



TWENTIETH
ANNUAL REPORT

REPUBLICAN
RIVER
COMPACT
ADMINISTRATION

FOR THE YEAR 1979

DENVER, COLORADO

JUNE 27, 1980

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Twentieth Annual Report

REPUBLICAN RIVER COMPACT ADMINISTRATION

In conformity with the Rules and Regulations of the Republican River Compact Administration, the Twentieth Annual Report is submitted as follows:

1. Pursuant to Rule 12, as amended, this report covers the period from July 13, 1979 to June 27, 1980.
2. Members of the Republican River Compact Administration are the officials of each of the states who are charged with the duty of administering the public water supplies, and are as follows:

John W. Neuberger, Director, Department of Water Resources, Nebraska

Guy E. Gibson, Chief Engineer, Division of Water Resources, State Board of Agriculture, Kansas

Jeris A. Danielson, State Engineer, Colorado

3. The Twenty-First Annual Meeting of the Administration was held on June 27, 1980 in the Colorado State Capitol Building, Denver, Colorado. The minutes of the meeting are included with this report.
4. During the period covered by the report, one meeting of the Engineering Committee was held. A report from that committee together with the summary tabulation of the computed annual water supply and the consumptive use for the 1979 water year in the Republican River Basin was presented and accepted by the Administration.
5. Reports were received from the Water and Power Resources Service on operation and administration of their projects in the basin and on the Republican River Water Management Study.
6. Guy E. Gibson, Kansas member of the administration, was elected Chairman for the next two years.

MINUTES OF THE
 TWENTY-FIRST ANNUAL MEETING
 REPUBLICAN RIVER COMPACT ADMINISTRATION
 COLORADO STATE CAPITOL BUILDING
 DENVER, COLORADO - JUNE 27, 1980

The meeting was called to order at 10:00 a.m. by Jeris A. Danielson, Chairman, in the Colorado State Capitol Building. Those present were introduced and a list of those in attendance and their organization follows:

<u>Name</u>	<u>Organization</u>
Commissioner John Neuberger	Nebraska Dept. of Water Resources, Lincoln
Michael Jess	Engineer Advisor, Nebraska
Robert Bishop	Nebraska Dept. of Water Resources, Lincoln
Fred Zabel	Nebraska Dept. of Water Resources, Lincoln
Keith A. Paulsen	Nebraska Dept. of Water Resources, Lincoln
Neal Clegg	Pioneer Irrigation District, Nebraska
Commissioner Guy E. Gibson	Kansas Division of Water Resources, Topeka
Leland E. Rolfs	Kansas Division of Water Resources, Topeka
Commissioner Jeris A. Danielson	State Engineer, Colorado
Hal D. Simpson	Engineer Advisor, Colorado
Jim Clark	Colorado Division of Water Resources
Glen E. Brees	Colorado Division of Water Resources
Dennis Montgomery	Colorado Attorney General's Office
Mary Cullen	Colorado Attorney General's Office
David M. Brown	Attorney, Boulder
Ben Saunders	Colorado Ground Water Management District
Bob Kutz	Water & Power Resources Service, McCook
Robert Prouty	Water & Power Resources Service, McCook
Fred T. Krauss	Water & Power Resources Service, Denver
Roger Patterson	Water & Power Resources Service, Denver
Tom Williamson	Water & Power Resources Service, Denver
Ashton Wilson	Rancher and Farmer

Approval of the Minutes of Previous Annual Meeting

The Chairman asked that the minutes of the previous annual meeting as published in the Nineteenth Annual Report be adopted. The motion to this effect was made by Mr. Gibson and seconded by Mr. Neuberger with the comment that the Special Engineering Committee meeting tentatively set for December 20-21, 1979, in the previous minutes did not take place. The motion passed unanimously.

Report of the Chairman

Commissioner Danielson reported that the only significant water legislation approved during the 1980 session was the allocation of \$40 million to the water project construction fund administered by the Water Conservation Board. He also discussed litigation concerning the Pioneer Ditch which is situated in both Colorado and Nebraska and which diverts water from the Republican River in Colorado. The case involves the call by the Pioneer Ditch to have all wells curtailed which would affect the stream within 100 years.

Report of Official Member from Kansas

Commissioner Gibson reported that the State of Kansas is in the last phase of determining vested water rights to the use of water. He also indicated that the State Water Plan could indicate reaches of streams where minimum streamflows were to be maintained subject to prior appropriations.

Report of Official Member from Nebraska

Commissioner Neuberger reported that the Nebraska Unicameral Legislature passed 5 bills dealing with water; however, none of them had a direct impact on the Republican River Compact. Mr. Neuberger then asked Mr. Michael Jess, Engineer Advisor, to discuss the ground water control areas in Nebraska and specifically the Upper Republican ground water control area. This ground water control area is administered by a local natural resources district board elected by the residents. The board has promulgated rules and regulations and is attempting to implement them. Mr. Jess also discussed a district court case involving the exportation of ground water to Colorado and its present status. Mr. Neuberger completed his report by discussing the recent Nebraska Supreme Court decision which allowed transbasin diversions of water in Nebraska. This decision overturned a 1936 Nebraska Supreme Court decision which had prohibited transbasin diversions.

Report of Engineering Committee

The Engineering Committee was presented by Mr. Michael Jess and is included as a part of this report. Mr. Jess discussed the ground water component of virgin water supply and consumptive use as interpreted by the Engineering Committee. Commissioner Gibson responded that he questioned whether ground water use should be utilized in computing virgin water supply and that Kansas intended to study this matter further and report to the Commission next year.

The Engineering Committee Report was discussed in detail with respect to Tables 1 and 2. It was decided that Table 1 should be revised to include a column indicating virgin water supply as stated in Article III, and that Tables 1 and 2 be revised by adding "in Colorado" to "North Fork of the Republican River" and by adding "North Fork of the Republican River in Nebraska" to "Main stem of the Republican plus Blackwood Creek" under the sub-basin column headings.

A resolution was also approved by the Commissioners which is included in this report dealing with an error in the reports of the engineering committee for the 1972 thru 1979 water years. The engineering committee incorrectly used the figure 57,800 acre-feet as shown in Article IV of the Compact.

Commissioner Neuberger moved that the Engineering Committee Report with the above changes be accepted and that the procedures not be changed for next year. Commissioner Gibson seconded the motion which passed unanimously.

Report of Special Engineering Committee

The special engineering committee did not meet in December, 1979 as scheduled, and as a result, there was not a report available.

Report of the Water and Power Resources Service

Mr. Fred Krauss reported on the progress of the WPRS Republican River Water Management Study. The Service is evaluating the potential for transbasin diversions into the Republican River basin from the South Platte River. A report on irrigation and water requirements for the Republican River basin is to be published soon. The Service is also contracting for climatological studies and ground water studies in the basin.

Mr. Robert Kutz, Project Manager, gave an up-to-date water supply report for project reservoirs in the basin. The reservoirs in general contained more water than for the several previous years with the exception of Enders Reservoir and Norton Reservoir. Precipitation had been above normal at all reservoirs through the end of May 1980. The potential sale of Bonny Reservoir to the Colorado Division of Wildlife and its status was discussed.

Unfinished Business

The Commissioners discussed the duties of the Special Engineering Committee and the need for an additional meeting between the Commissioners and Special Engineering Committee to address the questions of the Committee as set forth in its June 14, 1979 report. It was moved by Commissioner Gibson to place the matters of the June 14, 1979 report by the Special Engineering Committee on the agenda of the 22nd Annual Meeting for discussion. The motion was seconded by Commissioner Neuberger and was passed unanimously.

New Business

Commissioner Danielson introduced Mr. Ashton Wilson and his attorney, Mr. David Brown. Mr. Wilson proposes to irrigate contiguous lands in Nebraska and Colorado with surface water diverted in Colorado through the Wilson No. 1 Ditch which has been adjudicated in the Division No. 1 Water Court. Since Colorado law requires approval of the General Assembly for export of water for agricultural use, Mr. Wilson came before the Commissioners to explain his plan and to request the Commissioners to modify the virgin water supply and consumptive use formulas for the North Fork of the Republican River so that he can provide the proper evidence to the legislature that the Republican River Compact Commission will account for his exportation of water. Commissioner Danielson moved that the formulas for calculating consumptive use and virgin flow for the North Fork of the Republican River be modified to accommodate Mr. Wilson's application and that the engineering committee develop these formulas and present them at the next annual meeting. Commissioner Neuberger seconded the motion and it was passed with Commissioner Gibson abstaining.

Commissioner Gibson asked that two letters concerning the proposed operating plan of Bonny Reservoir by the State of Colorado as set forth in the report Bonny Reservoir Operating Plan, May 1980, be read by Mr. Lee Rolfs, attorney for the State of Kansas. These letters are from Mr. John M. Dewey, Program Coordinator, and Francine Neubauer, Chairman, Kansas Water Resources Board and from Mr. Bill Hanzlick, Director, Kansas Fish and Game Commission. Both letters are included in this annual report.

The engineering committee was given the standard assignments of the previous years for the coming year.

Election of Chairman

Commissioner Neuberger nominated the official member from Kansas, Commissioner Gibson, as the chairman for the next two years. Commissioner Danielson seconded the nomination and the motion carried unanimously.

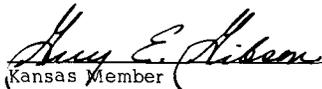
Adjournment

There was no further business and the meeting was adjourned at 2:30 p.m.

Respectfully Submitted,


Colorado Member (Chairman)


Nebraska Member


Kansas Member

Report of Engineering Committee
Republican River Compact Administration
For the 1979 Water Year

The meeting of the Engineering Committee was held in the office of the Colorado Division of Water Resources on April 9 and 10, 1980.

Committee Members present were:

Michael Jess, Nebraska Department of Water Resources
Harold Simpson, Colorado State Engineer's Office
Gerald E. Hilmes, Kansas Division of Water Resources

Others in attendance were:

Glen E. Brees, Colorado State Engineer's Office
Robert F. Bishop, Nebraska Department of Water Resources

Computation of Virgin Water Supplies and Consumptive Uses

The Committee completed its annual assignment of computing the virgin water supply and consumptive uses by states. The procedures utilized were those used and discussed previously. They are explained in detail in the tenth Annual Report of the Compact Administration.

This year's Engineering Committee report is similar in format to last year's. It eliminates a detailed explanation of computations in the narrative. Instead, additional information within the tables of the report is provided for the convenience and reference of readers.

Municipal and industrial uses are not included in the computations, but for the record, those available to the Committee for the 1979 calendar year are:

City of Norton, Kansas	794 Ac. Ft.
Midwest (Amoco) Oil Company	335 Ac. Ft.
Rex Monahan (Ladd) Petroleum Company	11 Ac. Ft.

Shown in Table 1 are the original allocations to each state by sub-basin along with the 1979 adjusted allocations. Adjusted allocations for each state were computed for each sub-basin. Briefly, a state's allocation is adjusted

when the computed annual virgin water supply varies "more than ten per cent from the virgin water supply" as set forth originally in the Compact. The allocations made from such a source are "increased or decreased in the relative proportions that the future computed virgin water supply of such source bears to the computed virgin water supply" as set forth originally in the Compact.

Annual consumptive use estimates were made for each state and for each sub-basin. Table 2 summarizes those quantities. Annual consumptive use was computed for diversions from surface and ground water sources. Both measured and estimated data were utilized. Allowance was made for reservoir evaporation, return flow and other losses.

Other exhibits not included in this report, but available to the Administration are:

- Form 10c. Average annual virgin water supply for five year running averages for 1975-1979 and ten year running averages for 1970-1979.
- Form 10d. Adjusted allocations by five year and ten year running averages for same years as on Form 10c.

Uncertain utility and an apparent lack of interest on the part of the Administration has prompted the Engineering Committee to re-evaluate the need for computation of five and ten year running averages displayed on Forms 10c and 10d. Unless directed otherwise, the Committee will discontinue making such computations in the future.

Additional Work Assignment

After making the computations discussed above, the Committee took up the additional assignment made by the Administration at its last meeting. That task consisted of evaluating three possible factors affecting virgin water supply estimates. Climate, basin facility operations and ground water reservoir storage were specifically identified by the Administration.

It is the Committee's opinion that both climate and basin facility operation are satisfactorily taken into consideration by the accounting procedure

now followed. Stream gaging records are a practicable indicator of precipitation and reservoir operation. Reservoir inflow is proportionate to sub-basin precipitation. Gaged outflow is to some extent reflective of precipitation, but most indicative of facility operation. Reservoir evaporation and the estimation of return flows (based in part on previous research) add two additional constituents to the hydrologic budget.

The majority of the Committee's discussion focused upon treatment and definition of the ground water component within the accounting procedure. Members observe that "theoretically" if either surface water or ground water usage is held constant while the other is allowed to increase, an increase in virgin water supply will result. The corollary also holds.

Committee members also noted that computed virgin water supplies have not shown a trend (either increasing or decreasing) with time. Annual computed virgin water supplies increase or decrease in proportion to consumption. Since computations were begun, the surface water component has tended to decrease while the ground water component has tended to increase.

The Committee concludes that the ground water component utilized in the present accounting system is in reality a portion of the surface water component. This notion is based upon recognition of two inherent limitations in the accounting system: (1) ground water consumption is tabulated only for wells tapping alluvial aquifers and located no further than one mile from perennial streams; and (2) the presence of, annual replenishment to and annual storage volume change in other aquifers is disregarded. Generally recognized, large-scale depletions within the Ogallala Formation, underlying much of the basin, are not disclosed by the accounting procedure. The same is true for other non-alluvial aquifer systems.

Does the accounting procedure adopted by the Compact Administration truly provide an estimate of the virgin water supply "defined to be the water supply

within the Basin undepleted by the activities of man"? The Engineering Committee concludes that it does not. Due to considerable additional costs necessary for collection of greater numbers of input data, however, the Committee does not recommend a change in the accounting system.

Instead, it is urged that the Administration as well as other interested persons regard the consumptive water use and virgin water supply volumes in the limited context of surface water quantities.

Harold D. Simpson
Colorado

5/30/80
Date

Donald C. Wilmes
Kansas

5/27/80
Date

Michael J. [Signature]
Nebraska

6/4/80
Date

1979 Computed Annual Virgin Water Supply and
Original and Annual Adjusted Allocations

Table 1

Sub-Basin	Computed Annual Virgin Water Supply 1979 Republican River Basin (Ac. Ft.)			Comparison of Original Compact Allocations and 1979 Adjusted Allocations (Acre Feet)							
	Ground Water	Surface Water	Total Basin	Total Sub-Basin		Colorado		Kansas		Nebraska	
				Orig. Compact Alloc.	Adj. Alloc.	Orig. Compact Alloc.	Adj. Alloc.	Orig. Compact Alloc.	Adj. Alloc.	Orig. Compact Alloc.	Adj. Alloc.
Prairie Dog Creek	13,130	6,020	19,150	27,600	10,200			12,600	8,740	2,100	1,460
Sappa Creek	18,760	1,900	20,660	21,400	17,600			8,800	8,800	8,800	8,800
Beaver Creek	15,120	2,610	17,730	16,500	16,400	3,300	3,300	6,400	6,400	6,700	6,700
Medicine Creek	7,560	45,660	53,220	50,800	4,600					4,600	4,600
Red Willow Creek	2,910	21,680	24,590	21,900	4,720					4,200	4,720
Driftwood Creek	640	2,460	3,100	7,300	720			500	210	1,200	510
Frenchman River	33,590	66,950	100,540	98,500	52,800**					52,800	52,800**
South Fork, Republican	15,270	28,040	43,310	57,200	37,250	25,400	19,230	23,000	17,410	800	610
Rock Creek	130	8,360	8,490	11,000	3,400					4,400	3,400
Buffalo Creek	520	4,010	4,530	7,890	1,490					2,600	1,490
Arikaree River	5,100	6,500	11,600	19,610	11,660	15,400	9,120	1,000	590	3,300	1,950
North Fork, Republican in Colorado	380	36,830	37,210	44,700	17,470	10,000	8,320			11,000	9,150
Main Stem, Republican; North Fork, Republi- can in Nebraska plus Blackwood Creek	53,800	205,980	259,780	94,500*	420,600			138,000	214,510	132,000	206,090
TOTALS	166,910	437,000	603,910	478,900	589,910	54,100	39,970	190,300	256,660	234,500	302,280

* Main Stem 87,700 Blackwood Creek 6,800

** This quantity is based on Article IV of the Republican River Compact. The quantity found in reports for water years 1972-1978 incorrectly stated 57,800 acre-feet which was utilized for computation purposes. The compact administration in a resolution adopted at its meeting on June 27, 1980, recognized this error.

Table 2
 Computed Consumptive Water Use for 1979 Within the
 Republican River Basin (Acre Feet)

Sub-Basin	Colorado			Kansas			Nebraska			Total Basin		
	Ground Water	Surface Water	Total	Ground Water	Surface Water	Total	Ground Water	Surface Water	Total	Ground Water	Surface Water	Total
Prairie Dog Creek				13,130	2,060	15,190	0	110	110	13,130	2,170	15,300
Sappa Creek				7,000	240	7,240	11,760	110	11,870	18,760	350	19,110
Beaver Creek	630	0	630	8,960	1,300	10,260	5,530	0	5,530	15,120	1,300	16,420
Medicine Creek							7,560	2,150	9,710	7,560	2,150	9,710
Red Willow Creek							2,910	5,500	8,410	2,910	5,500	8,410
Driftwood Creek				0	0	0	640	0	640	640	0	640
Frenchman River							33,590	19,670	53,260	33,590	19,670	53,260
South Fork, Republican	1,650	7,590	9,240	13,620	110	13,730	0	0	0	15,270	7,700	22,970
Rock Creek							130	40	170	130	40	170
Buffalo Creek							520	130	650	520	130	650
Arikaree River	4,060	0	4,060	150	0	150	890	0	890	5,100	0	5,100
North Fork, Republican in Colorado	380	6,190	6,570				0	5,520	5,520	380	11,710	12,090
Main Stem, Republican; North Fork, Republi- can in Nebraska plus Blackwood Creek				100	28,750*	28,850	53,700	93,000*	146,700	53,800	121,750	175,550
TOTALS	6,720	13,780	20,500	42,960	32,460	75,420	117,230	126,230	243,460	166,910	172,470	339,380

* Evaporation from Harlan County Reservoir apportioned to Kansas (53%) 8,720 AF and to Nebraska (47%) 7,740 AF.

RESOLUTION ADOPTED BY REPUBLICAN RIVER COMPACT ADMINISTRATION

JUNE 27, 1980

Whereas, the engineering committee has reported to the compact administration that it has incorrectly used the figure 57,800 acre-feet as the beneficial consumptive use allocated for use in Nebraska by Article IV of the Republican River Compact from Frenchman Creek (River) drainage basin in Nebraska instead of the figure 52,800 acre-feet as shown in Article IV of the Compact, and that the reports of the engineering committee have been in error in this respect since 1972; and

Whereas, the engineering committee has reported that it has used provisional data from the United States Geological Survey (U.S.G.S.) in its reports and that this provisional data does not always coincide with data in the final reports by the U.S.G.S.;

We hereby move that the minutes of this meeting show that the compact administration recognizes that the worksheet figures used to compute the compact allocation adjustment for Nebraska on Frenchman Creek have been in error since 1972 because the engineering committee has used the figure 57,800 acre-feet instead of the figure 52,800 acre-feet as shown in Article IV of the compact. This error will be also reflected in the total allocations and may have resulted in other errors. At this time, the compact administration is of the opinion that due to the amount of work necessary to correct prior reports, such computations will not be made at this time but will be made should the engineering reports for the water years 1972-1978 be used for any official purpose, including litigation, in which these figures would be relevant.

In addition, we hereby move that the minutes of this meeting show that the compact administration recognizes that the engineering committee has used provisional U.S.G.S. data in its reports which do not always coincide with data in the final reports by the U.S.G.S. and that these differences will be reflected in the commission reports. Likewise, at this time the compact administration is of the opinion that due to the amount of work necessary to correct prior reports, such computations will not be made at this time, but will be made should the engineering reports be used for any official purpose, including litigation, in which such changes in figures would be relevant. A copy of these motions shall be attached to each annual report for water years 1972-1978.

Footnote to Table 1. Computed Virgin Water Supply

This quantity is based on Article IV of the Republican River Compact. The quantity found in reports for water years 1972-1978 incorrectly stated 57,800 acre-feet which was utilized for computation purposes. The compact administration in a resolution adopted at its meeting on June 27, 1980 recognized this error.

Kansas Fish & Game

BOX 54A, RURAL ROUTE 2, PRATT, KANSAS 67124
(316) 672-5911

REGIONAL OFFICES

Northwest Regional Office
Box 306, 190 N. Franklin
Colby, Kansas 67701

Northcentral Regional Office
Box 189, 311 Cedar
Concordia, Kansas 66901

Northwest Regional Office
Farmers AFB, Box 19086
Topeka, Kansas 66619

Southwest Regional Office
808 Highway 56
Dodge City, Kansas 67801

Southeast Regional Office
Box 764, 204 West Sixth
Newton, Kansas 67114

Southeast Regional Office
222 West Main Building
Suite C & D
Chanute, Kansas 66720

June 23, 1980

Guy E. Gibson, Chief Engineer
Division of Water Resources
901 Kansas Avenue
Topeka, KS 66612

Dear Mr. Gibson:

As per your request of May 6, 1980, the Kansas Fish and Game Commission has reviewed the report "Bonny Reservoir Operating Plan" and would like to offer our following observations on the proposed changes in management of the reservoir.

As a general comment, we do not consider spills or non-consumption of water directly from Bonny Reservoir to be a waste, as is referred to in various sections of the report. Obviously, certain amounts of water "lost" from Bonny is potentially used in Kansas for consumptive purposes and also for support of the South Fork Republican River ecosystem. This ecosystem supports some fishery and waterfowl habitat, but more importantly, exhibits a good riparian belt of cottonwoods, willows, and other phreatophytes which perpetuate good populations of deer, furbearers and other sport and non-game wildlife. In addition, the Commission manages 480 acres of land known as the St. Francis Wildlife Area just southwest of the city, adjacent to the South Fork Republican River. This area contains two sandpits (3 surface acres) which support from 400 to 500 mandays of fishing per year and some waterfowl and other aquatic wildlife. These pits are sustained from water table contributions from Republican River aquifer. It is in the interest of this management area and also the fish and wildlife resource of the river through Kansas which causes us some concern with the proposed changes in the operation of Bonny Reservoir.

It is our opinion that there should be no further reduction in flow amounts in the South Fork during the dry portions of any given year. We have observed dry streambeds in this river for extended periods in some years and prefer to experience no further depletions.

It would appear that the first alternative described in the report offers the least amount of flow alteration downstream from the reservoir. From information supplied by hydrologists working on the plan, it is our understanding that this alternative, which does not include sale of additional irrigation water, would cut historical flows across the state line about 10%. It is unclear at this time whether this will affect mid-summer low flows or if peaks of flood flows are affected. The most important problem, as we see it, is to avoid further dewatering of the South Fork during critical

times of the year. An operational plan to improve late summer fishing at the reservoir by dropping pool levels, as is referred to on page 18, appears to be consistent with low flow releases during dryer parts of the year and the need to maintain flows in Kansas.

Before the Kansas Fish and Game Commission endorses any new plan for Bonny Reservoir operations, we request some response to the following questions:

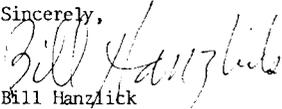
What impact will each alternative have on critical low flow periods below the reservoir?

Is there any opportunity to arrange for low flow releases out of the conservation or flood pool storage in Bonny Reservoir in order to maintain flows in the South Fork in Kansas?

And finally, can these designated minimum streamflows be protected through Kansas?

We regret that none of our staff will be able to attend the meeting of June 27, but trust that you will pass this letter on to the participants. Thank you for this opportunity to comment, and we will be looking forward to following the progress of the proposal for Bonny Reservoir.

Sincerely,



Bill Hanzlick
Director

cc: Hays District Office

BH;KB/lac

THE STATE  OF KANSAS

WATER RESOURCES BOARD

Suite 303
503 Kansas Avenue
Telephone (913) 296-3185
TOPEKA, KANSAS 66603

May 15, 1980

Mr. Guy E. Gibson
Chief Engineer
Division of Water Resources
State Board of Agriculture
901 Kansas Ave., 2nd Floor
Topeka, KS 66612

Dear Mr. Gibson:

Reference is made to your request for comments relative to the proposed operating plan submitted by the State of Colorado concerning the Bonny Reservoir. You also requested comments concerning the effect this might have on the state in terms of the Republican River Compact.

Regarding the operating plan for Bonny Reservoir submitted by the State of Colorado, the major points of concern are addressed, at least in part, in the letter of April 4, 1980 from the Regional Director, Water and Power Resources Service. As indicated therein, the State of Colorado will be required to develop an environmental assessment addressing the impacts that may result should the state acquire the use of the conservation storage as indicated in the final operating plan. The Service indicates that the assessment will need to specifically address the impact of this action on flows of the South Fork at the Colorado-Kansas state line. This is a major item of concern to Kansas and has been referenced by Water and Power Resources Service as one that must be addressed before any further action will be taken relative to the negotiation for repayment of the conservation storage. It would appear that in addition to an environmental assessment, the proposed action by the state could require the preparation of a regular EIS in accordance with the rules and procedures of the National Environmental Protection Agency (NEPA). This is alluded to in the reply from the Service.

In addition to the impact referenced above, it is not clearly defined in the operating plan as to the authority of the Service to enter into the proposal for transfer of the conservation storage to Colorado. This matter is not covered

Mr. Guy E. Gibson
Page 2
May 15, 1980

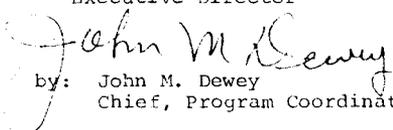
in any detail and it would appear that such actions could and perhaps should require congressional approval. This has not been fully addressed in the report or the accompanying correspondence. Further, we note that the proposed repayment schedule is not predicated on constant dollars or current price levels. Studies which are underway on water storage purchase by the State of Kansas from existing projects indicate that costs will be updated to current levels. We would assume that similar considerations would be given to the costs associated with the Bonny Reservoir as opposed to the repayment costs indicated in the operating plan.

Regarding your inquiry relative to the effects on the Republican River Compact, it would appear that portions of the above stated concerns would be applicable. In the series of communications between Colorado and Water and Power Resources Service, it is indicated that the Compact Commission would be afforded an opportunity to review and comment upon the proposal. As we understand the provisions of the compact, there is no specific reference to allocations of water between states from reservoir storage. However, any reservoir storage and operation plan would have an effect on flows and, therefore, impact on the available supply at state lines. We assume this was one of the concerns expressed by the Service and which Colorado would have to address as part of the environmental assessment. The proposal by the state in the report under consideration does not address this matter. Irrespective of the reservoir, it would appear that the Compact Commission would be concerned with any change that might impact on the allocations to the states.

A review of the information and data available on the South Fork Republican River indicates that under average conditions about 5000 acre-feet originating below Bonny Reservoir crosses the Colorado-Kansas state line. With the continued increase in irrigation, the availability of this average flow could be diminished. In the area below the state line there is an area of about 2000 acres that could be irrigated. Also, this area could be benefited by recharge. However, either or both of these options would depend upon adequate flows being available as provided under the terms of the compact. These assurances should be a condition to any action of the Compact Commission on the proposed change in the conservation storage in Bonny Reservoir.

Sincerely,

Francine Neubauer
Executive Director


by: John M. Dewey
Chief, Program Coordination

FN:JMD:dk