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COLORADO WATER CONSERVATION BOARD
212 State Office Building
Denver, 2, Colo.

PRELIMINARY

MEMORANDUM ON THE COLORADO RIVER

August 3, 1947

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FOREWORD

This "Memorandum on Colorado River" was prepared by Jean S. Breitenstein, Attorney for the Colorado Water Conservation Board, at the request of the Director of the Board. The original draft of the memorandum has been reviewed by the Director, C. L. Patterson, Chief Engineer, and Royce J. Tipton, Consulting Engineer, of the Board, and by Attorney General H. Lawrence Hinkley. As a result of such review certain revisions have been made in the draft herewith submitted.

It will be noted from the cover page that the draft of the memorandum is in preliminary form. A limited number of copies, numbered in duplicate, have been reproduced for inspection by members of the Colorado Water Conservation Board and by others who have been closely identified with the Colorado water program. Those to whom copies are delivered are requested to review carefully the memorandum. After such review, one copy, with the insertion of suggestions, comments and criticisms, shall be returned to the Director's office, 212 State Office Building, Denver, Colorado. The other copy will be retained by the recipient.

No general distribution of the memorandum shall be made at this time and no publicity whatsoever shall be given to it in its present form. The copies now distributed, in other words, are confidential and shall be used for purposes hereinabove explained.

Plans and programs for the utilization of Colorado River waters present many imminent and vital problems. State policies with respect to these plans and programs must be determined by the Colorado Water Conservation Board.

In this connection, these matters in particular must be borne in mind, namely:

1. The State is now participating on a joint commission for the purpose of negotiating an interstate compact for the apportionment among the States of the waters allocated to the Upper Basin of the Colorado River, and for the purpose of determining respective State obligations for the deliveries of water at Lee Ferry in accordance with the provisions of the Colorado River Compact.

2. Proposals have been made in the Congress for the initiation of litigation primarily involving the determination of the claims to water of the States of the Lower Basin of the Colorado River. These proposals involve interpretation of the Colorado River Compact, Federal and State statutes, and contracts made with the Secretary of the Interior for the use of water stored by Lake Mead.

Colorado is interested in this prospective litigation and in proposals now pending in the Congress for its initiation.

3. Various questions, too, have arisen respecting the Bureau of Reclamation Colorado River Report recently submitted to the Congress, and concerning recommendations relative to Colorado River development made by the Bureau and the Department of Interior.

The State must take such steps in all of these matters as are necessary to protect its rights and interests in, and encourage the early development in its share of, Colorado River waters.

Although the Colorado Water Conservation Board is primarily responsible for the establishment of State policies in connection with these matters, the citizens and water users of the State should become better informed and educated with respect to all questions and problems surrounding utilization of the waters of the Colorado River and its tributaries. These waters constitute the greatest undeveloped natural resource of the State of Colorado. For these reasons it is deemed advisable eventually to put in final form the materials of this memorandum on the Colorado River for general distribution and study. This should not be done, however, until the Board has carefully studied this memorandum and every precaution has been taken to prepare a publication which presents pertinent and applicable factual information and carefully considered State policies.

Clifford H. Stone, Director
Colorado Water Conservation Board

INDEX

	Page
I. Introduction	1
II. Summary of Conclusions	1
III. The Physical Situation	3
IV. The Legal Situation	11
1. Matters Antedating the Colorado River Compact	11
2. The Colorado River Compact	15
3. The Boulder Canyon Project Act	22
4. The California Self-Limitation Act	25
5. The Boulder Canyon Project Adjustment Act	26
V. The Contracts	29
1. The California Seven Party Agreement of 1931	29
2. The California Water Contracts	30
(a) Contract between the United States and Metropolitan Water District of Southern California	30
(b) The All-American Canal Contract	31
3. The Arizona Contract	32
4. The Nevada Contract	33
VI. The Mexican Water Treaty of 1944	34
VII. River Basin Committees	38
1. Interstate Conferences Prior to 1938	38
2. The Committees of Fourteen and Sixteen	39
3. The Colorado River Basin States Committee	43
4. The Colorado Water Users Association	44
5. The Six States Committee	45
VIII. The Bureau of Reclamation Report on the Colorado River	46
1. Legal Background of the Report	46
2. Brief Analysis of the Report	48

	Page
3. Comments on Report by State of Colorado	59
4. Comments on Report by State of California	62
5. Present Status of Report	65
IX. Proposed Upper Basin Compact	67
1. Early Negotiations	67
2. Proceedings of the Upper Colorado River Basin Compact Commission	72
X. Proposed Lower Basin Compact	76
XI. The Situation as to Exportations from the Basin in Colorado	78
XII. Current Colorado River Problems	82
1. The California Water Contracts	82
2. Pilot Knob	85
3. The Effect of the Mexican Water Treaty	88
4. The Arizona Situation	88
5. The Controversy Over III(b) Water	89
6. Definition of the Term "beneficial consumptive use"	91
7. The Charging of Reservoir Evaporation Losses	96
8. Miscellaneous Matters	98
9. Problems Involved in the Negotiation of an Upper Basin Company	99
XIII. Possible Interstate Litigation	101
XIV. The Colorado River and the Authority Issue	108
XV. Conclusion	110

MEMORANDUM ON COLORADO RIVER

I.

INTRODUCTION

The waters of the Colorado River and its tributaries constitute the greatest undeveloped natural resource of the State of Colorado. The arid and semi-arid conditions prevailing in the State require irrigation for the successful production of agricultural crops. Many communities in the State have a serious municipal water supply problem. The increased industrialization of the State carries with it an increased demand for water for industrial purposes. The only substantial source of water remaining undeveloped in the State is the Colorado River system. For the State to progress and prosper this resource must be protected and developed to its full extent.

The purpose of this memorandum is to analyze the situation confronting Colorado with respect to the present and prospective use of Colorado River water and to outline the measures which should be undertaken to protect its rights in this water.

II.

SUMMARY OF CONCLUSIONS

The matters hereinafter presented justify the following conclusions:

1. The Colorado River Compact of 1922 must be maintained and recognized as effective and binding.

(a) Every effort of the Lower Basin to increase its water use above the amounts allocated to it by the compact must be resisted, by litigation if necessary.

(b) Attempts by Lower Basin interests to secure rights to surplus water unapportioned by the compact in advance of the date fixed by the compact for the apportionment of such surplus must be resisted.

(c) All proposals of Federal legislation contrary to the compact must be opposed.

(d) Action by Federal executive agencies in regard to Colorado River matters must be carefully scrutinized to the end that they may be made to comply to the compact.

2. The treaty of 1945 between the United States and Mexico must be carried out and the division of water made thereby must be accepted and recognized as a permanent allocation between the two nations.

(a) All attempts to nullify the treaty through legislation must be fought vigorously.

(b) Any interdepartmental disputes with respect to the carrying out of the treaty must be so disposed of as not to interfere with the treaty, the compact, or the right of each state to control and distribute the share of Colorado River water rightfully belonging to that state.

3. There should be a compact between the Upper Basin states determining, first, the allocations to each Upper Basin state from the 7,500,000 acre-feet of water allotted by the Colorado River Compact to the Upper Basin states for beneficial consumptive use annually, and, second, the obligations of each state of the Upper Division with regard to the requirement of the Colorado River Compact that such states deliver 75,000,000 acre-feet of water every ten years at Lee Ferry. Such a compact requires

careful study and consideration of all available data on the water supplies and physical features of the river system.

4. As expeditiously as is economically practicable, Colorado's share of Colorado River water should be put to beneficial consumptive use.

5. Conflicting interests and claims within the State of Colorado as to the diversion and use of Colorado River water should be harmonized.

III.

THE PHYSICAL SITUATION

The Colorado River basin includes parts of seven states, Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. The Colorado River Compact divides the river at Lee Ferry with that portion drained by the river and its tributaries entering the main stream above that point constituting the Upper Basin and that area drained by the main river and its tributaries entering below Lee Ferry constituting the Lower Basin. The States of Colorado and Wyoming are entirely in the Upper Basin and the States of California and Nevada are entirely in the Lower Basin. The remaining three states have areas within each basin.

The Colorado River rises in north central Colorado. Within the State its principal tributaries are the Fraser, Eagle, Roaring Fork and Gunnison Rivers. In Utah the Colorado is joined by the Green which rises in Wyoming, flows through the northwest corner of Colorado, and receives substantial contributions from the Yampa and White Rivers which rise in Colorado. Further down stream the Colorado is joined by the San Juan which rises in Colorado and

flows for some distance through New Mexico, in which state it is joined by the Los Pinos, Animas and La Plata Rivers, all of which originate in Colorado.

Below Lee Ferry the only sizeable tributary from the north is the Virgin River which rises in Utah and flows through Arizona and Nevada before emptying into Lake Mead. From the south the principal tributaries in down stream order are the Little Colorado, Bill Williams and Gila Rivers.

The Colorado River crosses the international boundary between the United States and Mexico at a point about six miles west of Yuma, Arizona. For about twenty miles it constitutes the boundary between the two nations. Then it passes through Mexico for about one hundred miles and discharges into the Gulf of California. There are no tributaries in Mexico.

The physical characteristics of the basin have been thus described by the Bureau of Reclamation ^{1/} :

The Colorado River rises in the Rocky Mountains of Colorado and Wyoming, flows southwest about 1,400 miles and enters the Gulf of California. It drains an area of 242,000 square miles in this country--one-twelfth of the area of continental United States.

In its course from the high peaks of the Rocky Mountains, the Colorado River traverses the mountain valleys of Colorado and Wyoming; flows through spectacular canyons, of which the Grand Canyon of the Colorado is the outstanding example, in southeastern Utah and northern Arizona; and finally, below Lake Mead, it courses through broad, alluvial valleys interspersed with mountain chains.

Climatologically, the basin has the extremes of year-round snow cover and heavy precipitation on the high peaks of the Rockies and truly desert conditions, in which precipitation is a rarity, in the Yuma area. Temperatures range from the temperate, affording only a 90-day growing

1. Page 10, "The Colorado River", a report of the Bureau of Reclamation transmitted to the Secretary of the Interior on June 6, 1946. All references to such report in this memorandum are to the printed copy thereof.

season in the high mountain meadows of Colorado and Wyoming, to the semitropical with year-round cropping in the Yuma-Phoenix area. Developments by man within the basin are likewise startling in contrast, ranging from none in the remote plateaus of southeastern Utah and northern Arizona, inaccessible by highway or railroad and seen only by an occasional shepherd, to the intensely developed suburban and agricultural areas surrounding Phoenix and Yuma and within the Imperial Valley.

The drainage areas by states and by stream basins are given in the following tables:

DRAINAGE AREA BY STATES:

	Square Miles
Wyoming.....	19,000
Colorado.....	39,000
New Mexico.....	23,000
Utah.....	40,000
Arizona.....	103,000
Nevada.....	12,000
California.....	6,000
In United States.....	242,000
Mexico.....	2,000
Total.....	244,000

DRAINAGE AREA BY STREAM BASINS:

Green.....	44,000
Upper Colorado.....	26,000
San Juan.....	26,000
Other areas except Gila.....	91,000
Gila.....	57,000
Total.....	244,000

Contributions of water from the various states in percentages of the average annual virgin run-off at the Mexican Boundary are as follows:

Arizona.....	7.8%
California.....	0.0%
Colorado.....	64.5%
Nevada.....	1.1%
New Mexico.....	1.7%
Utah.....	13.3%
Wyoming.....	11.6%

The Bureau of Reclamation has estimated the average annual flow at Lee Ferry to be 16,270,000 acre-feet^{2/}. The contributions of the Upper Basin States have been estimated to be in the following amounts^{3/}.

<u>State</u>	<u>Amounts in acre-feet</u>	<u>%</u>
Arizona	150,000	.9
Colorado	11,420,000	70.1
New Mexico	300,000	1.9
Utah	2,350,000	14.5
Wyoming	2,050,000	12.6
Total	16,270,000	100.0

The virgin Lee Ferry flow as given above is as estimated for the period 1897-1943^{4/}. For the period 1923-1943 the Bureau estimates such flow at 14,800,000, or 85% of the long time average^{5/}. For the critical drouth period 1931-1940 the flow has been estimated by California engineers as 12,200,000 and for the period 1930-1946 13,500,000^{6/}.

The Bureau of Reclamation estimates average depletions for irrigation within the basin above Lee Ferry at 2,190,000 acre-feet for the years 1935-1943 and exports from the basin at 185,000 acre-feet for the years 1941-1943^{7/}.

2. Colo. River Report, p. 28

3. Estimates by Colorado Water Conservation Board Engineers. The engineering committee of the Upper Colorado River Basin Compact Commission is now engaged in making a detailed study of such contributions both by states and by tributary basins.

4. Colo. River Report, pa. 281

5. Op. cit. pp. 281-282.

6. California comments on Colo. River Report, p. 40

7. Colo. River Report, p. 281. The engineering committee of the Upper Basin Compact Commission is now studying this.

The following table shows the irrigated acreage in the Colorado River Basin by states in 1902, 1909 and every ten years thereafter ^{8/} :

IRRIGATED AREAS COLORADO RIVER BASIN

Values in Acres

	1902	1909	1919	1929	1939
Arizona.....	246,866	317,661	461,694	572,289	640,110
California..	10,000	213,611	447,384	464,653	454,768
Colorado....	417,839	617,242	766,532	856,413	844,494
Nevada.....	11,481	13,850	8,546	12,308	13,880
New Mexico..	29,809	37,300	53,808	55,310	49,841
Utah.....	92,622	167,287	362,576	347,452	324,899
Wyoming.....	118,566	183,595	211,507	228,699	273,971
Sums--					
State Totals	927,183	1,550,546	2,312,047	2,537,124	2,601,963

The situation as to irrigated and irrigable areas is:

IRRIGABLE AND IRRIGATED AREAS

Colorado River Basin

From Sixteenth U. S. Census--Irrigation: 1940
(Units-Acres)

	Total Area Irrigated	Irrigable Area Enterprises	Excess of Irrigable Over Irrigated	Area Capable of being supplied
Arizona.....	644,765	1,090,384	445,619	830,750
California.....	473,749	680,329	206,580	642,981
Colorado.....	844,494	1,243,116	398,633	1,049,752
Nevada.....	25,909	33,844	7,935	30,541
New Mexico.....	50,333	83,753	33,420	69,803
Utah.....	324,899	437,909	113,010	406,890
Wyoming.....	273,971	448,422	174,451	337,027
Colorado River Basin--Totals	2,638,120	4,017,757	1,379,637	3,367,744

8. As reported by the U. S. census

It appears in the foregoing tables that Colorado produces 70.1% of the virgin flow at Lee Ferry, and had 56.5% of the area irrigated in the Upper Basin during the 1939 season.

The status of irrigation development in the basin of the Colorado River in Colorado has been thus outlined in a report of the Colorado Water Conservation Board ^{9/} :

"1. The present status of irrigation development in Western Colorado has been attained, during a period of about 80 years, largely by individual initiative and private capital. Operating irrigation works include several thousand or many hundreds of individual and partnership ditches, numerous cooperative or mutual ditch and reservoir companies, several irrigation district organizations, and a few federal enterprises, principal among which are the Grand Valley and Uncompahgre Projects constructed about 1909 by the U. S. Bureau of Reclamation.

2. As reported in the 1930 U. S. Census (Irrigation), the irrigation enterprises in Western Colorado included 1,683 diversion dams (many ditches function without the aid of diversion dams); main canals totaling 6,480 miles in length, with an aggregate diversion capacity of 36,892 second-feet; and 326 reservoirs of aggregate capacity of 140,923 acre-feet. There were 856,413 acres of land irrigated in the season of 1929, and the irrigation systems represented an investment of \$28,044,806, or \$32.80 per acre irrigated. Federal irrigation projects (U. S. Bureau of Reclamation, and U. S. Office of Indian Affairs) in Colorado (all located west of the Continental Divide) irrigated a total of 96,696 acres in 1929, - equivalent to 2.5 percent of the total area reported as irrigated in the State of Colorado, or 10.1 percent of the area irrigated in the Colorado River basin in Western Colorado.

3. As reported in the 1940 U. S. Census (Irrigation) there were 14,142 irrigated farms in Western Colorado, together involving 1,243,116 acres of irrigable land, of which 844,494 acres were reported as irrigated in the season of 1939. The said irrigated lands consisted of 702,279 acres of harvested crop land; 10,292 acres of crop failure; and 131,923 acres of irrigated pasture.

9. Statement of Colorado presented to Committee of 14 at Reno, Nevada, July 20, 1944.

4. Records of District Water Commissioners show a total of 887,476 acres of land irrigated in Western Colorado in the season of 1939, and approximately the same area in other recent years.

5. Land Classification Surveys conducted by the U. S. Bureau of Reclamation during the 1930 decade covered 767,060 acres of irrigated land, of which 550,920 acres were devoted to cultivated crops, and 216,140 acres to meadows or native hay crops; and covered 706,840 acres of arable lands awaiting reclamation by irrigation, of which 65,600 acres in Class 1, and 641,240 acres in Class 2, - lands in other classifications being herein disregarded."

The drainage basin of the upper Colorado River in Western Colorado embraces 38,482 square miles, which is 37% of the total land area of 103,967 square miles in Colorado. East of the Continental Divide, and exclusive of the areas drained by the North Platte River, in North-Central Colorado, and of the Rio Grande, in South-Central Colorado, there are 55,964 square miles of land area drained by the South Platte, Kansas and Arkansas Rivers, which is 53.8% of the total land area of the state. As compared with a water production of 11,400,000 acre-feet annually in Western Colorado, - equivalent to an average of 307 acre-feet per square mile, - the average annual water production in Eastern Colorado, averaging 2,950,000 acre-feet, has been at the rate of $\frac{10}{53}$ acre-feet per square mile of drainage area.

10. Op. cit. p. 16

There are substantial exportations in Colorado from the Colorado River basin to other stream basins. These are listed in the following tabulation ^{11/} :

<u>Name of Enterprise:</u>	<u>First Record</u> (<u>Year</u>)	<u>Estimated</u> <u>Diversions</u> (<u>Acre Feet</u>)
TO SOUTH PLATTE BASIN		
Grand River Ditch (supp. irrig.)	1896	20,000
Berthoud Pass Ditch (do)	1910	900
Boreas Pass Ditch (do)	1933	300
Hoosier Pass Ditches, E and W (do)	1935	600
Moffat Tunnel, Denver Municipal	1936	38,700
Jones Pass Tunnel, Denver Municipal	1940	12,700
Eureka Ditch (supp. irrig.)	1940	200
Sum to South Platte Basin		73,400
TO ARKANSAS BASIN		
Ewing Ditch, former placer (supp. irrig.)	1916	1,200
Busk-Ivanhoe Tunnel (do)	1925	6,400
Fremont Pass Ditch (do)	1929	1,800
Wurtz Ditch, Pueblo, Municipal	1932	2,600
Columbine Ditch (supp. irrig.)	1935	1,800
Larkspur Ditch (do)	1935	300
Independence Pass Tunnel (do)	1935	44,000
Sum to Arkansas Basin		58,100
TO RIO GRANDE BASIN		
Tarbell Ditch	(No Recent Record)	
Tabor Ditch (supp. irrig.)	1910	300
Treasure Ditch (do)	1923	300
Weminuche Pass Ditch (do)	1935	1,300
Squaw Pass Ditch (do)	1938	1,000
Piedra Ditch (do)	1940	1,000
Spring Creek Ditch (do)	1941	300
Sum to Rio Grande Basin		4,200
COMBINED		135,700

11. Op. cit. p. 11

through
lands
In addition to the above exportation projects, the Colorado-Big Thompson project for the exportation of 310,000 acre-feet to the South Platte basin is under construction by the Bureau of Reclamation. Plans are underway for the exportation of approximately 60,000 acre-feet by this project during the 1947 irrigation season.

It is estimated that ultimate development of the within basin irrigation possibilities in Colorado will result in the irrigation of an additional 706,840 acres which, at a consumptive use rate of 1.5 acre-feet per acre, will consume 1,060,260 acre-feet of water annually^{12/}. Future exportations in Colorado are estimated at 1,864,300 acre-feet annually^{13/}.

IV.

THE LEGAL SITUATION

1. Matters antedating the Colorado River Compact.

Interstate controversies over rights to use of Colorado River water began with California efforts to obtain Congressional authority for, and assistance in, the building of a large dam for regulatory, flood control, and storage purposes on the main stream of the Colorado River. Such efforts originally stemmed from the Imperial Valley development in California. In 1902 the California Development Company began the construction of an international canal which would divert water in the United States and carry it to the Imperial Valley by a route which passed through Mexican territory^{14/}. In 1905 there was a severe flood which broke

12. Op. cit. p. 17

13. Op. cit. p. 17

14. Colo. River report p. 56

through protective works, inundated about 30,000 acres of arable lands in the valley, and did much destruction to the lines of the Southern Pacific Railway. Other floods in the early 1920's did much damage. It has been estimated that from 1906 to 1924 over ten million dollars was spent on levee construction and maintenance on the lower Colorado River^{15/}.

These floods and the desire to have the Imperial Valley served by a canal which traversed only territory of the United States impelled California interests to seek federal aid. The first Colorado River bill, known as the first Kettner Bill, H. R. 6044, was introduced in Congress June 17, 1919. It provided for the construction of an All-American Canal under a financial plan by which the federal government would guarantee the payment of the cost. This bill did not come to a vote. Other bills, known as the second Kettner Bill and the first, second and third Swing-Johnson bills also failed. Congress did pass the Kinkaid Act, approved May 18, 1920, which provided for a study and report of Colorado River development.

The legislative proposals of California aroused formidable opposition from the other basin states. At the time there was still considerable doubt as to the principles which would govern the determination of rights in interstate streams. The position of Colorado was perhaps better defined than that of most states. Colorado traditionally claimed that the state and its citizens owned and could use as they saw fit all the water of interstate streams flowing in the boundaries of the state^{16/}. In so doing it relied not only upon its constitutional provisions^{17/}, but also

15. Colo. River report p. 58

16. See Stockman v. Leddy, 55 Colo. 24

17. Colo. Const. Art. XVI, Secs. 5 & 6

upon the principles announced in the so-called Harmon opinion^{18/}. This much quoted opinion was rendered by United States Attorney-General Judson Harmon at the time of the discussion between the United States and Mexico relating to the use of the waters of the upper Rio Grande. Mr. Harmon's conclusion was that in differences between two sovereign nations over the use of the waters of an international stream, the up-stream nation is under no obligation, by reason of any international law, to deliver any amount of water to the lower nation. In other words the upper nation could use and dispose of all water flowing within its borders as it saw fit. Colorado urged Harmon's theories in defense of the suit brought against it by Kansas in the United States Supreme Court in 1901. The Court, however, rejected the Colorado claim that Colorado could use and dispose of all waters flowing within its borders as it saw fit and held that there must be an equitable apportionment of the benefits arising from the flow of interstate streams^{19/}. The full import of the Kansas v. Colorado decision was not immediately recognized. One reason, no doubt, was that the suit involved a riparian state (Kansas) and an appropriation state (Colorado). In any event when Wyoming (an appropriation state) sued Colorado in the United States Supreme Court in 1911 over the rights of use of water of the Laramie River, Colorado again asserted that it could use and dispose of as it saw fit all the water of the stream flowing in Colorado. And again the United States Supreme Court rejected the contention, saying (Wyoming v. Colorado, 259 U. S. 419, 466):

18. 21 Ops. Atty.-Gen. 274
19. Kansas v. Colorado, 185 U. S. 125, 143, 206 U. S. 46, 98, 113.

"The contention of Colorado that she as a state right-fully may divert and use, as she may choose, the waters flowing within her boundaries in this interstate stream, regardless of any prejudice that this may work to others having rights in the stream below her boundary, cannot be maintained."

This holding has been affirmed in later cases such as

Colorado v. Kansas, 320 U. S. 383, and Nebraska v. Wyoming, Colo-
rado impleaded defendant, United States intervener, 325 U.S.389^{20/}.

The Kansas v. Colorado decision and the insistence in the Wyoming v. Colorado litigation that interstate streams should be divided upon a basis of interstate priorities regardless of state lines made Colorado and the other Colorado River basin states very alarmed over down stream Colorado River development at the expense of the United States. It was thought that vested rights to the use of water would be obtained by California. Economic development in the Upper Basin could not keep up with that in the Lower Basin. In any race for the use of water the Upper Basin would certainly lose. Hence, strong political opposition to the California bills was presented in Congress.

It was finally recognized by all that there was little likelihood of the construction of any major projects on the lower Colorado unless the interstate controversy could be settled. The

20. In this connection it is interesting to note that the Colorado Supreme Court adhered to the theory of absolute state right as late as 1937. The two decisions of that Court in the La Plata River litigation (La Plata v. Hinderlider, 93 Colo. 128 and Hinderlider v. La Plata, 101 Colo. 73), can only be rationalized upon the basis of absolute state right. The Colorado Court was reversed by the United States Supreme Court (Hinderlider v. La Plata, 304 U. S. 92). It should also be noted that in treaty making with foreign nations the United States has rejected the theories of the Harmon opinion (see Convention with Mexico, 1906, 34 Stat. 3493, Treaty Series 455, Treaty between United States and Great Britain of March 3, 1909, 36 Stat. 2448, Treaty Series 458, and Treaty between United States and Mexico of February 3, 1944, Executive A and Executive H, 78th Congress, Second Session, Treaty Series 944).

situation giving rise to the negotiation of the compact has been thus summarized ^{21/} :

"Some form of an agreement between the various factions was essential before comprehensive development of the Colorado River could proceed. Each State approached the problem individually. The conception of a division of water as between the upper and lower basins, which was finally adopted, instead of an apportionment among the individual States, crystallized slowly. The common desire for a solution gained momentum and finally resulted in an interstate compact.

The lower basin States favored a compact because they wished to enlist the support of the upper basin States in securing legislation by the Congress for main stream developments which were urgently needed for further expansion in the lower basin. States in the upper basin favored a compact because they desired to feel secure in their rights to further development of water uses, believing that they would be deprived of such rights by prior appropriations and uses downstream if they did not enter into a special agreement.

The States of both areas desired to retain control of water rights within their respective boundaries and thus were willing to enter into an interstate agreement to avoid the complete Federal control of the Colorado River that otherwise possibly would result.

Another significant motivating factor leading up to the Colorado River Compact was the desire of the people in the Colorado River Basin to give agriculture priority over power in the use of water."

2. The Colorado River Compact.

The Colorado River Compact was first proposed by Delph E. Carpenter of Colorado at a meeting of representatives of governors of the western states ^{22/} . Congress gave its consent to the negotiation of a compact between the states of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming ^{23/} . Pursuant to this act the Hon. Herbert Hoover, the then Secretary of Commerce,

21. Colo. River report p. 60.

22. Colo. River report, p. 60.

23. See Act of August 19, 1921, 42 Stat. 171.

was appointed as Federal representative. After an organization meeting in Washington and public hearings in each Colorado River basin state, the Commission met at Santa Fe, New Mexico drafted, and on November 24, 1922 signed the Colorado River Compact^{24/}.

All of the basin states except Arizona promptly ratified the compact without qualification. When it became apparent that Arizona would not ratify, the other states modified their ratifications and then, to make possible the adoption of the compact, passed laws which made it effective upon the ratification of six states.

In 1928 Congress passed the Boulder Canyon Project Act, which waives the requirement of the compact that all seven states ratify it upon condition that it be ratified by California and five other states. The six states had ratified the compact by March 6, 1929 and on June 25, 1929 President Hoover proclaimed its ratification. Arizona ratified the compact in 1944.

Article I states the major purposes of the compact among which are the equitable division and apportionment of the use of the waters of the Colorado River system. To these ends the basin is divided into two basins and an apportionment of the use of part of the water of the system is made to each basin.

Article II contains definitions of terms. The following should be particularly noted^{25/}:

"The term 'Colorado River Basin' means all of the drainage area of the Colorado River system and all other territory within the United States of America to which the waters of the Colorado River system shall be beneficially applied."

24. See Act of December 21, 1928, 45 Stat. 1057, Federal Reclamation Laws Annotated, p. 363.

25. Federal Reclamation Laws Annotated, p. 364.

"The term 'States of the upper division' means the States of Colorado, New Mexico, Utah, and Wyoming."

"The term 'States of the lower division' means the States of Arizona, California, and Nevada."

"The term 'Lee Ferry' means a point in the main stream of the Colorado River 1 mile below the mouth of the Paria River."

"The term 'Upper Basin' means those parts of the States of Arizona, Colorado, New Mexico, Utah, and Wyoming within and from which waters naturally drain into the Colorado River system above Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River system which are now or shall hereafter be beneficially served by waters diverted from the system above Lee Ferry."

"The term 'Lower Basin' means those parts of the States of Arizona, California, Nevada, New Mexico, and Utah within and from which waters naturally drain into the Colorado River system below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River system which are now or shall hereafter be beneficially served by waters diverted from the system below Lee Ferry."

Article III, paragraph (a) apportions in perpetuity to the Upper Basin and the Lower Basin the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum.

Paragraph (b) gives to the Lower Basin, in addition to the apportionment made in paragraph (a), the right to increase its beneficial consumptive use by 1,000,000 acre-feet of water per annum.

Paragraph (c) provides that any right recognized in Mexico shall be satisfied first from waters which are surplus over and above those apportioned by (a) and (b) and if that is insufficient then each basin shall make up half the deficiency.

Paragraph (d) prohibits the states of the Upper Division from depleting the Lee Ferry flow below an aggregate of 75,000,000 acre-feet for any period of ten consecutive years.

Paragraph (e) provides that the states of the Upper Division shall not withhold and the states of the Lower Division shall not require water not reasonably needed for domestic and agricultural uses.

Paragraph (f) provides that further apportionment of the water unapportioned by (a), (b), and (c) may be made after 1963, "if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b)."

Paragraph (g) provides the machinery for making the apportionment as provided in paragraph (f).

Article IV provides that the use of water for navigation be subservient to the uses for domestic, agricultural, and power purposes, but makes this provision dependent upon the consent of Congress. This article also provides in paragraph (b) that subject to the provisions of the compact, water may be impounded and used for power generation, but such impounding and use shall be subservient to domestic and agricultural purposes which are dominant. Paragraph (c) states that the provisions of Article IV shall not apply to or interfere with the regulation and control by any state within its boundary of the appropriation, use, and distribution of water.

Article V provides for cooperation by the chief official of each state with the United States Reclamation Service and the United States Geological Survey.

Article VI provides thus:

"Should any claim or controversy arise between any two or more of the signatory States: (a) With respect to the waters of the Colorado River system not covered by the terms of this compact; (b) over the meaning or performance of any of the terms of this compact; (c) as to the allocation of the burdens incident to the performance of any article of this compact or the delivery of waters as herein provided; (d) as to the construction or operation of works within the Colorado River Basin to be situated in two or more States, or to be constructed in one State for the benefit of another State; or (e) as to the diversion of water in one State for the benefit of another State, the governors of the States affected upon the request of one of them, shall forthwith appoint commissioners with power to consider and adjust such claim or controversy, subject to ratification by the legislatures of the States so affected.

Nothing herein contained shall prevent the adjustment of any such claim or controversy by any present method or by direct future legislative action of the interested States."

Article VII states that nothing in the compact affects the obligations of the United States to Indian tribes.

Article VIII specifically states that present perfected rights to the beneficial use of waters are unimpaired and that whenever 5,000,000 acre-feet of storage has been provided on the main river for the benefit of the Lower Basin, then claims by appropriators of waters in the Lower Basin as against appropriators of waters in the Upper Basin shall be satisfied from such stored water. It is further provided that all other rights, that is, those not then perfected, shall be satisfied solely from water apportioned to the basin in which they are situated.

Article IX reads that the compact shall not be construed to restrict any state from maintaining any action for the protection of any right under the compact and the enforcement of any compact provisions.

Article X provides for the termination of the compact only by unanimous agreement of the signatory states.

Article XI provides the method for making the compact effective.

The compact has resulted in three decisions of the United States Supreme Court in litigation between Arizona and other basin states. These cases are Arizona v. California, 283 U.S. 423, Arizona v. California, 292 U.S. 341, and Arizona v. California, 298 U.S. 2558. A related case is that of U. S. v. Arizona, 295 U.S. 174.

Particular attention is directed to the case of Arizona v. California, 292 U.S. 341. In this case Arizona sought to perpetuate certain testimony. This arose out of the provisions of paragraph (b), Article II of the compact which permitted the Lower Basin to increase its consumptive use by 1,000,000 acre-feet annually. Arizona has claimed that this provision relates to the use in Arizona of Gila River water. California has opposed such claim. The purpose of the suit was to perpetuate testimony intended to establish that this paragraph (b) was inserted into the compact for the purpose of protecting Arizona's rights to the use of Gila River water.

Other than the cases mentioned above there have been no Federal decisions construing or applying the Colorado River

compact^{26/}. It should be recognized that there is not complete agreement as to the effect and meaning of the compact. In addition to the dispute over paragraph (b) of Article III mentioned above there is no agreement as to the meaning of the phrase "exclusive beneficial consumptive use" as such term appears in paragraph (a) of Article III.

As will be later pointed out, California asserts a claim to surplus waters undivided by the compact in spite of the provisions of paragraph (f) of Article III and contends that III (b) water must be treated as unapportioned water.

Article VIII has given rise to controversy as to whether or not evaporation losses from Boulder Dam are chargeable to the Lower Basin or the Upper Basin. As the consumptive use of water approaches the maximum amounts allocated to each basin, other controversies will probably arise.

The binding effect of interstate compacts has been recognized by the United States Supreme Court in many cases^{27/}. A leading decision on this subject is that of Hinderlider v. La Plata & Cherry Creek Ditch Co., 302 U. S. 646, a case involving the La Plata River Compact between Colorado and New Mexico.

26. While the decision in United States v. Utah, 283 U. S. 64 does not involve the compact, it must not be overlooked. In that case the Court held that certain sections of the Colorado, Green and San Juan Rivers in the state of Utah are navigable. This is an important holding in view of the use which has been made of the fiction of navigability in applying the constitutional power of Congress to regulate commerce between the states.

27. For an excellent summary of interstate compacts and litigation involving such compacts see "The Compact Clause of the Constitution - A Study in Interstate Adjustment" by Frankfurter and Landis, 34 Yale Law Journal 685, issue of May, 1925. Also the publication of the Colorado Water Conservation Board entitled "Interstate Compacts - A Compilation of Articles and Documents".

3. The Boulder Canyon Project Act.

The Boulder Canyon Project Act of December 21, 1926^{28/}

authorizes the construction of a dam at Black Canyon or Boulder Canyon adequate to create a storage reservoir of not less than 20,000,000 acre-feet for the purpose of controlling floods, improving navigation and regulating the flow of the Colorado River for reclamation of public lands and other beneficial uses exclusively within the United States and for the generation of electrical energy.

The act also authorizes the construction of the All-American Canal and provides for the approval of the Colorado River Compact when the State of California and at least five of the basin states ratified such compact.

Section 4 (a) of the Act provides that it is not to take effect and no authority shall be exercised thereunder and no work shall be done or expenses incurred until the Colorado River Compact is ratified by at least six of the basin states including California, and

"until the State of California, by act of its legislature, shall agree irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, as an express covenant and in consideration of the passage of this Act, that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this Act and all water necessary for the supply of any rights which may now exist, shall not exceed four million four hundred thousand acre-feet of the waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River Compact, plus not more than one-half of any excess or surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact."

28. 45 Stat. 1057.

It is further provided in Section 4(a) that Arizona, California and Nevada are authorized to enter into an agreement apportioning the 7,500,000 acre-feet apportioned to the lower basin by paragraph (a), Article III of the compact on the basis of 300,000 acre-feet to Nevada and 2,800,000 acre-feet to Arizona; that Arizona may use one-half of the surplus water unapportioned by the contract; that Arizona shall have the exclusive beneficial use of the Gila and that the waters of the Gila shall never be subject to diminution by reason of any treaty between the United States and Mexico, and that other minor matters may be incorporated therein. No such agreement has ever been made between those states.

Paragraph (b) of Section 4 provides that there shall be no construction work until the Secretary of the Interior makes provisions for revenues by contract adequate to insure payment of expenses of operations and maintenance and the repayment to the United States within fifty years with interest. It is further provided that, if during the period of amortization the Secretary of the Interior receives revenues in excess of an amount necessary to meet periodical payments, he shall pay to Arizona 18 3/4 per cent thereof and to Nevada 18 3/4 per cent.

Section 5 authorizes the Secretary to contract for the storage and delivery of water and the generation and sale of electrical energy upon charges that "will in his judgment cover all expenses of operation and maintenance incurred by the United States on account of works constructed under this act and the payments to the United States" for reimbursable costs of construction. It is further provided that:

"After the repayment to the United States of all moneys advanced with interest, charges shall be on such basis and the revenues derived therefrom shall be kept in a separate fund to be expended within the Colorado River Basin as may hereafter be prescribed by Congress."

Section 8(a) requires the United States permittees, licensees, and contractees, and all users and appropriators of water stored, diverted, carried and distributed by the works authorized, to observe and be subject to and controlled by the Colorado River Compact.

Sub-paragraph (a) of Section 13 gives the approval of Congress to the Colorado River Compact provided that the State of California and at least five other states ratify the same.

Sub-paragraphs (b) and (c) of Section 13 read as follows:

"(b) The rights of the United States in or to waters of the Colorado River and its tributaries howsoever claimed or acquired, as well as the rights of those claiming under the United States, shall be subject to and controlled by said Colorado River compact.

"(c) Also all patents, grants, contracts, concessions, leases, permits, licenses, rights of way, or other privileges from the United States or under its authority, necessary or convenient for the use of waters of the Colorado River or its tributaries, or for the generation or transmission of electrical energy generated by means of the waters of said river or its tributaries, whether under this act, the Federal water power act, or otherwise, shall be upon the express condition and with the express covenant that the rights of the recipients or holders thereof to waters of the river or its tributaries, for the use of which the same are necessary, convenient, or incidental, and the use of the same shall likewise be subject to and controlled by said Colorado River Compact."

Section 18 provides as follows:

"Nothing herein shall be construed as interfering with such rights as the States now have either to the waters within their borders or to adopt such policies and enact such laws as they may deem necessary with respect to the appropriation, control, and use of waters within their borders, except as modified by the Colorado River compact or other interstate agreement."

Section 19 gives the consent of Congress to the negotiation and execution of compacts between the basin states supplemental to and in conformity with the Colorado River Compact, provided that a representative of the United States participates in negotiations. It is specifically stated that no such compact or agreement shall be binding or obligatory upon any of the states unless and until it has been approved by each of the states and by Congress.

The Boulder Canyon Project Act has been upheld and applied in the cases of Arizona v. California, 283 U. S. 323, and Arizona v. California, 298 U. S. 558.

4. California Self-Limitation Act.

Promptly after the passage of the Boulder Canyon Project Act California enacted its so-called Water Limitation Act^{29/}. This provides that when six of the basin states, including California, have ratified the compact and consented to waive the provisions of Article XI requiring approval by all seven states, and when the President by proclamation has so declared the "the State of California as of the date of such proclamation agrees irrevocably and unconditionally with the United States and for the benefit of the States of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming as an express covenant and in consideration of the passage of the said 'Boulder Canyon Project Act' that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California including all uses under contracts made under the provisions of said 'Boulder Canyon Project Act', and all water

^{29.} Approved by the Governor March 4, 1929. California Statutes 1929, p. 38.

necessary for the supply of any rights which may now exist, shall not exceed four million four hundred thousand acre-feet of the waters apportioned to the lower basin states by Compact, plus not more than one-half of any excess or surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact."

The State of California has taken the position that by the passage of this act it entered into a compact with the United States^{30/}. During the fight for the ratification of the Mexican Water Treaty, California asserted that any treaty with Mexico which, by requiring the delivery of Colorado River Water to Mexico, made unavailable to California the amounts of water specifically mentioned in the Self Limitation statute (including one-half of the surplus) would constitute a breach by the United States of the compact and would relieve California from any obligation thereunder. Herein lies a possible source of future controversy and litigation. In the event future stream flows should be inadequate to supply the Mexican share and the amounts claimed by California, that State may seek to nullify its Self Limitation Statute.

5. Boulder Canyon Project Adjustment Act.

The Boulder Canyon Project Adjustment Act^{31/} was primarily designed to change the procedure for the disposal of electric energy generated at Boulder Dam so as to accord with the desire of power contractees in Southern California to reduce the rate for

30. For example see testimony of James H. Howard, attorney for Metropolitan Water District of Southern California, before Senate Foreign Relations Committee, Hearings on Mexican Water Treaty, 79th Congress, First Session, Part 3, pp. 860 et seq, and opinion of attorney Homer Cummings, op. cit. Part 5, pp. 1516 et seq.

31. Approved July 19, 1940, 54 Stat. 774.

falling water. For some years prior to the passage of the act, California power interests, both public and private, had sought a means for the reduction of the cost of electric energy from the Boulder Dam project. These proposals were resisted by the other basin states because the rights of those states were not adequately protected in the adjustments proposed by California.

The Committee of Sixteen considered this problem at several meetings. A formula for the proposed adjustment was finally agreed upon by the States. Extensive hearings were held by Congressional committees.

The adjustment act changes the basis for determination of the cost of falling water from that of a competitive power rate at tide water to an amortization basis sufficient to return the following:

(a) Cost of construction, together with interest thereon at the rate of three per cent per annum (the interest rate was reduced from four to three per cent per annum).

(b) Operation and maintenance.

(c) Payment of \$300,000 a year each to Arizona and Nevada in lieu of taxes.

(d) Payment of \$500,000 a year into the Colorado River Development fund.

The amortization period expires in 1987. Under the Boulder Canyon Project Act the amounts paid within the amortization period were to be sufficient to include the government investment in the cost of the project allocated to flood control, i.e. \$25,000,000. Under the Adjustment Act the payment of this sum allocated to flood control was deferred for repayment without interest after 1987.

The \$500,000 annual payments into the Colorado River Development fund commenced as of 1938. The first three annual payments, or a total of \$1,500,000, were specified as the cost of investigations for the formulation of a comprehensive plan of development of the Colorado River. The annual payments thereafter, until 1955, were designated for use solely in Colorado, New Mexico, Utah and Wyoming for project investigation and construction. Thereafter the amounts arising from the annual payments into the Development Fund were to be available for use in all seven states of the Colorado River Basin for investigation and construction.

The Adjustment Act also changed the method of disposing of electric energy. Under the original act the power and power privileges were leased to private and public interests in Southern California. Under the Adjustment Act the Department of Water and Power at Los Angeles became the generating agency for the government and new contracts were made with the power allottees for the disposal of the power thus generated.

Section 14 of the Adjustment Act provides that nothing therein shall be construed as interfering with such rights as the states now have either to the waters within their borders or to adopt such policies and enact such laws as they may deem necessary with respect to the appropriation, control, and use of waters within their borders, except as modified by the Colorado River compact or other interstate agreement.

THE CONTRACTS

1. California Seven Party Agreement of 1931.

Shortly after the enactment of the Boulder Canyon Project Act and California Self Limitation Act, it became apparent that it was necessary to establish relationships between the various California interests utilizing Colorado River water. After a series of conferences between the various California groups held over a period of nearly a year, an agreement was made on August 18, 1931 which is commonly known as the Seven Party Water Agreement of 1931^{32/}. It provides for priorities among the applicants and fixes the quantity of water apportioned to each. The priorities are stated in the following summary in order:

1--Palo Verde Irrigation District
104,500 acres.

2--Yuma Project--U. S. Bureau of
Reclamation 25,000 acres.

3(a)--Imperial Irrigation District
and lands under the All-American
Canal in the Imperial and Coachella
Valleys.

(b)--Palo Verde Irrigation District
in "Lower Palo Verde Mesa"
16,000 acres.

Total for 1st, 2nd and 3rd
priorities. 3,850,000 ac. ft.

4--Metropolitan Water District and
City of Los Angeles 550,000 ac. ft.

32. The agreement is set out in the Metropolitan Water District Contract - see The Hoover Dam Contracts by Wilbur and Ely, pp. 300-301.

- 5(a)--Metropolitan Water District and
City of Los Angeles. 550,000 ac. ft.
- (b)--City and County of San Diego 112,000 ac. ft.
- 6(a)--Imperial Irrigation District and
lands under the All-American Canal
in Imperial and Coachella Valleys.
- (b)--Palo Verde Irrigation District in
Lower Palo Verde Mesa, 16,000
acres 300,000 ac. ft.
- Total 5,362,000 ac. ft.

It should be noted that the total amount of 5,362,000 acre-feet divided by the Seven Party Water Agreement exceeds the California share of 4,400,000 acre-feet of water allocated to the lower basin by paragraph (a), Article III of the compact in the amount of 962,000 acre-feet.

2. The California Water Contracts.

(a) Contract between the United States and Metropolitan Water District of Southern California.

This contract was dated April 24, 1930 and was amended on September 28, 1931^{33/}. This was the first of the so-called California water contracts. Article VI, as amended in 1931, provides that the United States shall from storage available in the Hoover Dam deliver to the district each year so much water as may be necessary to supply the district the total quantity in the amounts and with the priorities in accordance with the recommendation of the chief of the division of water resources of California "subject to the availability thereof for use in California under the Colorado River Compact and the Boulder Canyon Project Act."

33. Op. Cit. p. 299 et seq.

There follows the Seven Party Water Agreement of 1931 by which there is recognized a fourth priority to the Metropolitan Water District in the amount of 550,000 acre-feet and a fifth priority to the Metropolitan Water District of 550,000 acre-feet and to the City of San Diego of 112,000 acre-feet.

This contract is specifically made for permanent service. A charge of 25¢ per acre foot to the United States is payable during the Boulder Dam cost-repayment period.

Article 16 provides as follows:

"This contract is made upon the express condition and with the express understanding that all rights hereunder shall be subject to and controlled by the Colorado River compact, being the compact or agreement signed at Santa Fe, N. Mex., Nov. 24, 1922, pursuant to act of Congress approved Aug. 19, 1921, entitled "An act to permit a compact or agreement between the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, respecting the disposition and apportionment of the waters of the Colorado River, and for other purposes," which compact was approved in Section 13 (a) of the Boulder Canyon project act."

(b) The All-American Canal Contract.

This contract between the United States and the Imperial Irrigation District bears date December 1, 1932^{34/}. The contract provides for the construction by the United States of the All-American Canal with a capacity of 15,000 second-feet to Syphon Drop and 13,000 second-feet to Pilot Knob and 10,000 second-feet below Pilot Knob. It is provided that the ultimate cost shall not exceed \$38,500.00 which is repayable by the district in forty annual installments without interest.

Article 14 reserves to the United States the right to generate power on the canal at all points down to and including

34. Op. Cit. 305.

Syphon Drop. The district, subject to certain contractual provisions, has the privilege of utilizing the remaining power possibilities along the canal.

Article 16 relates to the delivery of water and follows the pattern of the Metropolitan Water District Company. Under the 1931 Agreement the Imperial Irrigation District has a third priority for 3,850,000 acre feet per annum and together with the Palo Verde District a sixth priority for 300,000 acre-feet per annum.

Article 29 makes the agreement subject to the Colorado River Compact in language identical with that of Article 16 of the Metropolitan Water District Compact.

3. The Arizona Contract.

A contract was made between the Secretary of the Interior and the State of Arizona in February, 1944. By acts of its legislative approved by its governor on February 24, 1944, Arizona ratified the Colorado River Compact and the water contract with the Secretary (see Arizona Session Laws 1944, Chap. 4, p. 419 and Chap. 5, p. 427).

The contract provides in its Article 7 for the delivery to Arizona of a maximum of 2,800,000 acre-feet for irrigation and domestic uses subject to the availability thereof for use in Arizona under the provisions of the Colorado River Compact and the Boulder Canyon Project Act. It is provided that the United States will also deliver to Arizona one-half of any surplus waters unapportioned by the compact to the extent such water is available for use in Arizona. It is further provided that the contract is for permanent service except that one-half of the surplus is

subject to the Colorado River Compact relative to apportionment on and after October 1, 1963.

By the contract Arizona recognizes the right of the United States and agencies of California to contract for Colorado River water "provided that the aggregate of all such deliveries and uses in California from the Colorado River shall not exceed the limitation of such uses in that state required by the provisions of the Boulder Canyon Project Act and agreed to by the State of California by an act of its Legislature (Chapter 16, Statutes of California of 1929) upon which limitation the State of Arizona expressly relies."

A charge of 50¢ per acre-foot subject to reduction by the Secretary is made for water diverted from Lake Mead during the Boulder Dam cost-repayment period. For water diverted below Boulder Dam charges as agreed upon are permitted with the proviso that such charges shall not exceed 25¢ per acre-foot.

Article 8 of the contract reads thus:

"This contract is made upon the express condition and with the express covenant that all rights of Arizona, its agencies and water users, to waters of the Colorado River and its tributaries, and the use of the same, shall be subject to and controlled by the Colorado River Compact signed at Santa Fe, New Mexico, November 24, 1922, pursuant to the Act of Congress approved August 19, 1921 (42 Stat. 171), as approved by the Boulder Canyon Project Act."

4. The Nevada Contract.

A contract between the United States and the State of Nevada was executed as of March 30, 1942. This provides for the delivery of 100,000 acre-feet of water to Nevada from storage in Lake Mead subject to the availability thereof under the Boulder Canyon Project Act and the Colorado River Compact.

A charge of 50¢ per acre-foot subject to reduction by the Secretary is imposed. As is true of the other contracts heretofore noted, the Nevada contract is made upon the express condition and understanding that it is subject to and controlled by the Colorado River Compact.

VI.

MEXICAN WATER TREATY OF 1944

Controversies between the United States and Mexico over the three border streams, that is, Colorado and Tijuana Rivers and the Rio Grande were finally settled in a treaty signed by representatives of the two nations at Washington on February 3, 1944^{35/}. This treaty was ratified by the United States Senate on April 18, 1945 and by the Mexican Senate September 27, 1945.

Article 2 of the treaty entrusts the general administration thereof to the International Boundary and Water Commission which is designated to be the successor of the International Boundary Commission created by a convention of the two countries of March 1, 1889.

The treaty was the result of many years of negotiation. The United States desired the construction on the Rio Grande of works for water storage and flood control to protect the rich agricultural developments in the lower Rio Grande Valley. Such works necessitated main stream storage and could not be constructed without a treaty with Mexico as the Rio Grande is the international boundary. In 1924 Congress by statute authorized the

35. See Executive (a) and Executive (h), 79th Congress 1st Session, Treaty Series 994.

appointment of commissioners for cooperative study with Mexico^{36/}. Mexico refused to proceed with the study unless the Colorado River was considered. Accordingly, Congress by an act approved March 3, 1927 amended the law to include the Colorado River^{37/}. Thereafter representatives of the two countries met but could not agree. Negotiations were resumed in 1938. The International Boundary Commission held meetings with the Committee of Sixteen, representing the seven Colorado River basin states to discuss treaty terms. In April 1943 a formula to be used in the negotiation of the treaty was approved by all the basin states except California and Nevada. The allotment of water eventually made by the treaty is within this formula.

Part III of the treaty, Articles 10 to 15, concerns the Colorado River. Under the terms of Article 10, Mexico was allotted a guaranteed annual quantity of 1,500,000 acre-feet of the Colorado from any and all sources with the delivery to be made in accordance with Article 15. When, as determined by the United States section of the Commission, there is a surplus of water in the river, the United States undertakes to deliver 1,700,000 acre-feet annually, but Mexico has no right to any annual quantity in excess of 1,500,000 acre-feet.

In the event of extraordinary drought or serious accident to the irrigation system in the United States making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet, the water allotted to Mexico shall be reduced in the same proportion that consumptive uses in the United States are reduced.

36. S. 2298, Public 118, 68th Congress, 43 Stat. 118.

37. Public Resolution No. 62, 69th Congress, 44 Stat. 1043.

Article 11 defines the places of delivery of water allotted to Mexico. From the time Davis Dam is put in operation until 1980 the United States shall deliver "wherever such waters may arrive in the limitrophe section of the river" 1,000,000 acre-feet annually, and thereafter 1,125,000 acre-feet annually, provided that if the main Mexican diversion structure is located entirely in Mexico not to exceed 25,000 acre-feet annually may be delivered at a mutually agreed point near San Luis, Sonora, and the quantities deliverable in the limitrophe section reduced by that amount. Also from the time Davis Dam is put into operation and until 1980, the United States shall deliver 500,000 acre-feet annually and thereafter 375,000 acre-feet annually by means of the All-American Canal and the Pilot Knob Wasteway.

Article 12 relates to construction of certain works. Mexico shall construct at its expense a main diversion dam and such protective works as are necessary in the opinion of the Commission to protect United States lands from flood and seepage damage. The United States agrees to construct the Davis Dam, a part of the capacity of which is to be used for the fulfillment of the Treaty provisions. The United States further agrees to construct or acquire and operate and maintain at Mexico's expense the works necessary for the conveyance of water allotted to Mexico to the international boundary. These include the works necessary to convey water from the Pilot Knob Wasteway to the boundary and those necessary to carry water to the boundary near San Luis, Sonora, if such delivery is mutually agreed upon. The Commission in the limitrophe section of the river and each Section within its own country are required to construct, operate and maintain appropriate stream gaging stations.

Article 13 concerns flood control between Imperial Dam and the Gulf of California with provision made for the construction of such works as may be recommended by the Commission and approved by the two governments.

Article 14 requires Mexico to pay such proportion of the actual construction cost of Imperial Dam and the Imperial Dam-Pilot Knob Section of the All-American Canal as may be determined by the two governments and a portion of the annual cost of operation and maintenance based on a proportionate amount of water delivered annually through such facilities for use in each of the two countries. In the event a power plant is constructed at Pilot Knob, and revenues from electric power generation after the full amortization therefrom of the cost of the plant become available for the amortization of part or all of the cost of Imperial Dam and the Imperial Dam-Pilot Knob Section of the All-American Canal, the Mexican obligation to pay part of the cost of such facilities shall be reduced proportionately.

Article 15 relates to technical details governing water deliveries to Mexico.

Ratification of the treaty was opposed by California and Nevada. The other Colorado River basin states and Texas actively supported its ratification. Hearings before the Senate Foreign Relations Committee lasted many weeks. When the matter finally came to vote in the Senate, the tally was 76 votes for ratification and 10 against ^{38/}.

Since the ratification of the treaty California has continued to condemn the treaty and has sought to prevent its actual

38. Cong. Record - Senate, Apr. 18, 1945, p. 3547.

operation. At each succeeding session of Congress, bills have been introduced which would in effect nullify the treaty. These bills have been strenuously resisted by Texas and all Colorado River Basin states except California and Nevada.

An interdepartmental agreement has been made defining the functions of the International Boundary and Water Commission and the Bureau of Reclamation relative to the responsibilities and obligations of each in carrying out treaty terms. Such agreement is serving to bring about the desired cooperation between these two agencies.

VII

RIVER BASIN COMMITTEES

1. Interstate conferences prior to 1938.

Efforts to obtain mutual understanding and cooperation have resulted in many meetings of representatives of the Colorado River basin states. These have consisted of meetings of water users, of state officials, and of Congressional delegations. To a great extent an appreciation of common problems has resulted from these conferences. They have definitely aided in the development of the river.

The Colorado River Compact had its real start in a meeting of the representatives of the governors of western states ^{39/}.

Following the signing of the compact, conferences were held for consideration of the problem growing out of the failure of Arizona to ratify and of the question of federal legislation. Among such conferences was one held in Denver in August, 1927.

After the passage of the Boulder Canyon Project Act there were discussions of a division between the Upper Basin states of

39. Colo. River Report, p. 60.

the water allocated to them by the compact. Meetings were held from December, 1929, to August, 1930. Colorado then offered to accept 4,600,000 acre-feet as its equitable share. These discussions were finally cut off by the refusal of the State of Utah to make any definite commitments.

In connection with these latter meetings it should be pointed out that many individuals from various states opposed any apportionment at that time between the Upper Basin States. Their thought was that if development were permitted to progress in the Upper Basin in an orderly and natural manner the pattern would be established for an eventual apportionment.

Basin meetings prior to 1938 were of an informal nature. No attempt was made to create an organization with officers and records. The desirability of such an organization was apparent to the leaders of several of the states.

2. The Committees of Fourteen and Sixteen.

After preliminary discussions in Phoenix, Arizona, and Green River, Wyoming, in 1938 and after a conference of representatives of Colorado, New Mexico, Utah, and Wyoming, a permanent Seven State Organization was set up at a meeting held in Yellowstone Park, August 1 and 2, 1938. In attendance were men from all the basin states. Colorado was represented by Governor Ammons, Attorney-General Rogers, Clifford H. Stone, Director of the Colorado Water Conservation Board, C. L. Patterson, R. J. Tipton, Judge John B. O'Rourke, Hume White and A. W. McHendrie.

Formal organization was completed at a conference held in Salt Lake City on October 6 and 7, 1938. At this meeting the official Colorado delegates were Attorney-General Byron Rogers, and

Director of Colorado Water Conservation Board Clifford H. Stone. Judge Stone was elected permanent Chairman of the committee and Grover Giles of Utah was elected permanent secretary. No formal by-laws or other organizational agreements or procedures were adopted. The primary concern of the conference was the study of a plan for the comprehensive development of the Colorado River basin. Consideration was given to the Mexican situation and to the Arizona proposal for the construction of the Bridge Canyon project.

At subsequent meetings the plan of organization took more definite shape. Two committees were recognized. One, known as the Committee of Fourteen, consisted of two representatives of each state and was concerned with water problems. The other became known as the Committee of Sixteen and consisted of the members of the Committee of Fourteen plus two members designated by the power interests who contracted for the purchase of power generated at Boulder Dam. The Committee of Sixteen considered power as well as water problems. In 1941 Frank Delaney of Glenwood Springs was designated by the Colorado governor to succeed Byron Rogers as one of the Colorado members on the two committees. Judge Stone was chairman and Grover Giles was secretary of each committee. Many of the meetings were joint meetings of the two committees.

One of the fundamental ideas behind the organization of the Committees of Fourteen and Sixteen was that by a frank mutual exchange of plans for basin development coordinated action could be secured which would have political weight with the national Congress.

Major accomplishments of these committees were the passage of the Boulder Canyon Project Adjustment Act^{40/} and the ratification of the Colorado River compact by the State of Arizona.

At the committee meetings there was an exchange of information as to the plans of each state for development of projects dependent upon Colorado River water. A constant pressure was exerted on the Bureau of Reclamation for the completion of a comprehensive report on the Colorado River authorized under Section 15 of the Boulder Canyon Project Act. Some progress was made in lessening the jealousies, fears and suspicions that had impeded interstate cooperation.

The first serious division in the committees occurred at a meeting held in Santa Fe, New Mexico, on April 14-16, 1943, at which representatives of the International Boundary Commission discussed with the Committees the negotiations with Mexico for a treaty affecting the Colorado River and the Rio Grande. A formula was adopted for the division of Colorado River water between the United States and Mexico. This formula was to advise the United States representatives as to the allocation of water between the two countries. A resolution was presented relative to the retention of federal control over certain facilities to be used in making water deliveries to Mexico. California vigorously resisted both the formula and the resolution. The only state which gave any support to California was Nevada. At the same meeting another subject, that of the Arizona water contract, was raised. This also aroused California protests.

40. Act of July 17, 1940, 54 Stat. 774.

At subsequent meetings the split between California and the other states over the Mexican situation and the Arizona contract became wider. Fundamental differences, which for several years had been minimized, again were brought forth. California had by then obtained a major portion of its development. It held water contracts with the Secretary which covered not only its full allotment of 4,400,000 acre-feet under the Boulder Canyon Project Act but also 962,000 acre-feet of surplus which under the compact was not subject to division until 1963. The fundamental California purpose was to protect this development and these contracts.

The other states, which had lagged behind California in development, wished to have removed as many obstacles as possible. They deemed it highly desirable to secure ratification of the compact by Arizona so that such compact might really constitute the basic law of the river and not be the subject of future controversy with a state outside of the fold. Until Arizona ratified the compact there was the danger that Arizona would assert appropriation rights against the other basin states. Ratification by Arizona required a water contract with the Secretary of the same general type as had been entered into with the California interests. California opposed the execution of the Arizona contract. One of the primary differences involved the California denial of the Arizona claim that under the compact the so-called III (b) water represented Gila River water to be used in Arizona for the benefit of that State.

Except for California and Nevada the basin states favored a treaty with Mexico. Their theory was that until the extent of the Mexican right was defined, there could be no comprehensive

development of the river in the United States because the amount of water available for use in the United States would be unknown. California, relying on its water contracts and development, had no such incentive. A definition of the Mexican share might cast doubt on the availability of water to satisfy its contracts, because the Mexican share, under the compact, is to be satisfied first out of surplus and the California contracts cover 962,000 acre-feet of surplus water. Obviously, the ratification of the treaty would remove an objection theretofore existing to the construction of major water use projects in the other states.

Over the objections of California the Arizona contract was signed by the Secretary. Arizona by legislative act became a signatory to the compact.

In the prolonged hearings before the Senate Foreign Relations Committee California vigorously opposed the ratification of the Mexican treaty. The many controversies that developed during such hearings served to accentuate the breach between California and all the other Colorado River Basin states except Nevada, which consistently over the years has been aligned with California on Colorado River matters.

A meeting of the Committees of Fourteen and Sixteen was called for July 29, 1946 at Salt Lake City. California declined to send representatives and gave formal notice of withdrawal from the committees. The power allottees, who commonly acted together with California, joined in this action. This brought an end to the Committees of Fourteen and Sixteen.

3. The Colorado River Basin States Committee.

The representatives of the states meeting at Salt Lake City

on July 29, 1946, considered it advisable to form a new organization to take the place of the Committees of Fourteen and Sixteen. Accordingly, at that time they set up the Colorado River Basin States Committee with Judge Stone of Colorado as Chairman. California was invited to join but declined to do so. Nevada participated in the organizational meeting but thereafter withdrew from membership in the Committee. No meeting has been held since July, 1946. Another meeting is planned for the summer of 1947.

The Colorado River Basin States Committee at its first meeting considered a presentation by representatives of the Bureau of Reclamation of the Bureau's Colorado River Report. Each of the states presented comments on the report. No joint action on the report was taken.

4. The Colorado River Water Users Association.

This organization was set up during the controversy over the Mexican water treaty. It asserts that it represents the actual water users in the basin. Members are not designated by state officials. The association has held at least three meetings.

No official of the state of Colorado and no person designated by an official of the State of Colorado has participated in any meeting of this association. Former Governor Vivian declined an invitation from officers of the association to participate in its activities, saying that until so requested by Colorado water users he would take no action in regard to the association. Except for California, the claim of the association that it represents the water users of the Colorado River Basin may well be questioned.

There is suspicion that this association was promoted by California interests with a view of establishing a basin organization which would be more friendly to California views than were the Committees of Fourteen and Sixteen. It is fair comment that except for California and Nevada those active in the Colorado River Water Users Association are persons who have not been entirely in accord with the official position taken by their respective states in Colorado River matters. In other words they represent dissident factions.

5. The Six States Committee.

This organization was set up to support the ratification of the Mexican treaty. The first meeting was held at Santa Fe, New Mexico, on July 6-9, 1944. The committee was composed of representatives of the States of Arizona, Colorado, New Mexico, Utah, Texas, and Wyoming. Judge Stone of Colorado was chairman.

Under the direction of the committee vigorous action was taken to secure the ratification of the water treaty. Engineering and legal material was prepared and presented to the Senate Foreign Relations Committee. In some measure, at least, as a result of this work the Senate ratified the treaty by an overwhelming vote.

Since approval of the treaty, the committee has been inactive. Representatives of the member states have continued in an informal way to oppose attempts to nullify the treaty through legislation. Such attempts have all been instigated by California.

VIII.

THE BUREAU OF RECLAMATION REPORT ON THE COLORADO RIVER

1. Legal Background of the Report.

At the time of the execution of the Colorado River Compact it was recognized that much investigational work would have to be done before there could be any comprehensive plan for the utilization of the water of the river. The lack of knowledge of the practicability and feasibility of water use projects required that the only division of water in that compact be between the two basins. Information was not available for any more specific division, at least so far as the Upper Basin states were concerned.

The rapid progress of the California interests made the representatives of the other states alive to the necessity for an objective study of the water use possibilities in the basin. To this end there was incorporated into the Boulder Canyon Project Act the following provision^{41/}.

"The Secretary of the Interior is authorized and directed to make investigation and public reports of the feasibility of projects for irrigation, generation of electric power, and other purposes in the States of Arizona, Nevada, Colorado, New Mexico, Utah, and Wyoming for the purpose of making such information available to said States and to the Congress, and of formulating a comprehensive scheme of control and improvement and utilization of the water of the Colorado River and its tributaries. The sum of \$250,000 is hereby authorized to be appropriated from said Colorado River Dam fund, created by section 2 of this act, for such purpose."

The Boulder Canyon Project Adjustment Act^{42/} establishes the "Colorado River Development Fund" to which \$500,000 a year is to be transferred from the Colorado River Dam fund for the period

617. 41. Sec. 15, Act of Dec. 31, 1928, 45 Stat. 1057, 43 USCA

42. Act of July 19, 1940, 54 Stat. 774.

1938-1987 inclusive. Section 1 (d) provides for the use of this fund in the following manner:

"Receipts of the Colorado River Development Fund for the years of operation ending in 1938, 1939, and 1940***are authorized to be appropriated only for the continuation and extension, under the direction of the Secretary, of studies and investigations by the Bureau of Reclamation for the formulation of a comprehensive plan for the utilization of waters of the Colorado River system for irrigation, electrical power, and other purposes, in the States of the upper division and the States of the lower division, including studies of quantity and quality of water and other relevant factors. The next such receipts up to and including the receipts for the year of operation ending in 1955 are authorized to be appropriated only for and equitably distributed among the four States of the upper division. Such receipts for the years of operation ending in 1956 to 1987, inclusive, are authorized to be appropriated only for the investigation and construction of projects for such utilization in and equitably distributed among the States of the upper division and the States of the lower division. *** Such projects shall be only such as are found by the Secretary to be physically feasible, economically justified, and consistent with such formulation of a comprehensive plan. Nothing in this Act shall be construed so as to prevent the authorization and construction of any such projects prior to the completion of said plan of comprehensive development; nor shall this Act be construed as affecting the right of any State to proceed independently of this Act or its provisions with the investigation or construction of any project or projects."

Funds so authorized by the Boulder Canyon Project Adjustment Act are available for expenditure only when appropriated by Congress. Questions have been raised, principally by New Mexico, as to the equitable distribution of these investigational funds among the States.

Section 9 of the Reclamation Project Act of 1939^{43/} provides that no expenditures for the construction of a new project shall be made until the Secretary has made a report on feasibility,

43. Act of Aug. 4, 1939, 53 Stat. 1187, 43 USCA 485.

cost, and repayability^{44/} of the project.

Attention is also directed to Section 1 of the 1944 Flood Control Act^{45/} which requires the Secretary of the Interior in making investigations of and reports on works for irrigation and other purposes to submit a copy of his proposed report to the state or states in which the works or any part thereof are proposed to be located. Such submission is to the governor of the state or such official or agency of the state as the governor may designate^{46/}. Sec. 1 (a) reads in part thus:

"Such plans, proposals, or reports and related investigations shall be made to the end, among other things, of facilitating the coordination of plans for the construction and operation of the proposed works with other plans involving the waters which would be used or controlled by such proposed works."

A state has ninety days from the date of receipt of a proposed report to submit to the Secretary its written views and recommendations. The report may then be submitted to Congress but it must be accompanied by the statement of the views and recommendations of the State.

Sec. 1 (d) in part thus:

"In the event a submission of views and recommendations, made by an affected state***, sets forth objections to the plans or proposals covered by the report * * *, the proposed works shall not be deemed authorized except upon approval by an Act of Congress."

2. Brief Analysis of Report.

The Report was submitted on March 22, 1946, to the Commissioner, Bureau of Reclamation by the directors of Regions III

44. Legislation is pending before the present Congress for the amendment of Sec. 9.

45. Act of December 22, 1944, 58 Stat. 887.

46. In Colorado the Colorado Water Conservation Board has been designated by the Governor as the Agency to receive and comment upon such reports.

and IV of the Bureau of Reclamation^{47/}. Regions V and VII which include portions of Colorado east of the continental divide and to which water may be exported from the Colorado River basin did not participate in the report.

The letter of the Acting Commissioner to the Secretary dated June 6, 1946, and approved by the Acting Secretary of the Interior on June 7, 1946, states^{48/} that it is "a comprehensive report on the development of the water resources of the Colorado River Basin for irrigation, power production, flood and silt control, and other beneficial uses in the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming." The Acting Commissioner points out that there is not enough water for full expansion of existing projects and are potential projects outlined in the report and hence "the formulation of an ultimate plan of river development ***will require selection from among the possibilities for expanding existing or authorized projects as well as from among the potential new projects." Particular attention is directed to the following excerpts from the letter:

"Before such a selection for ultimate development can be made it will be necessary that, within the limits of the general allocation of water between upper basin and lower basin States set out in the Colorado River Compact, the Colorado River Basin States agree on sub-allocations of water to the individual states.

*** I hope that the Colorado River Basin States will recommend for construction, as the next stage of development, projects for which the stream flow depletions will assuredly fall within the ultimate allocation of Colorado River water which may be made to the individual States. I hope that the States of the Colorado River Basin will agree on suballocations of water

47. All references to this report are to the printed edition. As originally submitted the report was in mimeographed form.

48. Colo. River Report, p. 3.

within the limits of general allocations made by the Colorado River Compact."

In both the Acting Commissioner's letter and the Regional Directors report there are listed 134 potential projects in the Colorado River Basin^{49/}. The Regional Directors refer to such list as^{50/} "the inventory of potential projects for development of the water resources of the Colorado River Basin," and say "These within-basin potential projects considered as a group indicate in general the ultimate potentialities of future development."

An analysis discloses that the 134 projects would include 136 reservoirs with an aggregate capacity of 51,493,850 acre-feet and 38 power plants with a total installed capacity of 3,648,000 kilowatts, generating 19.4 billion kilowatt hours of energy per year.

With respect to economic justification of the projects as listed, the following statement is contained in the letter of the Acting Commissioner^{51/}:

"Estimates of the annual benefits from construction of the above potential projects have been made for illustrative purposes to show the probable economic justification of the ultimate comprehensive development. On the basis of average annual benefits and annual costs based on current prices the ratio of benefits to costs is approximately 1.00 to 1.00, which is a conservative estimate."

In the report estimates of capital costs of the individual projects are presented but estimates of annual costs and analyses as to economic justification are presented only for the group as a whole.

49. Exportation projects such as the Blue-South Platte and Gunnison-Arkansas are not included.

50. Op. Cit, p. 14.

51. Op. Cit. p. 5.

Among the conclusions stated in the Regional Directors Report are the following ^{52/} :

"68. There is not enough water available in the Colorado River system for full expansion of existing and authorized projects and for all potential projects outlined in the report, including the new possibilities for exporting water to adjacent water sheds. The need for a determination of the rights of the respective States to deplete the flow of the Colorado River consistent with the Colorado River Compact and its associated documents therefore is most pressing."

The recommendations of the Regional Directors, concurred in by the Acting Commissioner are ^{53/} :

"70. The following recommendations are made in view of the fact that there is not enough water available in the Colorado River system to permit construction of all the potential projects outlined in the report and for full expansion of existing and authorized projects, and that there has not been a final determination of the respective rights of the Colorado River Basin States to deplete the flow of the Colorado River:

(1) That the States of the Colorado River Basin acting separately or jointly, recommend for construction, as the next stage of development, a group of projects, the stream-flow depletions of which will assuredly fall within ultimate allocations of Colorado River Water which may be made to the individual States.

(2) That the States of the Colorado River Basin determine their respective rights to deplete the flow of the Colorado River consistent with the Colorado River Compact.

(3) That additional investigations, summarized below, and appropriations to the Department of the Interior for use by the various agencies within that Department for these investigations be approved.

(a) The Bureau of Reclamation to continue and expand its detailed investigations of potential projects within the States of the Colorado River Basin to obtain adequate information by which the Department of the Interior in cooperation with

52. Op. Cit. p. 21.

53. Op. Cit. pp. 3, 21.

the basin States can formulate a comprehensive plan for use of all the water resources of the basin and select and recommend projects for successive stages of development.

(b) The Geological Survey, National Park service, Fish and Wildlife Service, Grazing Service, Bureau of Mines, Office of Indian Affairs, and General Land Office to initiate or continue to conduct such investigations and studies as required by the Secretary of the Interior to formulate and carry out the comprehensive plan."

The report contains a mass of "substantiating material."

The potential projects are considered under the heading "Using the Water." The Upper Basin is separated into three divisions, viz: the Green, the Grand, and the San Juan. The Lower Basin is treated under four divisions, viz: the Little Colorado, the Virgin, the Boulder, and the Gila.

The following tables summarize the information for the Upper Basin:

54/

Present Irrigated areas in the Upper Basin

Division	Acres irrigated					Total
	Arizona	Colorado	New Mexico	Utah	Wyoming	
Green.....	.....	105,870	.....	229,120	247,540	582,530
Grand .....	.....	564,670	.....	8,000	.....	572,670
San Juan	6,000	132,300	38,000	37,700	.....	214,000
Total.....	6,000	802,840	38,000	274,820	247,540	1,369,200

54. Table LXX Op. cit. p. 150.

Present hydroelectric generating capacity in the Upper Basin^{55/}

Division	Present installed capacity (kilowatts)					Total
	Arizona	Colorado	New Mexico	Utah	Wyoming	
Green.....	200	.....	2,050	150	2,400
Grand.....	49,667	.....	50	.....	49,717
San Juan.....	4,650	280	170	.....	5,100
Total.....	54,517	280	2,270	150	57,217

55. Table LXXI Op. cit. p. 151.

Potential development of water resources in the Upper Basin ^{56/}

State and division	<u>Acres to be irrigated</u>		<u>Power plants</u>		
	<u>New land</u>	<u>Furnished supplemental water</u>	<u>Installed capacity (kilowatt-hours)</u>	<u>Annual firm generation (kilowatt-hours)</u>	<u>Estimated construction cost</u>
Arizona: San Juan	18,680	6,000	400,000	2,188,000,000	\$65,628,000
Colorado:					
Green.....	197,800	30,360	170,500	944,000,000	96,300,000
Grand.....	135,300	158,270	88,000	453,000,000	57,232,000
San Juan.....	110,960	37,920	67,000	264,000,000	69,227,000
Subtotal.....	<u>444,060</u>	<u>226,550</u>	<u>325,500</u>	<u>1,661,000,000</u>	<u>222,759,000</u>
New Mexico: San Juan	224,960	15,100	0	0	76,882,000
Utah:					
Green.....	150,520	145,010	288,000	1,579,000,000	116,500,000
Grand.....	88,700	1,950	200,000	1,141,000,000	80,975,000
San Juan.....	12,560	14,200	498,000	2,663,000,000	150,298,000
Subtotal.....	<u>251,780</u>	<u>161,160</u>	<u>986,000</u>	<u>5,383,000,000</u>	<u>347,773,000</u>
Wyoming: Green.....	291,330	95,360	1,500	9,000,000	47,100,000
Transmission grid...	<u>.....</u>	<u>.....</u>	<u>.....</u>	<u>.....</u>	<u>170,000,000</u>
Total.....	1,230,810	504,170	1,713,000	9,241,000,000	930,142,000

57/

Present and potential stream depletion in Upper Basin

Estimated average annual depletion (acre-feet)

Existing or authorized projects

	<u>Present depletion</u>		<u>Future increase</u>		<u>Potential projects</u>		<u>Total ultimate depletion</u>
	<u>Consumed in basin</u>	<u>Exported</u>	<u>Consumed in basin</u>	<u>Exported</u>	<u>Consumed in basin</u>	<u>Exported</u>	
Arizona: San Juan...	10,200	0	0	0	39,000	0	49,200
Colorado:							
Green.....	115,000	0	0	0	324,000	75,000	514,000
Grand.....	776,000	98,300	65,000	421,000	295,000	1,492,000	3,147,300
San Juan.....	238,000	4,000	0	21,000	251,000	85,000	599,000
Subtotal.....	<u>1,129,000</u>	<u>102,300</u>	<u>65,000</u>	<u>442,000</u>	<u>870,000</u>	<u>1,652,000</u>	<u>4,260,300</u>
New Mexico: San Juan	68,400	0	0	0	450,000	0	518,400
Utah:							
Green.....	358,000	81,500	0	32,000	264,000	975,700	1,711,200
Grand.....	13,000	0	0	0	186,000	0	199,000
San Juan.....	63,000	0	0	0	30,000	7,000	100,400
Subtotal.....	<u>434,400</u>	<u>81,500</u>	<u>0</u>	<u>32,000</u>	<u>480,000</u>	<u>982,700</u>	<u>2,010,600</u>
Wyoming: Green.....	374,000	0	17,000	0	489,000	87,000	967,000
Evaporation from power reservoirs. ....	.....	.....	.....	.....	831,000	.....	831,000
Reserved for pas- ture irrigation.. ..	.....	.....	.....	.....	500,000	.....	500,000
Total	<u>2,016,000</u>	<u>183,800</u>	<u>82,000</u>	<u>474,000</u>	<u>3,659,000</u>	<u>2,721,700</u>	<u>9,136,500</u>

In connection with the last table attention is directed to the summary of potential export diversions from the Grand Division^{58/} :

Potential Export Diversions from the Grand division¹

Exporting Stream	:	Importing basin	:	Estimated Average annual amount available for export (acre-feet)
Colorado River above Gunnison River	:	South Platte	:	500,000
Do - - - - -	:	Arkansas	:	139,000
Gunnison River - - -	:	Do	:	840,000
Do - - - - -	:	Rio Grande	:	13,000
Total - - - - -	:		:	-1,492,000

1. For use in Colorado outside Colorado River Basin.

58. Table LIV. Op. Cit. p. 138

Similar tables are presented for the Lower Basin^{59/}.

They show among other things a total ultimate depletion in the Lower Basin of 11,060,700 acre-feet.

It is stated in the report that the 134 projects would furnish an irrigation supply for 1,533,960 acres of new land and a supplemental supply for 1,122,270 acres of presently irrigated lands. Of these projects, 100 are listed under "Upper Basin", with an estimated total cost of \$1,216,227,200, and 34 are listed under "Lower Basin" with an estimated aggregate cost of \$1,701,120,000^{60/}.

The report is an impressive indication of the tremendous amount of investigational work which must be done in order to plan the development of a great river system. It is unfortunate that as yet sufficient work has not been done to make available complete information as to the engineering and economic feasibility of particular projects. The report must be considered as an inventory of projects, not as a comprehensive plan of development. The report contains inconsistencies. Some of its assumptions and conclusions are unsound. These will be considered briefly in a discussion of the views and recommendations of the States.

Upon the submission by the Bureau of the report to the States in accordance with Section 1 of the 1944 Flood Control Act, individual, not joint, comments were made by the respective states. Of such comments only those of California and Colorado are reviewed herein.

59. Tables CXIV-CXVII, Op. Cit. pp. 183-184.

60. Op. cit. pp. 5, 15.

3. Comments on Report by State of Colorado

The Colorado Water Conservation Board was designated by the Governor to submit the views and recommendations of the State of Colorado on the Report. The Colorado comments were transmitted to the Secretary of the Interior on December 17, 1946.

The Colorado officials submitted the following summary of the views and recommendations of the State:

"1. The Report improperly treats the Upper Basin differently from the Lower Basin in the following particulars:

"(a) It includes areas located outside the natural basin of the river but within the states of the Lower Basin which are now or shall hereafter be beneficially served by water diverted from the Colorado River System and at the same time excludes similar areas in states of the Upper Basin;

"(b) It ignores the allocations of water made by the Colorado River Compact, the provisions of the Boulder Canyon Project Act and the California Self-Limitation Act, and contemplates increased uses of water by existing projects and additional uses of water by projects yet to be constructed, contrary to the provisions of the Compact and the above mentioned statutes;

"(c) In estimating available water supplies and depletions it utilizes methods in the Lower Basin which differ from those applied to the Upper Basin.

"2. By failing to interpret and construe the contracts between the Secretary of the Interior and the states and water users of the Lower Basin for the delivery of water from Lake Mead, the Report engenders further interstate controversy in that:

"(a) It endeavors to impose upon the states the burden of interpreting, construing and applying these contracts;

"(b) It fails to disclose that any 'Surplus' water delivered to California water users under these contracts is not firm water since surplus water as defined under the Compact may not be apportioned between the two basins by interstate compact before 1963;

"(c) It fails to disclose that the aggregate amounts of water for delivery to the states and water users of the Lower Basin from Lake Mead under the contracts are inconsistent with the allocations of water made to the Lower

Basin by the Colorado River Compact, because in the contracts with Arizona and Nevada recognition is made of reservoir and channel conveyance losses while in contracts with California water users such losses are ignored.

"3. The Report is inconsistent in that water supplies for existing and potential projects for the diversion of water from the natural basin of the Colorado River for use in other basins in Colorado are estimated as sums or totals from one basin to another, whereas in other states of the Upper Basin the estimates include descriptions of individual projects.

"4. The Report is misleading and inconsistent in that it lists individual projects and presents estimates of construction costs, benefits to the Nation, and collectible revenues based upon the assumption that all of such projects will be constructed and operated to the limits of their ultimate capacities. At the same time the Report concludes that inadequate water supplies will prohibit the construction of some of these projects. Thus in the total figures for costs, returns and benefits, consideration is given to projects which cannot be constructed.

"5. The Report is unsound in that it fails to give consideration to the desirability and feasibility of individual projects and thus fails to furnish any true and usable guide for a development program.

"6. The Report is unsound in that it attempts to present a comprehensive development plan, but ignores the elementary fact that the desired orderly development will result from the construction from time to time of individual projects which upon full and complete investigation prove to be feasible, justified and needed and which will be desired by local beneficiaries after their repayment obligations are known.

"7. The Report is unsound in recommending that all seven of the states of the Colorado River Basin jointly agree upon a determination of their respective rights to deplete the flow of the Colorado River before major development may proceed. The Colorado River Compact apportions water between the Upper Basin and the Lower Basin. Neither basin is concerned with the apportionment between states of the share allocated to the other basin and neither basin should be restricted or delayed in its development by the failure of the other basin states to divide the water apportioned to that basin by the Colorado River Compact. Colorado recognizes the desirability of an allocation of water to the individual states comprising the Upper Basin. While it is true that compact negotiations are in progress among the states of the Upper Basin and that the construction of additional major projects should await allocation of water to the states, there are projects which

will assuredly use water falling well within the equitable share of the state where located and which should not be made to await any final allocation of water.

"8. The Report is unsound in implying that each individual state should allocate water to specific projects within such state. Colorado adheres to the appropriation doctrine of water law and thereunder water users are entitled to water in accordance with the priority of their individual appropriations. Any change in such system in Colorado will require a constitutional amendment.

"9. The Report is unsound in that it recommends that the states approve projects for the so-called initial stage of development without there being available at the same time adequate data and information for the determination of the desirability, economic feasibility or probability of authorization and construction of individual projects. Only in instances where detailed investigations are completed and individual project reports are available can there be a worthwhile selection of any projects.

"10. The Report is unsound in that it contemplates a general group authorization of projects for construction rather than a specific authorization of individual projects."

In response to the request in the report that the states

list for immediate construction projects, the stream depletion from which would assuredly fall within the share of the state, Colorado listed the following projects:

- (a) Paonia
- (b) Pine River Extension
- (c) La Plata
- (d) Florida
- (e) Dolores
- (f) Silt
- (g) Collbran
- (h) Little Snake

Colorado further requested the prompt investigation of four specific projects recommended by the Southwestern Water Conservation District.

Colorado recommended that the report in its present form should not be submitted to Congress.

4. Comments on Report by State of California.

In California the Governor referred the report to the Division of Water Resources of the Department of Public Works. The review by that agency was submitted to the Secretary of the Interior under date of February 28, 1947.

In view of the important position occupied by California in Colorado River Basin matters, its views and recommendations should be carefully considered. Accordingly the conclusions and recommendations of that state are set out at length.

"1. It is recommended that, since the proposed report of the Secretary of the Interior is only a preliminary progress report and does not constitute a basis for the authorization of any new project therein mentioned, no such project be authorized until hereafter reported upon in accordance with Section 9 of the Reclamation Project Act of 1939, and with opportunity to the affected States to submit comments pursuant to the Flood Control Act, 1944, approved December 22, 1944 (59 Stat. 887).

"2. In response to recommendation (2) set forth in paragraph 70 of the Regional Directors' report, which suggests a determination of rights, it is recommended that negotiations be initiated forthwith among the States of the Lower Basin, acting through their respective Governors, for the purpose of determining the rights of each of the States of the Lower Basin to the use of the waters of the Colorado River System, in accordance with the Colorado River Compact, the Boulder Canyon Project Act, and relevant statutes, decisions, and instruments.

"3. In response to recommendation (1) set forth in paragraph 70 of the Regional Directors' report, which invites submission of projects for construction, it is recommended:

"A. That an immediate and intensive investigation and study be made and reported upon by the Bureau of Reclamation, in cooperation with interested agencies, concerning possible hydroelectric projects upstream from Lake Mead on the Colorado River with a view to authorization and construction at the earliest practicable date; provided, it be found that such projects are of non-consumptive use character, are feasible from engineering and economic

standpoints, are consistent with the primary purpose of furnishing water supplies for domestic and irrigation uses in accordance with the Colorado River Compact, and will not be inconsistent with a comprehensive plan for progressive development of the Colorado River System.

"B. That no new consumptive use projects in the Lower Basin be authorized until a determination has been made of the rights of each State of the Lower Basin to the use of the waters of the Colorado River System, in accordance with the Colorado River Compact, the Boulder Canyon Project Act, and relevant statutes, decisions, and instruments.

"C. That prior to determination of the allocations of the waters of the Colorado River System among the States of the Upper Basin, new consumptive use projects in that Basin be authorized, under the following conditions:

"(a) That the consumptive use of each project be assuredly within such water allocation as is considered to be minimum for the State for which the project is to be constructed, after due allowance for all existing and authorized projects;

"(b) That, concurrently with the construction of any new projects in the Upper Basin which involve large additional use of water, hold-over storage capacity be provided in that Basin, to such extent as may be required to assure that the flow of the river at Lee Ferry will not be depleted below that required by Article III (d) of the Compact.

"4. It is recommended that the seven Basin States, acting through their respective Governors, proceed to negotiate and enter into an agreement for the implementation of Article III (d) of the Compact.

"5. It is recommended that the All-American Canal project and the San Diego Aqueduct, which are now under construction, be completed without delay.

"6. It is recommended that, in any allocation of the waters of the Colorado River System, the established water rights of existing and authorized projects be at all times recognized and protected.

"7. It is recommended that, in determining whether any project shall be authorized for construction, the following economic criteria be followed:

"(a) Costs allocated to flood control, navigation, and propagation of fish and wildlife be nonreimbursable;

"(b) Costs allocated to irrigation be repayable within 40 years (exclusive of the permissible development period), without interest;

"(c) Costs allocated to hydroelectric power be repayable within 50 years with interest;

"(d) Costs allocated to municipal water supply and other miscellaneous purposes be repayable in a period not to exceed 40 years, with interest if determined to be proper; and

"(e) The sums required under (b), (c), and (d), based upon findings of the Federal Government, will probably be repaid to the United States within the times specified.

"8. It is recommended that the procedure followed in the proposed report, of purporting to show economic feasibility of each of a large group of projects by the pooling of estimates of annual costs and benefits of the group as a whole, be disapproved as unsound, in that the benefit-cost ratio, as applied, is fallacious and the estimates presented as to the entire group of projects do not justify any individual project; and that each new project be reported upon individually as to need, engineering and economic feasibility and permanency of the development; and that the views and recommendations of the affected States be obtained thereon before submission to the Congress for approval as required by the Flood Control Act, 1944.

"9. It is recommended that additional investigation and studies on the Colorado River System be diligently prosecuted and reported on by the Department of Interior and other Federal agencies concerned, in cooperation with the States of the Basin, and that appropriations be authorized in amounts adequate for that purpose; and that, in particular, such investigations and studies include adequate coverage of (a) water supplies at point of use for individual projects, on the basis of critical drought periods; (b) water requirements of individual projects on the basis of consumptive use and not on the basis of main-stream depletion; (c) project and reservoir operations; (d) silt and its control and prevention; (e) present and future quality of water; and (f) financial analysis of individual projects; and to that end the State of California will cooperate with the Department of the Interior in the investigation and planning of projects contemplating use of waters of the Colorado River System in order to assist in the formulation of a comprehensive plan, founded upon sound principles of engineering and economics, for the full development of the water resources of the Colorado River System."

A careful reading of the foregoing indicates the matters on which disagreement may prevail between California and other basin states. Later herein consideration will be given to some of these matters.

5. Present Status of Report.

On July 19, 1947, the Secretary of the Interior transmitted the report, together with the comments of the states, the Federal Power Commission, the Secretary of War and the Secretary of Agriculture to the President through the Bureau of the Budget. The letter of transmittal reads in part as follows:

"As stated in the accompanying letter from the Commissioner of Reclamation to me dated July 17, 1947, which I have approved and adopted, due to existing circumstances a comprehensive plan of development of the water resources of the Colorado River Basin cannot be formulated at this time. Accordingly, although I cannot recommend authorization of any projects at this time, I am sending the accompanying inventory report forward in order that you and the Congress may be apprized of this comprehensive inventory of potential water resource development in the Colorado River Basin, and of the present situation regarding water rights in the Colorado River Basin."

Copies of the report as transmitted have not yet been made available for study and may not be available until printed as a Senate or House Document.

In the Department of Interior press release on the report it is stated that:

"With the interim report, Secretary Krug transmitted to the Congress his conclusions that:

'A comprehensive plan of development for the Colorado River Basin cannot be formulated at this time;

'Further development of the water resources of the Colorado River Basin, particularly large scale development, is seriously handicapped, if not barred, by lack of a determination of the rights of the individual States to utilize the waters of the Colorado River System. The water supplies for projects to accomplish such development might be assured as a result of compact among the States of the separate basins, appropriate court or Congressional action, or otherwise;

'The States of the Upper Colorado River Basin and the States of the Lower Colorado River Basin should be encouraged to proceed expeditiously to determine their respective rights to the waters of the Colorado River consistent with the Colorado River Compact;

'Construction costs allocated to silt control, re-creation, salinity control, and administration of the Mexican Treaty, and similar purposes, should be non-reimbursable.'

The press release further states:

"The several documents bearing upon the water-right situation -- the Colorado River Compact, the Boulder Canyon Project Act, the California Self-Limitation Act, the various contracts for the delivery of water from Lake Mead, and the Mexican Treaty -- are, in important particulars, variously interpreted by the States.' the report signed by Reclamation Commissioner Michael W. Strauss and approved by the Secretary stated.

'In the realization that it was not within the scope or authority of the report to attempt to decide such controversial questions, a deliberate effort was made in its preparation to avoid any interpretation of these documents.'

The letter of the Director of the Budget acknowledging receipt of the report reads thus:

"I have received your letter of July 19, 1947, addressed to the President enclosing your proposed interim report to the Congress on the status of the investigation of the Colorado River Basin authorized to be made by section 15 of the Boulder Canyon Project Act and section 1 of the Boulder Canyon Project Adjustment Act. It is noted that your report does not recommend the authorization of any projects at this time, but rather comprises a comprehensive inventory of potential water resource developments in the basin. Acting under authority of the President's directive of July 2, 1946, I am able to advise you that there would be no objection to submission of the proposed interim report to the Congress, but that the authorization of any of the projects inventoried in your report should not be considered to be in accord with the program of the President until a determination is made of the rights of the individual States to utilize the waters of the Colorado River System." (emphasis supplied)

The statements by the Bureau, the Secretary, and the Director of the Budget on the following points should be particularly noted:

1. The report is an inventory of projects - not a comprehensive plan of development.
2. The water supply is insufficient to satisfy all inventoried projects.

3. No position is taken in regard to the interpretation and application of the various documents bearing on the water right situation.

4. Pending agreements between the states as to the allocation of water, the authorization of new projects is not "in accord with the program of the President."

Serious objection may well be made to No. 4. There seems to be no logical reason for opposing the authorization and construction of projects the water supply of which assuredly falls within the equitable share of the state in which the project is located.

IX.

PROPOSED UPPER BASIN COMPACT

1. Early Negotiations.

The problem of the allocation of the water apportioned to the Upper Basin by Article III (a) of the Colorado River Compact among the states has been the subject of discussion ever since the ratification of that compact.

On June 29 and 30, 1934, a conference was held in Denver of representatives of Colorado, New Mexico, Utah and Wyoming and of the Bureau of Reclamation. The following action was taken with reference to an Upper Basin compact:

"We favor the negotiation of an Interstate Compact among the four upper states of the Colorado River Basin at the earliest possible date. In the meantime it is our belief that each state should go ahead with its development without objection by other states, as contemplated by the Colorado River Compact, unless the development, in addition to already existing water uses, would, in the opinion of such other states or any of them, be considered as approaching too nearly the equitable share of water that under compact might eventually be apportioned to such state out of the waters involved."

Thereafter the Upper Basin states cooperated in many matters but no formal attempt to secure the negotiation of a compact was made until by letter of January 19, 1945, addressed to the governors of Colorado, New Mexico, and Utah, the governor of Wyoming stated:

"***I respectfully request the Governors of the States of the Upper Basin, as provided by Article VI of the Colorado River Compact, to forthwith appoint commissioners with power to consider and divide the 7,500,000 acre-feet of water per year apportioned to the Upper Basin of the Colorado River by Article III (a) of the Colorado River Compact, subject to ratification by the legislatures of the states affected."

This request was referred to the Colorado Water Conservation Board which took the following action as shown by minutes of its meeting of March 27, 1945:

"3. That it is the opinion of the Board that there is not now available sufficient information with respect to proposed utilization of Colorado River water supplies to warrant immediately the initiation of compact negotiations, and that in the interests of the State of Colorado and for the preservation of its equitable share of the waters of the Colorado River it would not be safe for the State to proceed to adjust potential controversies between the states upon existing information arbitrarily and without sufficient factual information with respect to water supplies, proposed project development and the effect of such development upon obligations at Lee Ferry.

"4. That the initiation of compact negotiations at this time may precipitate controversies which cannot be safely adjusted in the absence of sufficient information and have the effect of destroying the unanimity of action within the Upper Basin concerning the Colorado River Basin, the adjustment of problems therein and the maintaining of the proper relations between the Upper and Lower Basins.

"5. It is the view of the Board that because of the present amicable relations existing between Colorado and Wyoming it would be inappropriate at this time to submit a written reply to Governor Hunt.

"Accordingly the Board respectfully recommends that H. Lawrence Hinkley, Attorney General of Colorado, and Clifford H. Stone, Director of the Colorado Water Conservation Board, personally discuss this matter with Governor Hunt for the purpose of conveying the views of the State

of Colorado in this matter, to the end that Wyoming's request may be withdrawn and compact negotiations be postponed for the present."

The conference with the Wyoming governor was held at Cheyenne on July 23, 1945. The following is the report thereon as it appears in the minutes of the Colorado Water Conservation Board meeting of September 13, 1945:

"The Director reported that it had been concluded at the conference that Wyoming would not press her compact request at the present time, but that as soon as the report on the plan for the comprehensive development of the Colorado River Basin, now under preparation by the Bureau of Reclamation, was made available and studied, Governor Hunt would call a meeting of the governors and water officials of the four Upper basin States for the purpose of setting up an upper Colorado River Basin States Committee to exchange information and discuss problems incident to Water development. This would be a preliminary step to possible initiation of compact negotiations sometime in the future."

On June 11, 1946, two days after the approval of the Bureau's Colorado River Report by the Acting Secretary of the Interior, the Governor of Wyoming called a meeting of the Governors of the Upper Basin States at Cheyenne, Wyoming. Colorado declined to follow the procedure suggested, but did agree to attend a meeting at Cheyenne on July 22, 1946.

Wyoming, without conferring with the other states, requested the President of the United States to appoint a Federal Representative to act in the negotiation of an Upper Basin compact and suggested for such office Leshar S. Wing, engineer for the Federal Power Commission. After this situation had been called to the attention of the other states, President Truman on July 17, 1946 appointed Harry W. Bashore, formerly Commissioner of Reclamation, as Federal Representative.

On July 2, 1946, the governor of Colorado appointed Clifford H. Stone, Director of the Colorado Water Conservation Board

"to represent the State of Colorado upon a joint commission composed of commissioners representing the States of the Upper Basin of the Colorado River for the purpose of making and entering into a compact respecting the waters of the Colorado River and its tributaries above Lee Ferry, Arizona^{61/}." This appointment was approved by the Colorado Water Conservation Board at a meeting held on July 21, 1946.

Consideration must be given to the legal authorization for the compact negotiations. Wyoming has asserted that it was proceeding under Article VI of the Compact which reads thus:

"Should any claim or controversy arise between any two or more of the signatory states: (a) With respect to the waters of the Colorado River system not covered by the terms of this compact; (b) over the meaning or performance of any of the terms of this compact; (c) as to the allocation of the burdens incident to the performance of any article of this compact or the delivery of waters as herein provided; (d) as to the construction or operation of works within the Colorado River Basin to be situated in two or more States, or to be constructed in one State for the benefit of another State; or (e) as to the diversion of water in one State for the benefit of another State, the governors of the States affected upon the request of one of them, shall forthwith appoint commissioners with power to consider and adjust such claim or controversy, subject to ratification by the legislatures of the States so affected.

"Nothing herein contained shall prevent the adjustment of any such claim or controversy by any present method or by direct future legislative action of the interested States."

The Presidential appointment of the Federal Representative states that the action is taken pursuant to the Boulder Canyon Project Act, Section 19 of which provides:

That the consent of Congress is hereby given to the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming to negotiate and enter into compacts or

61. This action was taken pursuant to Sec. 9, Chap. 265, Colo. S. L. 1937.

agreements, supplemental to and in conformity with the Colorado River compact and consistent with this act for a comprehensive plan for the development of the Colorado River and providing for the storage, diversion, and use of the waters of said river. Any such compact or agreement may provide for the construction of dams, headworks, and other diversion works or structures for flood control; reclamation, improvement of navigation, division of water, or other purposes and/or the construction of power houses or other structures for the purpose of the development of water power and the financing of the same; and for such purposes may authorize the creation of interstate commissions and/or the creation of corporation, authorities, or other instrumentalities.

"(a) Such consent is given upon condition that a representative of the United States, to be appointed by the President, shall participate in the negotiations and shall make report to Congress of the proceedings and of any compact or agreement entered into.

"(b) No such compact or agreement shall be binding or obligatory upon any of such States unless and until it has been approved by the legislature of each of such States and by the Congress of the United States."

Colorado has formally taken the position that the compact negotiations are taken pursuant to the inherent power of the states under the Constitution of the United States to enter into compacts with the consent of Congress. Colorado has declined to recognize that any controversy exists which might give effect to Article VI of the compact. Colorado has refused to proceed under Section 19 of the Project Act because some attorneys construe that section as requiring action by all seven basin states in order for there to be a compact.

There are adequate precedents for the Colorado position that no permissive act of Congress is required for states to enter into compact negotiations ^{62/}.

62. See Colorado Water Conservation Board memorandum regarding proposed interstate compact negotiations between states of the Upper Basin of the Colorado River.

It must be remembered that Arizona is a state of the Upper Basin and as such entitled to participate in the apportionment of water allotted to the Upper Basin by Article III (a) of the Colorado River Compact. However, Arizona is not a state of the Upper Division and hence is under no obligation to contribute to the maintenance of the required flows at Lee Ferry.

2. Proceedings of the Upper Colorado River Basin Compact Commission.

A preliminary meeting was held in Cheyenne, Wyoming. No progress could be then made because of the failure of New Mexico and Arizona to designate compact commissioners. To expedite action those present chose Federal Representative Bashore as chairman and Grover Giles, attorney-general of Utah, as secretary. The name of "Upper Colorado River Basin Compact Commission" was adopted.

The first regular meeting of the commission was held at Salt Lake City, Utah, on July 31, 1946. Credentials of the commissioners were presented and received. The personnel of the commission was as follows:

United States	-	Harry W. Bashore
Arizona	-	Charles A. Carson
Colorado	-	Clifford H. Stone
New Mexico	-	Thomas M. McClure
Utah	-	Edward C. Watson
Wyoming	-	L. C. Bishop

The preliminary actions taken at the Cheyenne meeting were approved. Arrangements were perfected for the reporting of the proceedings and the preparation of a permanent record.

At this meeting, and at subsequent meetings, it was evident that Utah and Wyoming were anxious to obtain a compact at the earliest possible moment and relied, for the necessary factual data, almost entirely on the Bureau of Reclamation's Colorado River report. Colorado believed that this source of factual

material was inadequate for compact purposes and was insistent that an agreement as to the obligations to contribute to water deliveries at Lee Ferry was of equal importance with the apportionment of III (a) water.

The procedure under which the negotiations were being conducted was clarified by the following motion made by Commissioner Stone and unanimously adopted:

"I make the motion that the record show that the five states of Arizona, Utah, Wyoming, New Mexico and Colorado are proceeding to negotiate a compact for the apportionment of the waters of the Upper Basin of the Colorado and for the purpose of determining obligations at Lee Ferry of the respective states under the Colorado River Compact, under their authority to compact as sovereign states."

Commissioner McClure made the following motion which was unanimously adopted:

"I move that this Commission set up an engineering advisory committee consisting of one engineer from each state and the federal Representative's engineer; that these engineers meet between now and the next meeting of this Commission with an agreed program to present to the Commission for adoption, an engineering study of data on the record."

The second meeting of the commission was held at Santa Fe, New Mexico, on September 17-18, 1946.

Commissioner Carson made the following statement of the position of Arizona:

"Arizona has about sixty-six hundred square miles in the Upper Basin. Under the Compact that part of Arizona which is in the Upper Basin is entitled to share in the waters of the River apportioned to the Upper Basin. However, it does not share in the obligation to deliver at Lee Ferry. We have had engineers go out to that part of the state. Most of it is an Indian reservation, but they report that it isn't possible to divert water on that portion of Arizona that is in the Upper Basin from either the main stream of the Colorado River or the San Juan River. Therefore I have prepared this short statement:

'There is hereby apportioned to the State of Arizona for beneficial consumptive use in that part of Arizona

which is in the Upper Basin, as defined in the Colorado River Compact, all of the water precipitated thereon, and in addition thereto 1000 acre-feet from the Paria River.'

The Paria River rises in Utah and flows through Arizona into the Colorado River just above Lee Ferry . There is very little use of water in that area; one dude ranch and there is possibility of other dude ranches, so 1000 acre-feet from the Paria River would be ample. Arizona is a lower basin state and very much interested in its rights as a lower basin state, more so than its rights as an Upper Basin State."

Arizona joins in these negotiations for the purpose of the allocation between the States of the Upper Basin of the use of water apportioned to the Upper Basin by the Colorado River Compact, and any Upper Basin Compact is without prejudice to any contention Arizona as a Lower Basin State may desire to make concerning the interpretation or construction of the Colorado River Compact, the Boulder Canyon Project Act, such Upper Basin Compact or any other agreement, or statute heretofore or hereafter made or enacted, or the proper definition of terms thereof, or the applicability thereof, and is without prejudice to Arizona's rights as such Lower Basin State to require delivery by each of the other States, parties to such Upper Basin Compact, jointly and severally, of the quantities of water they jointly are obligated to deliver at Lee Ferry under the terms of the Colorado River Compact."

That, I think completely clarifies Arizona's rights and position.

The Paria River rises in Utah on the west side of the Colorado River. There is only about eighteen to twenty thousand acre-feet annual discharge of the Paria River. In Arizona we have one dude ranch which has about one hundred acres under cultivation. There are possibilities of other dude ranches on that stream. That is about all we could ever use."

The engineering committee reported through its chairman,

J. R. Riter, the engineering advisor of the Federal Representative. It recommended that certain specified studies having to do with the sources and amounts of stream flows be undertaken. The Commission unanimously agreed to the formation of a permanent engineering committee to undertake the studies which had been recommended. The following persons were appointed to membership on such committee:

Arizona:	R. Gail Baker
Colorado:	C. L. Patterson R. J. Tipton Frank C. Merriell
New Mexico:	John H. Bliss
Utah:	Fred W. Cottrell
Wyoming:	H. T. Person
United States:	J. R. Riter

For the guidance of the committee, a program of engineering studies was agreed upon.

The third regular meeting of the Compact Commission consisted of a series of field meetings held at Rock Springs, Wyoming, on October 28, 1946, at Grand Junction, Colorado, on October 30, 1946, at Price, Utah on October 31, 1946, and at Farmington, New Mexico on November 2, 1946. These meetings were to acquaint the people with the work of the commission and to hear statements as to the needs and wishes of the actual water users.

At an executive session held in Farmington a Legal Advisory Committee was created with the following members:

Arizona	- Charles A. Carson, Chairman of Committee
Colorado	- Jean S. Breitenstein
New Mexico	- Fred E. Wilson
Utah	- William W. Ray .
Wyoming	- Louis J. O'Marr
United States	- J. G. Will

In November, 1946 the New Mexico Commissioner Thomas M. McClure died. He was succeeded by Fred E. Wilson.

The Engineering Committee has held frequent meetings and is accumulating the factual material necessary to the formulation

of a compact. The Commission does not contemplate another meeting until the Engineering Committee is ready to report. It is now expected that this report will be ready in September, 1947, and in any event no later than October, 1947.

X

PROPOSED LOWER BASIN COMPACT

The report of the Bureau of Reclamation recommends a division of the water allotted to the Lower Basin among the states comprising that basin. It is understood that California has proposed a meeting of representatives of the Lower Basin States for the purpose of attempting to arrive at an agreement on the division of water and that this proposal was not accepted by either Arizona or Nevada. It has been reported that Arizona took the position that the III (b) water was for Arizona use out of the Gila and that the III (a) water was already divided by the contracts between the various interests and the Secretary of the Interior. The Nevada position is said to be that the matter may only be settled by litigation.

In this connection it is noteworthy that in its comments on the report the state of California recommended that ^{63/}:

"No new consumptive use projects in the Lower Basin be authorized until a determination has been made of the rights of each State of the Lower Basin to the use of the waters of the Colorado River System, in accordance with the Colorado River Compact, the Boulder Canyon Project Act, and relevant statutes, decisions, and instruments."

Arizona representatives take the position that the water has already been divided among the states of the Lower Basin. Their position is that the III (b) water under the Compact is

63. Calif. comments on Colo. River report, p. 99.

that of the Gila River and Arizona has the right to the use thereof. As to the III (a) water, they contend that it is now effectually divided by the Boulder Canyon Project Act, the California Self-Limitation Act and the water contracts of the Secretary of the Interior.

Sec. 4 (a) of the Project Act authorizes the states of Arizona, California and Nevada to enter into a compact apportioning the III (a) water 4,400,000 acre-feet and one-half the surplus to California, 2,800,000 acre-feet and one-half the surplus to Arizona, and 300,000 acre-feet to Nevada. The same section makes the compact effective upon the ratification by six states, including California, and the agreement by California that

"the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this act and all water necessary for the supply of any rights which may exist, shall not exceed four million four hundred thousand acre-feet of the waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact, plus not more than one-half of any excess or surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact."

Parts of Utah and New Mexico are in the Lower Basin.

While the shares of these states have not been fixed by agreements, the Colorado River Report of the Bureau of Reclamation^{64/} presents the ultimate depletion by the Lower Basin portions of these states as follows:

New Mexico - - -	37,000	acre-feet (16,000 acre-feet in Upper Gila water-shed)
Utah - - - - -	101,300	acre-feet
Total	138,300	acre-feet

64. Colo. River report, p. 184.

Paragraph 7 (g) of the Arizona contract with the Secretary of the Interior reads thus:

"(g) Arizona recognizes the rights of New Mexico and Utah to equitable shares of the water apportioned by the Colorado River Compact to the Lower Basin and also water unapportioned by such compact, and nothing contained in this contract shall prejudice such rights."

The formidable obstacle to the negotiation of a Lower Basin Compact is the controversy over the III (b) water. Under present conditions it seems likely that this dispute will ultimately have to be settled by litigation.

XI.

THE SITUATION AS TO EXPORTATIONS FROM THE BASIN IN COLORADO

The differences of opinion which have arisen from time to time between the east slope and west slope interests in Colorado are well known. The principal questions which have heretofore arisen have developed from the projects of the City of Denver for the use of West slope water, from the Colorado-Big Thompson project, and from the proposed Blue-South Platte and Gunnison-Arkansas transmountain diversions.

Many conferences have been held between the representatives of the two slopes. An outstanding example of cooperation for the development of the water resource is that of the agreement which preceded the authorization of the Colorado-Big Thompson project. Such agreement is incorporated in what is known as Senate Document 80^{65/}. Therein it is provided that, among other things, "to preserve the vested and future rights in irrigation" there shall be constructed the Green Mountain reservoir with a capacity of

65. 75th Congress, First Session.

152,000 acre-feet, of which capacity 52,000 acre-feet "shall be available as replacement in western Colorado." The document states that "assuming full development had taken place in the Colorado River Basin and that the Big Thompson project had been in operation the last 35 years" the shortage in the lowest run-off of record would have been 53,000 acre-feet and "accordingly 50,000 acre-feet of Green Mountain storage have been allocated to replacement purposes." The remaining 100,000 acre-feet is to be so released as to maintain a flow of 1,250 second feet at Shoshone during the period April 15 to October 15. The maintenance of such a flow at Shoshone assures an adequate supply to satisfy the rights in the Grand Junction area.

Article 27 of the contract between the Secretary of the interior and the Northern Colorado Water Conservancy District relating to the Colorado-Big Thompson project provides:

"27. It is understood and agreed that the Project will be constructed and operated and maintained by the United States and the District so that the interests of the WESTERN SLOPE OF THE CONTINENTAL DIVIDE IN COLORADO will be protected in respect to the several matters and in the manner outlined under the heading 'Manner of Operation of Project Facilities and Auxiliary Features' in Senate Document No. 80 of the First Session of the 75th Congress of the United States."

The Colorado Water Conservation District Act ^{66/} provided in its Section 13 that exportations from the Colorado River basin should not exceed an annual average of 320,000 acre-feet by districts organized under that act. This was amended in 1943 ^{67/} to read as follows:

"Provided, however, that any works or facilities planned and designed for the exportation of water from the natural basin of the Colorado River and its tributaries in Colorado, by any district created under this Act, shall be

66. Chap. 266, Colo. S. L. 1937.

67. Chap. 192, Colo. S. L. 1943.

subject to the provisions of the Colorado River Compact and the Boulder Canyon Project Act, as amended; that any such works or facilities shall be designed, constructed and operated in such a manner that the present appropriations of water, and in addition thereto prospective uses of water for irrigation and other beneficial consumptive-use purposes, including consumptive uses for domestic, mining and industrial purposes, within the natural basin of the Colorado River in the State of Colorado, from which water is exported, will not be impaired nor increased in cost at the expense of the water users within the said natural basin; and that the facilities and other means for the accomplishment of said purpose shall be incorporated in, and made a part of, any project plans for the exportation of water from said natural basin in Colorado."

There have been two decisions of the Colorado Supreme Court involving controversies arising out of transmountain diversion of western slope water through the Moffat Tunnel. One of these, Denver v. Sheriff, 105 Colo. 193, upheld the contention of the City of Denver that it was entitled to absolute and conditional decrees for the transmountain diversion of Fraser River and Williams Fork water even though such water was not currently needed to satisfy the municipal water demands. Taussig v. Moffat Tunnel Development Co., 106 Colo. 384, upheld the right of the Development Company to a conditional decree for the transmountain diversion of water from Cabin Creek.

There is now pending in Water District No. 36, Summit County, a water adjudication proceeding involving the claims of Denver for its proposed Blue-South Platte Project and the claims of the United States and the Northern Colorado Water Conservancy District relating to Green Mountain Reservoir.

The promotion of the Gunnison-Arkansas project has resulted in the creation of the Gunnison County Watershed Conservation Committee for the purpose of protecting the Gunnison basin from transmountain diversions to the Arkansas. Thus far the relations

between the Gunnison and the Arkansas interests have been amicable and efforts are being made to compose any difficulties.

For Colorado to negotiate effectively with other states, it is essential that there be unanimity on the part of all Colorado water users. To this end it is important that local differences be composed locally and not be injected into any interstate negotiations.

XII.

CURRENT COLORADO RIVER PROBLEMS

1. The California Water Contracts.

It has been pointed out that the Boulder Canyon Project Act required ratification of the compact by six states, including California, and the agreement on the part of California to limit its uses to 4,400,000 acre-feet of III (a) water plus one-half of the surplus. Thereafter California passed its Self-Limitation Act so limiting its uses.

The compact by Article III (a) apportions to each basin the exclusive beneficial consumptive use of 7,500,000 acre-feet per annum and by Article III (b) permits the Lower Basin to increase its beneficial consumptive use by 1,000,000 acre-feet annually. Article III(f) reads as follows:

"Further equitable apportionment of the beneficial uses of the waters of the Colorado River system unapportioned by paragraphs (a), (b), and (c) may be made in the manner provided in paragraph (g) at any time after October 1, 1963, if and when either basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b)."

It is clear under III(f) that the surplus water unapportioned by (a) and (b) may not be apportioned until after October 1, 1963, and then only if either basin has reached its total beneficial consumptive use.

The California water contracts cover a total of 5,362,000 acre-feet of water annually. This is 962,000 acre-feet in excess of the amount of III (a) water which California has by act of legislature limited itself. The priorities in excess of the 4,400,000 acre-feet as determined by the Seven Party Agreement of 1931 are

Metropolitan Water District of
Southern California and the City
of Los Angeles.....550,000 acre-feet

City and County of San Diego.....112,000 acre-feet

Imperial Irrigation District and
lands under the All-American Canal
in the Imperial and Coachella
Valleys, and Palo Verde Irrigation
District in Lower Palo Verde Mesa,
16,000 acres.....300,000 acre-feet

Total.....962,000 acre-feet

California is using only a little more than one-half of the
waters for which she has contracted ^{68/}.

R. J. Tipton, consulting engineer for the Colorado Water
Conservation Board in testifying before a subcommittee of the
Senate Public Lands Committee in a hearing held in July, 1947 on
S. 1175 submitted the following table of the California priorities
with the estimated present use under each priority:

Priority No.	Description	Acre-Feet	Totals	Estimated Present Use Under Each Priority (1945)
1	Palo Verde Irrigation District, 104,500 acres.			
2	Yuma Project 25,000 acres.			
3	(a) Imperial Irrigation District and lands under All-American Canal in Imperial and Coachella Valleys. (b) Palo Verde Irrigation District in Lower Palo Verde mesa, 16,000 acres.			
	Total for 1,2,3.....	3,850,000		2,794,000
4	Metropolitan Water District of S. Cal. and City of Los Angeles.....	550,000		<u>66,000</u>
	TOTAL from III(a) water		4,400,000	2,860,000

68. Senate Executive Report No. 2, 79th Congress, First
Session, p. 6.

Priority No.	Description	Acre-Feet	Totals	Estimated Present Use Under Each Priority (1945)
5	(a) Metropolitan Water District of Southern California and the City of Los Angeles.....	550,000		
	(b) City and County of San Diego.....	112,000		
6	(a) Imperial Irrigation District and lands under the All-American Canal in the Imperial and Coachella Valleys.			
	(b) Palo Verde Irrigation District in Lower Palo Verde Mesa, 16,000 acres.			
	Total for 6(a) and (b).....	300,000		
	Total from surplus		962,000	none
	Total of all priorities....		5,362,000	2,860,000

In anticipation of future demands arising from increased population California is now making every effort to establish the validity of these contracts even for the surplus water. In this connection it should be pointed out that the existing California facilities such as the All-American Canal and the Metropolitan Aqueduct are constructed of sufficient size to divert and carry sufficient water to amount to the annual total of 5,362,000 acre-feet. California's intentions are indicated in its comments upon the Bureau's Colorado River report, wherein it recommends ^{69/} that "in any allocation of waters of the Colorado River System the established water rights of existing and authorized projects be at all times recognized and protected." In other words, California is seeking to secure the allotment to it of 962,000 acre-feet in advance of the date and the conditions under which the compact permits the apportionment of surplus water.

69. Page 100 California Comments.

In this connection it should be pointed out that the other basin states have always contended that California contracts were unfair in that no opportunity was given the other basin states to object thereto prior to the execution of such contracts by the Secretary of the Interior. The manner in which these contracts were negotiated and signed has always been an irritating factor. It is patent that California is endeavoring to utilize its water contracts so as to obtain an advantage over the other basin states. While it is desirable to have harmony in the basin, such harmony should not be purchased at the cost of the recognition of rights of California which exceed her just claims under the compact, the Boulder Canyon Project Act and the California Self-Limitation Act.

2. Pilot Knob

Another source of irritation is the desire of the Imperial Irrigation District to construct a power plant at Pilot Knob. The Pilot Knob Power Site is one of five sites on the All-American Canal. It is located about 6,000 feet from the boundary between the United States and Mexico and its topography is such that water discharged from a power plant at this site would not again enter the canal and cannot be used in this country but instead would go to Mexico. The other four sites are at drops in the All-American Canal itself and the water is discharged back into the canal. The All-American Canal has a capacity of 15,155 second-feet of water from the intake to the Siphon Drop, a capacity of 13,155 second-feet from Siphon Drop to the Pilot Knob and thereafter of 10,155 second-feet.

The contract between United States and the Imperial Irrigation District by its Article 14 reserves to the United States "all power possibilities down to and including Siphon Drop." The District has the privilege of utilizing such other power possibilities as may exist upon the canal. The plans for the Pilot Knob plant submitted to the Federal government in 1935 in connection with a loan application proposed a capacity for the plant of 4,500 second-feet. If such a plant were constructed it would discharge into Mexico approximately 3,285,000 acre-feet of water annually. If the plant were to have a capacity of 3,000 second-feet, as the unused capacity in the All-American Canal would seem to indicate was the original plan, approximately 2,190,000 acre-feet annually would be discharged into the Alamo Canal which serves Mexican land.

The Mexican Water Treaty contains the following provision in relation to Pilot Knob^{70/} :

"In the event that revenues from the sale of hydroelectric power which may be generated at Pilot Knob become available for the amortization of part or all of the costs of the facilities named in subparagraph (a) of this Article, the part that Mexico should pay of the costs of said facilities shall be reduced or repaid in the same proportion as the balance of the total costs are reduced or repaid. It is understood that any such revenue shall not become available until the cost of any works which may be constructed for the generation of hydroelectric power at said location has been fully amortized from the revenues derived therefrom."

Prior to the execution of the Treaty, Imperial Irrigation District, for a charge, furnished water to irrigate Mexican land. Obviously, the running of such water through a power plant would

70. Article 14, Subparagraph (b).

provide an additional source of revenue to the District. The fact that the District was deprived of the revenue which it was receiving for the furnishing of water to Mexico and the fact that it would be deprived of the possible source of revenue through power generation at Pilot Knob were among the reasons why California objected to the Treaty. Under the Treaty, facilities used in making deliveries of water to Mexico must be retained by the United States. This means that the United States will have to retain the Siphon Drop-Pilot Knob section of the All-American Canal which under the contract with the Imperial Irrigation District would ultimately be turned over to the District.

Colorado and other basin states have from time to time prior to the execution of the Treaty protested the use by the Imperial Irrigation District of the All-American Canal facilities for delivering water at a charge to Mexico. One reason for such objections was the fear that rights would be built up in Mexico which would have to be recognized in any division of the water between the two countries.

Prior to the negotiation of the Treaty all the basin states, except California, approved a resolution to the effect that the facilities used in making water deliveries to Mexico should be retained by the United States.

Imperial Irrigation District is persisting in its efforts to construct a plant at Pilot Knob which that District will control and from which it will receive revenues. Whether or not this ambition of the District may ever be accomplished is questionable. Unless some arrangement can be worked out so that there is no violation of the Treaty terms, plans for such development will have to be resisted.

3. The Effect of the Mexican Water Treaty.

In addition to the effects of the Treaty which have been heretofore noted, another California claim should be mentioned. California has taken the position that the effect of the Boulder Canyon Project and the California Self-Limitation Act is to create a compact between the United States and California^{71/}. This compact, it is said, will be violated if by reason of the operation of the Mexican Treaty water is made unavailable to satisfy California water contracts. In such an event California claims that the compact will have been breached by the United States and California will no longer be bound by its Self-Limitation Act. If this should happen, then doubt is thrown upon the validity of the ratification of the Colorado River Compact and a ground would exist for contesting the compact itself.

At each session of Congress since the ratification of the Mexican Water Treaty California interests have introduced and endeavored to secure the passage of legislation which would have the practical effect of nullifying the Mexican Water Treaty. Thus far, all of such efforts have failed.

4. The Arizona Situation.

Arizona did not ratify the Colorado River Compact until 1944. Failure so to do was the result of fears that the Compact did not adequately protect Arizona interests. Not only is there the dispute over the meaning of Article III(b) but also an inability on the part of Arizona and California to agree upon a plan of water development. Recently California has strenuously

71. See opinion of Attorney Homer Cummings at pages 1516-1521, Part 5, Hearings before the Committee on Foreign Relations, U.S. Senate, 79th Congress, 1st Session, on Treaty with Mexico.

objected to the authorization of the Wellton-Mohawk and Central Arizona projects. A primary objection by California is that there is no assured water supply from the Colorado River for these projects. Perhaps the real reason is the desire of California to minimize any water use projects in the Lower Basin which are not located in the State of California, and thus to enhance the amount of water which will ultimately be available for California use.

In this connection Colorado has taken the position that Arizona is entitled to use its proper share of Colorado River water and that the manner in which such share is utilized by Arizona is a domestic concern of that State.

5. The Controversy over III(b) Water.

Article III(b) of the Colorado River Compact reads as follows:

"In addition to the apportionment in paragraph (a), the lower basin is hereby given the right to increase its beneficial consumptive use of such waters by 1,000,000 acre-feet per annum."

The main tributary of the Colorado River in the Lower Basin is the Gila River which rises in the mountains of Western New Mexico and crosses Arizona to join the Colorado near the town of Yuma. No specific reference is made in the Compact to the Gila River. At the time of the negotiation of the Compact practically all of the usable water of the Gila River was diverted and used in Arizona.

Arizona asserts that Article III(b) was written into the Compact specifically to take care of the Gila River situation and hence the 1,000,000 acre-feet therein referred to is for use in that state. California denies this.

In 1934 Arizona brought an action in the Supreme Court of the United States to perpetuate testimony intended to show that the purpose of Article III(b) was to protect Arizona in its rights to the use of Gila River water. The Supreme Court denied leave to file the bill^{72/}. There appear to be three possible contentions with regard to the III(b) water, viz:

1. The claim of Arizona that III(b) refers to the Gila River water and hence any water available for use in the Lower Basin under III(b) is for the exclusive use of Arizona;

2. The claim that the III(b) increases generally the water available for use in the Lower Basin and is subject to an equitable apportionment between the states of the Lower Basin; and

3. The theory that III(b) water is unapportioned water and is subject to any division which may be made after 1963 in accordance with the provisions of III (f).

The acceptance of 3 noted above would enhance the water supply available to satisfy the California contracts. Hence, the great interest of California in contesting the Arizona claim.

The proper interpretation of III(b) would seem to require consideration of the intent of the makers of the Colorado River Compact^{73/}.

There seems to be little likelihood at the present time of any amicable settlement of this controversy by the states of

72. See Arizona v. California, 292 U. S. 341.

73. Attention is directed to the testimony of Clifford H. Stone and R. J. Tipton before a subcommittee of the Senate Public Lands Committee in a hearing on S. 1175, 80th Congress, First Session, wherein they took the position that the minutes of the compact meetings sustain the claim of Arizona.

California and Arizona. Litigation in the United States Supreme Court may be the only solution.

Colorado has supported the Arizona claim with respect to these matters.

6. Definition of Term "beneficial consumptive use."

In Article III (a) and (b) Colorado River Compact apportionments "beneficial consumptive use" of water. The term "beneficial consumptive use" is not defined in the Compact. The Boulder Canyon Project Act in its Section 4 providing for the limitation of California uses employs the phrase "annual consumptive use (diversions less returns to the river) of water of and from Colorado River."

There is no agreement among the states as to the meaning of the term "beneficial consumptive use." The Colorado River Report of the Bureau of Reclamation does not attempt to define the term. In its analysis of the water supply it utilizes different methods of treatment in the two basins. The report contains estimates of so-called present uses or depletions and also allowances for future uses of water by new projects. Although the reported depletion quantities are said to represent the resulting effects upon outflows from the Upper Basin at Lee Ferry, and from the Lower Basin at the International Boundary, that rule appears to have been applied only on the Lower Gila River at and below the Phoenix vicinity in Arizona. All other depletion estimates presented in the report are based on the rule of evaluation at the site, and to indicate their resulting effects upon outflows at Lee Ferry or the International Boundary, it becomes necessary to allow for and subtract the losses which the water, if not consumed

at the site, would suffer incident to its conveyance to Lee Ferry or the International Boundary.

The compact, patently, does not divide water. Rather it apportions "the beneficial consumptive use" of water. This idea may have resulted from the decision of the United States Supreme Court in the first case involving interstate rights to the flows of western streams used for irrigation purposes. In Kansas v. Colorado, 206 U.S. 46, 117, Mr. Justice Brewer, who wrote the decision for the Court, closed his summary of conclusions with the following statement:

"At the same time it is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits, and may rightfully call for relief against the action of Colorado, its corporations and citizens, in appropriating the waters of the Arkansas for irrigation purposes." (emphasis supplied)

The concept of an equitable division of benefits, rather than stream flow, was apparently departed from in the decision in Wyoming v. Colorado, 259 U.S. 419. There the Court entered a decree limiting the right of Colorado "to divert and take" water from the Laramie River. This Wyoming v. Colorado decision was announced on June 5, 1922. The Colorado River Compact was signed on November 24, 1922. It is pertinent that the compact uses language consonant with the theory of Kansas v. Colorado but utterly inconsistent with the language of the decree in Wyoming v. Colorado.

Further expressions of the United States Supreme Court should be noted. In the third Laramie River decision ^{74/} the court

^{74.} Wyoming v. Colorado, 298 U.S. 573, 581-582, decided June 1, 1936.

made the following statement:

"Colorado insists that the decree, in fixing the measure of these meadowland appropriations, refers to the amount of water consumptively used and not to the amount taken from the stream into the ditches leading to the place of use. The thing dealt with by the decree is described therein as the right 'to divert and take' from the stream and its tributaries a designated amount of water. We think these words refer to the water taken from the stream at the point of diversion, and not to the variable and uncertain part of it that is consumptively used."

When the North Platte case ^{75/} came before it, the high court specifically recognized the difference between diversions and consumptive use and defined consumptive use thus (325 U.S. 600):

"Consumptive use represents the difference between water diverted and water which returns to the stream after use by irrigation."

Under the compact the consumptive use which is apportioned must be "beneficial." Two questions may arise, first, what is a beneficial use, and second, where is the use to be measured. Until the entire supply of the river is appropriated it seems premature to arouse a controversy on the first item. The second, however, is of great and immediate importance. It directly affects the question of the availability of water for the Arizona projects.

The situation has been thus summarized by R. J. Tipton ^{76/} consulting engineer for the Colorado Water Conservation Board :

"Beneficial consumptive use as it is used in the Colorado River Compact is interpreted by California to mean the aggregate of all the individual items of consumptive use at the points of use. Arizona interprets the term to mean depletion of main stream Colorado River water as a result of man's activities.

By California's interpretation, all of the water salvaged by man on tributaries of the Colorado River by converting natural losses to beneficial use would be

75. Nebraska v. Wyoming, 325 U.S. 589.

76. Testimony on S. 1175, 80th Cong., First Session

charged against the amount of the basin's apportionment and against the states' equitable shares of such apportionment, this in spite of the fact that the water so salvaged under virgin conditions never did reach the main stream and never could have been used by any other water user in the Colorado River Basin. Simply stated, California's position is that the Upper Basin's 7,500,000 acre-feet of annual beneficial consumptive use apportioned by the Compact shall be determined by adding up all of the small increments of consumptive use along all of the tributaries, large and small in the Upper Basin, each increment of consumptive use to be ascertained by the measurements of diversions from the stream and by deducting from the amount of the diversions the returns to the stream from which each individual diversion is made. California's interpretation would involve the measurements of the thousands of returns to the streams from the lands irrigated by those diversions.

The State of Colorado's position is that the Upper Basin under the Colorado River Compact has the right to deplete the virgin flow of the Colorado River at Lee Ferry by 7,500,000 acre-feet annually. The difference in interpretation means a difference in the estimated water supply available to Arizona under the Compact and related documents of over 1,000,000 acre-feet, all of which difference is involved in the applications of the two interpretations to the use of water on the Gila River. In the Upper Basin a substantial amount of water is involved." (emphasis supplied).

Mr. Tipton has expressed the definite opinion that the Colorado River Compact Commission considered beneficial consumptive use to be synonymous with depletion at Lee Ferry.

Clifford H. Stone in testifying at the Senate committee hearings on S. 1175 corroborated Mr. Tipton's conclusion by reference to the minutes of the meetings of the Colorado River Compact Commission and contemporary documents. He pointed out that as the term "beneficial consumptive use" is not defined by the compact and as the correct definition of the term is of great importance resort may be had to material outside of the compact to arrive at the correct meaning. Judge Stone then cited the book, "The Colorado River Compact" by Reul Leslie Olson, pp. 35 and 36, thus:

The phrase 'exclusive beneficial consumptive use' and the word 'apportion' used in Article III, paragraph (a), defining the right of the Basins, gave great concern to the Commissioners. The first one of these terms, the phrase 'exclusive beneficial consumptive use' was taken by some of the Commissioners to raise the legal problem of whether or not representatives of the separate states could apportion or divide the corpus of the water. The second was selected to express the idea of division of the water between the Upper Basin and the Lower Basin because several of the Commissioners believed that its connotation was somewhat different from the meaning suggested by other terms. It was thought that the word apportioned did not imply appropriation and therefore did not raise the question of whether or not the interstate agreement would have any effect upon the existing system of vesting of water rights by appropriation under state law in the several states of the Colorado River area.

* * * * * it caused much argument at the time the Compact was drafted, and in the minutes of the meetings of the Commission we find remarks forewarning us * * * of the controversy.

* * * * *

The Commissioners sought to use language in the Compact which would avoid the issue. The phrase 'beneficial consumptive use' was decided upon as the most nearly satisfactory expression. It was supplemented by a statement inserted in the official records of the proceedings to the effect that 'the states of the upper division * * * wish to state affirmatively * * * that it is the understanding that the use of the language in Article III constitutes no waiver on their part or on the part of anyone of them to any claim of ownership which they may have to the corpus of the water or any recognition of any right or claim on the part of the United States to the corpus of any of the unappropriated water of the stream, it being the understanding of these states that the language used is the medial ground which in no way raises or affects the title of ownership'. This was subsequently adopted as the statement of all of the Commissioners."

An extended discussion of the matter appears in the minutes of the November, 1922, meeting of the Commission held at Santa Fe, New Mexico. The following excerpt from those minutes is indicative of the discussion:

"Chairman Hoover: The whole proposition here is whether you are going to divide the corpus of this water or whether you are going to divide the use. If you are going to divide the corpus of the water you are going to be in a

mighty lot of trouble before the federal government. If you are going to divide the use of the water, I don't see any difficulties in the matter at all. Now if you are going to divide the corpus of the water you are going to adopt the extreme state view. If you are going to the other extreme and adopt the extreme federal view you would acknowledge in this pact the unappropriated water belonged to the federal government and that by this act the federal government consented to transfer its rights to the states and it would never get through Congress.

The question is to find a medial ground which does not have either extreme, and finding that ground on the ground of use has struck me all along as being the medial ground which doesn't raise the question. If you are going to take Mr. Carpenter's view you are going to divide the corpus of the water. That is a contention I don't think the federal government would be inclined to stand for. It is not for me to decide, it is purely for you."

In testifying on S. 1175 (hearings not available in printed form at this date) Judge Stone said:

"This conception of the reason for the use of the term 'beneficial consumptive use' by the Colorado River Compact, coupled with the resort in the Compact to 'depletion' by Article III as the measure of beneficial consumptive use in the Upper Basin, demonstrates that it is unjustified, unreasonable, and not in accordance with the Compact to measure beneficial consumptive use of the Gila River in any manner other than by depletion at its mouth."

To summarize this point the question for determination is whether beneficial consumptive use shall be measured at the site where the use takes place or is it to be measured as the depletion of the stream at Lee Ferry and the international boundary respectively resulting from upstream uses. As Mr. Tipton has stated the amounts of water involved are substantial. Here again, a court decision construing and applying the compact may be the only solution.

7. The Charging of Reservoir Evaporation Losses.

There are substantial losses of water through evaporation from reservoir surface. Nothing is said in the Colorado River Compact as to which basin should stand the evaporation losses from

Lake Mead. Since that reservoir is located in the Lower Basin it would seem logical that such basin should stand the losses. However, the Lower Basin directs attention to Article VIII of the Compact which reads thus:

"Present perfected rights to the beneficial use of waters of the Colorado River system are unimpaired by this contract. Whenever storage capacity of 5,000,000 acre-feet shall have been provided on the main Colorado River within or for the benefit of the lower basin, then claims of such rights, if any, by appropriators or users of water in the lower basin against appropriators or users of water in the upper basin shall attach to and be satisfied from water that may be stored not in conflict with Article III.

"All other rights to beneficial use of waters of the Colorado River system shall be satisfied solely from the water apportioned to that basin in which they are situate."

The contention is that a reservoir is created for the benefit of the Upper Basin so that it may be free from any claims of prior appropriations in the Lower Basin. Hence, it is said reservoir evaporation losses should be charged to the Upper Basin. Some have modified this contention by asserting that the Upper Basin should only be charged with the evaporation which would occur from a reservoir having a capacity of 5,000,000 acre-feet.

It is well recognized that the complete utilization of the stream requires the construction of holdover reservoirs both in the Lower Basin and in the Upper Basin. These will be for the benefit of not one but all the states. Some method of charging the reservoir evaporation losses will have to be worked out.

The Bureau of Reclamation has estimated that in the Upper Basin the evaporation from reservoirs under ultimate conditions will amount to 831,000 acre-feet annually ^{77/}, and in the Lower

77. Colo. River Report, p. 151, Table LXXIII.

Basin the present evaporation losses from reservoirs are 713,000 acre-feet annually and under ultimate conditions will be 1,701,000 acre-feet annually^{78/}.

California has contended that no reservoir evaporation losses should be charged against the water covered by its contracts with the Secretary of the Interior. In view of the fact that such losses in the Lower Basin now amount to over 700,000 acre-feet annually, it is of great importance to determine what shall be done in regard thereto. At the moment litigation applying and construing the various pertinent documents appears to be the only solution.

8. Miscellaneous Matters.

There are other potential sources of controversy which have thus far not developed into major importance. Consequently for the purposes of this memorandum they will be merely noted.

(a) In its comments on the Bureau's Colorado River Report, California recommends^{79/} that "the seven Basin States, acting through their respective Governors, proceed to negotiate and enter into an agreement for the implementation of Article III (d) of the Compact." Article III (d) requires the states of the Upper Division to deliver 75,000,000 acre-feet of water at Lee Ferry every ten year period. California desires to have some method of fixing blame and securing relief in the event of a failure to provide the required flow. In the Upper Basin compact negotiations Colorado has insisted that an agreement as to the obligations of the Upper Division states to respond to Article III (d) is of equal importance to the apportionment between the Upper Basin states of the

^{78.} Op. cit. p. 186, Table CXXI.

^{79.} California comments on Colo. River Report, p. 99, par. 4.

III (a) water allotted to that basin.

(b) Some procedure must be developed for the administration of main stream reservoirs for hold-over storage. It is recognized that the complete utilization of the Upper Basin share of water will require hold-over storage in that basin. Who is to determine the times and amounts of water released from these reservoirs? Most, if not all, of these reservoirs will have facilities for power generation. The demands for the release of water to generate power may conflict with the desires of non-power users to keep the water in storage as a protection against periods of drought.

(c) In the event that the surplus is insufficient to satisfy the Mexican right what procedure is to be followed in determining the respective obligations of the two basins. In other words how is Article III (c) to be made operative?

(d) There is uncertainty as to the meaning and effect of Article VII relative to the "obligations of the United States to Indian tribes."

The controversial matters which have been presented in this memorandum should not be considered as an all-inclusive list. It is impossible to foresee all situations and conditions which may develop in the future.

9. Problems involved in the negotiation of an Upper Basin Compact.

The two major problems confronting the Upper Colorado River Basin Compact Commission are the apportionment between the states of the Upper Basin of the water allotted to that basin by Article III (a) of the compact and the agreement between the states of

the Upper Division as to the responsibility of each to contribute to the flows which are required by Article III (d) to be maintained at Lee Ferry.

Among the many matters which should be covered by such a compact are the following:

- (a) A definition of the term "beneficial consumptive use;"
- (b) A method for measuring beneficial consumptive use;
- (c) Provision for administration of the compact;
- (d) Recognition of the principle that the laws of the individual states operate for the allocation and distribution within the state of water apportioned to the state.
- (e) Provisions pertaining to the construction and administration of facilities located in one state for use in connection with water projects located in another state or states;
- (f) A definition of the rights, powers and jurisdiction of the United States.

The desire for an early consummation of an Upper Basin compact should not influence the compact commissioners to enter into a compact which, because of the lack of factual knowledge or of careful legal preparation, contains the seeds of future controversy. The controlling idea should be to create a permanent set of rules and principles which will permit the full development of the water resources of the Upper Basin with a minimum of interstate friction.

XIII

POSSIBLE INTERSTATE LITIGATION

It should be frankly recognized that there is a strong possibility of interstate litigation over the use of the waters of the Colorado River system. This may come within the near future or it may be delayed for several years. But unless there is a complete change of attitude and the creation of a serious desire to understand the problems of others and to cooperate to solve those problems litigation is inevitable.

Currently the fact which creates the hazard of litigation is the conflict between Arizona and California over the water supply for the Wellton-Mohawk and Central Arizona projects. This conflict involves the interpretation of Article III (b), the meaning of "beneficial consumptive use," the method of measuring such use, and the validity and effect of the California water contracts. While these problems are all within the Lower Basin, the Upper Basin may not ignore them. A determination of the controversies between Arizona and California might have a great effect on the rights of the Upper Basin.

Any law suit which is brought will be interstate in character and hence within the original jurisdiction of the United States Supreme Court^{80/}. In the event leave to file a bill is granted and issues joined, the present practice of the Court^{81/} is to appoint a Master for the taking of testimony. The case finally comes before the Court upon objections to the report of the Master.

80. U. S. Const. Art. III, Sec. 2, cl. 2

81. See Colorado v. Kansas, 320 U.S. 383, Nebraska v. Wyoming, 325 U.S. 589.

^{82/} While many interstate suits over water have been long drawn out , it would appear that litigation construing and applying the Colorado River Compact and the other documents pertaining to the river would not necessitate prolonged evidence taking hearings such as were present in the Arkansas River and North Platte River cases.

Certain problems in connection with such litigation should be noted. The United States Supreme Court has held in a long series of decisions that it will not grant relief against a state unless the complaining state shows an existing or presently threatened injury of serious magnitude ^{83/} . A potential threat of injury is insufficient to justify an affirmative decree against a state. The Court will not grant relief against something feared as liable to occur at some future time ^{84/} . The rule that judicial power does not extend to the determination of abstract questions has been announced in numerous cases ^{85/} . For there to be a justiciable controversy it must appear that the complaining state has suffered a loss through the action of the other state, furnishing

82. The first Arkansas River case, Kansas v. Colorado, was filed in 1901 and decision rendered in 1907. The Laramie River litigation between Wyoming and Colorado began in 1911 and was finally ended in 1940. The North Platte case, Nebraska v. Wyoming, was brought in 1934 and decision rendered in 1945.

83. Missouri v. Illinois, 200 U.S. 496, 521; New York v. New Jersey, 256 U.S. 296, 309; North Dakota v. Minnesota, 263 U.S. 365, 374; Connecticut v. Massachusetts, 282 U.S. 660, 669; Alabama v. Arizona, 291 U.S. 286, 291; Washington v. Oregon, 297 U.S. 517, 529.

84. Alabama v. Arizona, 291 U.S. 286, 291.

85. Ashwander v. Tennessee, 297 U.S. 288, 324; New York v. Illinois, 274 U.S. 488; U.S. v. West Virginia, 295 U.S. 463.

a claim for judicial redress, or asserts a right which is susceptible of judicial enforcement according to the accepted principles of jurisprudence^{86/}. The mere fact that a state is plaintiff is not enough^{87/}. An injunction will issue to prevent existing or presently threatened injuries but will not be granted against something merely feared as liable to occur at some indefinite time in the future^{88/}. The Court has repeatedly said that it will not issue declaratory decrees^{89/}. Inchoate rights dependent upon possible future development furnish no basis for a decree in an interstate suit^{90/}.

The rules and principles noted above would seem to preclude any interstate litigation at this time. It is difficult to see how there can be an injury, either existing or presently threatened, when neither basin has even approached the consumptive use apportioned to it by the compact. It has been noted that California is now using but about one-half of the water covered by its contracts. There is now approximately 8,000,000 or 9,000,000 acre-feet of water annually wasting into the Gulf of California unused either in this country or in Mexico^{91/}. Under the circumstances it would seem that any decree which might be entered by the United States Supreme Court apportioning water or benefits between the states or any of them would be of a declaratory character.

86. Massachusetts v. Missouri, 308 U. S. 1, 16.

87. Florida v. Mellon, 273 U.S. 12, 16.

88. Connecticut v. Massachusetts, 282 U.S. 660, 674.

89. Arizona v. California, 283 U.S. 423, 463; United States v. West Virginia, 295 U.S. 463, 474; Alabama v. Arizona, 291 U.S. 286, 291; Massachusetts v. Missouri, 308 U.S. 1, 15.

90. Arizona v. California, 283 U.S. 423, 462.

91. Senate Executive Report No. 2, 79th Congress, First Session, p. 4.

Some doubt is cast upon this conclusion by the recent decision in the North Platte case^{92/}. There Colorado presented a motion to dismiss upon the theory that there was no showing that Colorado was injuring or threatening to injure any state. The motion was denied, the Court saying among other things^{93/} :

"If this were an equity suit to enjoin threatened injury, the showing made by Nebraska might possibly be insufficient. But *State of Wyoming v. Colorado*, supra, indicated that where the claims to the water of a river exceed the supply a controversy exists appropriate for judicial determination. If there were a surplus of unappropriated water, different considerations would be applicable. * * * But where there is not enough water in the river to satisfy the claims asserted against it, the situation is not basically different from that where two or more persons claim the right to the same parcel of land. The present claimants being States we think the clash of interests to be of that character and dignity which makes the controversy a justiciable one under our original jurisdiction."

Three judges dissented on this point^{94/}. The lack of unanimity would seem to indicate that the rule established should not be too readily accepted. The Court may return to the rule announced in 1943 in the *Arkansas River* case^{95/} when it denied relief to Kansas in a dispute over a stream which had been overappropriated for more than forty years. The Court then said among other things^{96/} :

"The reason for judicial caution in adjudicating the relative rights of states in such cases is that, while we have jurisdiction of such disputes, they involve the interests of quasi-sovereigns, present complicated and delicate questions, and, due to the possibility of future change of conditions, necessitate expert administration

1945. 92. Nebraska v. Wyoming, 325 U.S. 589, decided June 11,

93. 325 U.S. 610.

94. 325 U.S. 657, 664.

95. Colorado v. Kansas, 320 U.S. 383.

96. 320 U.S. 392.

rather than judicial imposition of a hard and fast rule. Such controversies may appropriately be composed by negotiation and agreement, pursuant to the compact clause of the Federal constitution. We say of this case, as the court has said of interstate differences of like nature, that such mutual accommodation and agreement should, if possible, be the medium of settlement, instead of our adjudicatory power."

If the states fail to heed the advice so given, it is possible that the North Platte decision afford a precedent for the court assuming jurisdiction of a case over the disposition of Colorado River water. Certain it is that claims are now asserted to at least all, if not more, of the water which is apportioned to the Lower Basin by Article III (a) of the compact. The distinction between the Colorado River situation and the North Platte is that the Colorado River is not now over-appropriated as the Court held the North Platte to be.

Appraising the problem from a standpoint of theory rather than precedent, it would seem that states should have recourse to the United States Supreme Court in a situation such as that which now confronts the Colorado River Basin States. The federal constitution affords but two methods of solution of interstate disputes: an interstate compact or litigation in the United States Supreme Court. The Colorado River Basin states are unable to agree upon the construction and application of an interstate compact, a federal statute, and certain contracts between the United States and public or quasi public agencies. While the controversy goes on, development is stymied. Under such conditions there is no logical reason for the Court to refuse to determine the issues.

Another hurdle to a suit in the United States Supreme Court is the fact that the United States is a necessary party. The

United States has constructed and is now operating Boulder Dam and Parker Dam. The United States has built the All-American Canal and is now engaged in building Davis Dam. The Secretary of the Interior has contracted with California interests, with Arizona and with Nevada. The interests of the United States may not be overlooked or disregarded.

In order to overcome this difficulty Senator McCarran of Nevada, a staunch friend of California, introduced in July, 1947, a Senate Resolution reading as follows:

"WHEREAS the development of projects for the use of water in the Lower Colorado River Basin is being hampered by reason of long standing controversies among the States in said Basin as to the meaning and effect of the Colorado River Compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, the California Limitation Act (Stats. Cal. 1929, Chap. 16), the various contracts executed by the Secretary of the Interior with States, public agencies and others in the Lower Basin of the Colorado River, and other documents and as to various engineering, economic and other facts; Now therefore be it

RESOLVED by the Senate and House of Representatives of the United States of America in Congress assembled, That, for the purpose of avoiding a multiplicity of actions and expediting the development of the Colorado River Basin, the Attorney-General is hereby directed to commence in the Supreme Court of the United States of America, against the States of Arizona, California, Nevada, New Mexico and Utah, and such other parties as may be necessary or proper to a determination, a suit or action in the nature of interpleader, and therein require the parties to assert and have determined their claims and rights to the use of waters of the Colorado River system available for use in the Lower Colorado River Basin."

A similar resolution was introduced in the House by Congressman Poulson of California. The House resolution was referred to the Judiciary Committee. The President Pro Tem of the Senate referred the McCarran resolution to the Senate Judiciary Committee, but those opposed to California took and sustained an appeal from the order of the chair and forced the reference of that resolution

to the Senate Public Lands Committee.

The formal position to be taken by Colorado in regard to this resolution has not been determined. If the litigation is under circumstances which recognize the validity of the Colorado River compact and the apportionment made thereby and if the litigation is specifically confined to the determination of the disputes over the III (b) water and the meaning and application of the phrase "beneficial consumptive use," strong arguments can be presented for encouraging rather than discouraging such a law suit at this time.

There is no assurance that the Court will take jurisdiction of such a case and render a helpful and workable decree. In spite of this, Colorado must promptly decide what action it will take. The wise course may be to rewrite the Resolution so that its purpose is clear and then support its passage.

Another matter should be mentioned. The Federal constitution requires the consent of Congress before an interstate compact is valid. Congress consented to the Colorado River Compact under conditions which are detailed in the Boulder Canyon Project Act. Is it within the purview of the Court to pass upon the meaning and application of the Compact? Can it be said that the meaning and application of the Compact is a political question for determination by Congress rather than a judicial question for determination by the Court? Little research has been done on this point. It deserves thorough study. Particularly so in view of the agitation for river basin development to be taken over by authorities. If the matter is a political one, can Congress upset the whole arrangement by the creation of an authority?

XIV

THE COLORADO RIVER AND THE AUTHORITY ISSUE

The concept of an authority is that an autonomous Federal corporation has plenary control over the water resources of a river basin. The present agitation for authorities has stemmed from those who claim success for the Tennessee Valley Authority. Currently attempts are being made to create a Missouri Valley Authority and a Columbia Valley Authority. The attitude of the present Congress is against the creation of such authorities.

So far as is known there has been no movement supported by within basin interests for the creation of an authority on the Colorado River. One reason is probably the doubt which would be cast upon the effect of state laws, the compact and the water contracts.

Two matters should, however, be mentioned because of their peculiar effect on the State of Colorado. River authorities are commonly conceived with boundaries that are coterminous with watershed of the basin. Colorado is vitally interested in the exportation of water from the basin of the Colorado River. This is an interest which is common with California as the great developments in the southern portion of that State which depend on Colorado River water are without the natural basin of the stream. From a practical standpoint the attitude of an authority toward the exportation of water away from the region over which the authority has control would undoubtedly be unfriendly.

In other words under the present theories as to authorities such developments as the Blue-South Platte and the Gunnison-Arkansas would probably be adversely affected by the creation of any Colorado River authority.

The creation of authorities in basins adjoining that of the Colorado River might arouse serious complication. Representatives of both Nebraska and Kansas have in conferences with Colorado officials suggested the possibility of securing water for the Platte and Arkansas basins in their states respectively through the transmountain diversion in Colorado and Wyoming of Colorado River water.

These suggestions run contrary to the fixed Colorado policy that Colorado River water may not be taken for use in a state which is not a Colorado River Basin state. In the event of the creation of either a Missouri Valley Authority or an Arkansas Valley authority the question is serious because the authority bills which have thus far been presented to Congress give the authority plenary control over water. Thus if an MVA were created with plenary power it is possible, if not probable, that the authority would require that water brought into the Platte basin from the basin of the Colorado River by the Colorado-Big Thompson project be passed to Nebraska for use in that state. The same thing could happen on the Arkansas in connection with the Independence Pass diversion. If Colorado is to avoid trouble it must be alert to prevent any such complications.

The Colorado River Compact authorizes diversion of Colorado River water into another watershed, if such diverted water is to be used within the boundaries of the States through which the Colorado River system extends and if such use is not in excess of that allowed by the compact. The compact, however, does not authorize the diversion of waters of the Colorado River for use

in States not included in either the Upper or Lower Basin^{97/}. Hence, if Colorado should permit either Nebraska or Kansas to obtain the use of Colorado River water, it would violate the compact.

Colorado, the state at the top of the mountains, is located in four major stream basins, the Colorado, the Platte, the Arkansas, and the Rio Grande. The complications which would arise from the creation of valley authorities on each of these streams are of such a nature that for Colorado to accede to any authority plans is tantamount to the surrender by the state of control over its water resources and their development. For Colorado the authority scheme can never be the answer to the problem of river development. If the present instrumentalities should prove ineffective, some scheme different materially from the present concept of authorities must be devised.

XV

CONCLUSION

No attempt has been made to cover all the Colorado River situation in a comprehensive manner. This is a memorandum and nothing more. A bibliography on the Colorado River would in itself cover several pages.

The important thing is that Colorado must be ever alert to protect its rights and interests. Other states retain large staffs of engineers and lawyers who are solely concerned with the

97. See decision M-28389 of the Solicitor of the Interior Department, approved by the Secretary of the Interior, April 4, 1936, Reclamation Laws Annotated, p. 363.

Colorado River. At least one state maintains a substantial lobby in Washington. Colorado must to the extent of its ability meet such competition. If it does not, it may possibly lose its greatest natural resource.