2 met in Pueblo on October 7, 1966, to discuss any administrative problems that may have been encountered during the preceding season. Emphasis was placed upon the need of uniformity of reports of the water commissioners. Also, the commissioners were reminded that the format of instructions for field book and summary sheet preparations which was handed out in 1965 was to be followed. This was particularly emphasized relating to ditch inspections and date of observation of flow in a ditch or canal.

All water commissioners were shown how to compute the flows in a canal from a recorder chart. This information is to be compiled in the future for all recorder charts in the Division.

In the afternoon, the group was very fortunate in having Mr. Glenn G. Saunders, Attorney at Law, from Denver with the firm of Saunders, Dixon, Snyder and Ross, who spoke on the subject of ground

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water legislation and water administration in general. Mr. Saunders answered any questions that the commissioners posed.

# INDIVIDUAL WATER DISTRICT ADMINISTRATION

# WATER DISTRICT NO. 10

Water District No. 10 had no unusual administrative problems during the past year. It was evident during the year however, that the floods of 1965 changed the flow pattern for the Fountain River. Experience seemed to indicate that the high river flows had scoured the river bed and eliminated silt and sealant. Thus any small flows had to recharge the entire ground water table before they would make any material contribution to the surface flow of the stream. Tail-out now lasts for several days whereas prior to 1965, it was gone in a matter of a few hours.

#### WATER DISTRICT NO. 11

Water District No. 11 had no unusual administrative problems to report. The District was very fortunate in securing the services of Mr. Mervin Hedges, as Deputy Water Commissioner, to replace Mr. Albert Adams who retired. Mr. Hedges appears to be the type of man who can offer professionalism and dignity to the administration of water.

## WATER DISTRICT NO. 12

Water District No. 12 received some heavy rains on Badger and Bernard Creeks, which are north of Cotapaxi. These rains were of such intensity that they literally flooded the Arkansas River area at Cotapaxi with sand and debris. The river cut out a section of the main

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highway and had water flowing almost 7 feet deep at the service station and store located at the highway. Estimated side flow was estimated at 5-7,000 cfs.

#### WATER DISTRICT NO. 13

The area comprising Water District No. 13 started the season with practically no snow on the surrounding mountains and none on the lower lands. However, on the 29th and 30th of July, intense rains fell on the Grape Creek watershed. These rains washed out practically all the highway bridges and only one access route remained open to the people of Westcliffe. DeWeese-Dye Reservoir which was down to almost 1/2 capacity, impounded over 2,000 acre feet of water in less than 5 hours and spilled completely over the top of the dam.

An administrative decision, based upon a request for hearing was rendered relating to the priorities of the Pinto Ditch. Many of the decrees issued from Water District No. 13 are quite ambiguous and need clarification.

It is again recommended that Mr. Gayle Patterson (no relation) be employed as an annual employee. Water District No. 13 is so involved with illegal points of diversion, ambiguous decrees, improperly located ditches, etc. that potential exists for a major blow-up of administration if Mr. Patterson should terminate employment with the State. The water users of the area have complete confidence in Mr. Patterson's ability to straighten out problems which arose prior to his employment. Water District No. 13 can be compared with Water District No. 11 in its administrative requirements.

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#### WATER DISTRICT NO. 14

Water District No. 14 had only routine administrative problems as relating to surface diversions. However, considerable turmoil resulted in the implementation of the 1965 ground water legislation. This controversy ended in a trial in the case of the State of Colorado and intervenors, Bessemer Canal Company, C. F. & I Steel Corporation, Canon City Hydraulic, and Amity Mutual Irrigation Companies against Roger Fellhauer, Defendant. The District Court of Pueblo County, Judge William Rhodes of Colorado Springs presiding, ruled in favor of the State and intervenors and issued a preliminary injunction against Mr. Fellhauer, ordering him to cease operation of his well until such time as released by either the Court or the State Engineer. The Colorado Supreme Court refused to grant a stay of execution in the case.

The trial for a permanent injunction lasted 5 days. During this trial, all phases of water administration, phreatophytes, river aggradation, etc. were explored by the defendant's attorneys. The Court has not as yet issued an order relating to the request for permanent injunction.

# WATER DISTRICT NO. 15

The water administration in Water District No. 15 was unusually quiet during the past year. The employment of a deputy for the district was discontinued and all duties were transferred to Mr. Beverley Klipfel, Water Commissioner. Mr. Klipfel handled the additional load quite well, with considerable saving in money to the State. No complaints were received from the area.

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#### WATER DISTRICT NO. 16

A trial was held in Walsenburg during the latter part of November relating to the request by the City of Walsenburg to convert all their direct flow rights to storage rights. Although there were a number of users who could show damage to their storage and direct flow rights, the Court did permit a conversion to be made without any loss to the City. It is quite probable that the case will be appealed to the Supreme Court.

Administrative problems with the water commissioner and his deputies has again arisen in Water District No. 16. The deputies in Water District No. 16 seem to believe that they should work as to their monetary requirements, rather than the requirement of their services. This situation will not be resolved until a complete administrative investigation of the area is made by the appointing authority. Work can be created on paper, but it does not necessarily mean that it is necessary for the distribution of water.

### WATER DISTRICT NO. 17

Water District No. 17 also became embroiled in the ground water turmoil of the past season. An action was filed against Mr. F. X. Wathen for an alleged illegal diversion of water by a pump adjacent to the Arkansas River. His case has not come to trial.

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It is again recommended that a reclassification be made of the position of Water Commissioner for Water District No. 17. It is my opinion, without any doubt, that the position should be raised to a Water Commissioner III grade. Water District No. 17 is the control

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district in the division, and the decisions of the Division Engineer have to be made upon the judgment of the District 17 Water Commissioner.

### WATER DISTRICT NO. 18

Routine administration was the trend in Water District No. 18 for the past season. One minor exception was the complaint against the City of Aguilar by the McErnerny Brothers alleging that the pumps operated by the City of Aguilar in the bottom of the Apishapa River are interfering with the flow to their senior priority from the river. The complaint appears to have basis although no recommendations were made until the Fellhauer case is decided.

The case regarding relative priorities of the Las Animas and Bent County Adjudications is still pending.

# WATER DISTRICT NO. 19

Water District No. 19 which is supervised by Mr. Bob Mariano, had a routine year relating to the administration of water with one major exception. This involved an altercation between Mr. Kenneth Caudle and John Paulich. When the altercation was finished, Mr. Caudle was shot and killed with a 30.06 rifle and Mr. Paulich was in jail awaiting trial on murder charges.

The Purgatoire River system had numerous small floods which materially aided the agricultural economy of the area. Without these flash floods, water availability would have been substantially reduced.

## WATER DISTRICT NO. 66

Water District No. 66 which is administered in conjunction

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with Water District No. 67 by Mr. Lane L. Hackett had one of the least controversial years of record. No one was shot, nor was any one even threatened for the misappropriation of someone elses water.

# WATER DISTRICT NO. 67

Water District No. 67 was very fortunate during the 1966 water year due to the fact that the floods of 1965 had left a considerable quantity of water impounded in John Martin Reservoir. The water provided a guaranteed supply for the users downstream of the reservoir. The users upstream were benefitted by the elimination of a demand by the senior rights downstream of the reservoir as provided in the Colorado-Kansas Compact. Although considerable waste of water was still evidenced in Colorado, a sincere effort appears to have been made on the part of the Colorado users to curtail some of the waste. The 1967 irrigation season seems to offer considerable promise with an impoundment in John Martin Reservoir on November 1st of 185,700 acre feet.

Appendix I

# TABULATION OF WATER COMMISSIONERS' ANNUAL REPORTS FOR IRRIGATION SEASON OF 1966

# IRRIGATION DIVISION NO. 2

Dist. No.	First day water was used from natural stream	Last day water was used from natural stream	Number of acre feet water diverted by canals for season *	Total acreage irrigated
10	Nov. 1, 1965	Oct. 31, 1966	55 <b>,</b> 684	11,971
11	Mar. 24, 1966	Oct. 31, 1966	139,321	22,693
12	Nov. 1, 1965	Oct. 31, 1966	391,135	19,113
13	April 6, 1966	Oct. 31, 1966	69,739	28,787
14	Nov. 1, 1965	0ct. 31, 1966	259,003	107,135
15	Nov. 1, 1965	Oct. 31, 1966	16,727	5,589
16	Nov. 1, 1965	Oct. 31, 1966	58,628	22,550
17	Nov. 1, 1965	Oct. 31, 1966	378,712	146,752
18	Mar. 19, 1966	Sept. 30, 1966	7,210	5,705
19	Nov. 1, 1965	Oct. 31, 1966	72,696	20,401
66	Feb. 20, 1966	Oct. 31, 1966	988	433
67	Nov. 1, 1965	Oct. 31, 1966	229,478	64,674
		Totals	1,679,321 acre feet	455,813 acres

\*Includes municipal, industrial, and agricultural uses, as well as that water diverted through a feeder canal for storage purposes.

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	<u>10-1-66</u>	2,981	0	225	10,793	5.	,19	86		•	•	•	2,899	6,730	278	•	1,312	•	556	0	0	0	0	2,788	9,930	31,391	1,056	1,611	1,611	88,140	29,127	198,913	437,587	35,388	402,249
II	9-1-66	2,981	0	225	S.	°.	<u></u>	1,866		1,507	4,900	4,027	2,251	5,261	325	•	1,325	•	556	0	0	0	0	2,176	10,511	35,850	1,545	1,611	1,674	91,709	35,298	196,206	455,129	37,700	417,429
Appendix	8-1-66	2,832	0		•	•		1,866		1,534	4,800	2,732	4,290	6,805	334	9,452	1,194	1,875	270	0	0	0	0	1,484	020	629	1,772	1,464	1,674	96,073	34,570	189,082	464,837	37,603	427,234
	7-1-66	3,411	54		•	ົ	•	1,993		2,022	4,519	3,284	5,673	4,771	390	8,527	1,380	0	310	70	50	170	0	691	12,298	44,460	0	1,540	1,674	105,558	22,536	220,421	509,580	37,603	471,977
! •	<u>99-1-9</u>	4,252	0	225	12,104	43,738	11,232	1,993	illed.	3,029	4,500	3,837	6,485	17,872	479	8,981	•	0	384	223	158	170	0	4,697	15,754	52,012	<b>a</b>	1,589	1,674	115,928	26,296	287,910	627,113	40,080	587,033
re feet.	<u>5-1-66</u>	4,938	0	225	11,285	35,674	11,206	1,993	not ref	3,368	5,200	4,170	7,585	23,977	558	10,198	1 <b>,</b> 605	0	384	386	158	170	3,094	6,193	20,100	54,332	3,283	1,618	1,674	122,274	29,127	333 <b>,</b> 931	698,706	41,181	657,525
es in acre	4-1-66			225	14,396	52,808	11,232	2,471	water -	3,368	5,200	4,352	9,307	25,345	618	10,436	1,620	0	384	630	432	20	44	6,546	54	Ę	90	50	77	90	23	22	778,448	44,488	733,960
1966, values	3-1-66	5,027	88	225	14,	52.	ר ב	2,471	air	ς Γ	5	4	0	26.		ŋ,	цЧ.					233	3,319	6,688	23,265	56,748	3,920	1,611	l,674	09,860	34,388	75,433	765,427	44,536	720,891
t. 1, 19	2-1-66	5,027		225	14,714	52,086	11,232	2,471	965 to dr	2,948	5,345	4.352	9,657	26,028	558	10,080	1,259	0	0	585	305	233	3,281	6,829	23,193	57,037	3,837	1,664	1,674	55,959	34,844	375,433	710,969	44,709	662,260
1965 to Oc	1-1-66	5,205	0	225	14,674	52,154	11,189	2,471		2,869	5,345	4,352	9,719	26,153	488	10,633	1,233	0	0	360	232	233	3,319	6,899	23,560	57,614	3,507	1,866	1,674	43,937	35,479	375,433	700,823	45,381	655,442 1
0ct. 1, 19	12-1-65	4,051	0	235	15,490	51,838	11,189	2,471	opened in	2,565	5,345	4,352	9,183	25,399	T44	10,262	1,131	0	124	209	134	302	3,431	7,472	23,687	53,264	3,134	1,750	1,674			375,433	, 873, 069	45,710	
00		3,153	0	225	15,915	51,274	11,232	2,471	Gates o	$\sim 1$	5,345	3,962	8,063	26,028	977	10,196	1,299	345	124	0	0	302	3,469	6,475	24,472	56,466	3,672	1,722	1,674	32,471	35.479	375,312	674,144 (	46,084	628,060 644,868
	10-1-65 11-1-65	3,110	0	225	16,117	50,225	11,232	2,471		2,552	5,345	4,430	6,773	20,755	502	10,367	1,380	666	0	0	0	302	3,506	6,546	24,801	58,579	3,507	1,697				369,032	664,583 (	46,432	618,151 (
	Reservoirs	Fountain Valley No. 2	Fountain Valley No. 3	Monument	Sugar Loaf *	Twin Lakes	Clear Creek *	Mt. Pisgah	Skaguay *	Brush Hollow	City of Colo.Springs	DeWeese-Dye	Lake Henry	Lake Meredith	Beckwith (Hayden)	C.F.& I. *	Color	Cucharas	Huerfano Valley	Orlando No. 2	Holita	Dotson	Dye	Holbrook	Horse Creek	Adobe	Model	North Lake *	Monument Lake *	Great Plains	Two Buttes	ц	Total	Munic.Mfg. & Power	Irrigation

CONTENTS OF MAJOR RESERVOIRS IN IRRIGATION DIVISION NO. 2

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