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## Interstate River Compacts: Impact on Colorado

### Keywords

Congress, Water Law, Legal Systems

# **Interstate River Compacts: Impact on Colorado**

IVAL V. GOSLIN\*

## **I. INTRODUCTION**

The first interstate water compacts<sup>1</sup> predated the Constitution itself, originating under the Articles of Confederation.<sup>2</sup> The earliest compacts were interstate agreements dealing with boundary problems, navigation, and fishing rights in interstate waters. Increasing population in the American colonies and competition for agricultural lands, navigation, and fishing privileges led to the negotiation of agreements that permitted these activities to continue under equitable limitations. Recognizing the value of such agreements, the colonists specifically created a "compact clause" in article I, section 10, clause 3, of the Constitution of the United States. The pioneers followed the same pattern.

As large numbers of peoples moved westward in search of economic and social opportunities, problems moved with them. When the number of people in a given area increased to the point that water resources became short in relation to the demands placed upon them, agreements were negotiated under which the resources could be equitably used by members of society. These agreements between and among sovereign states developed into interstate river compacts.

Today there are 20 major interstate river compacts in the United States that allocate water between and among states. The State of Colorado is a party to nine of them and to three interstate agreements that can be designated as subcompacts inasmuch as they are important segments of one of the nine major compacts.<sup>3</sup> A quick review of the geography of the area and history of water development in Colorado illustrates the importance of these compacts to the state.

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1. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY (unabridged 1961) defines a compact as "an interstate agreement entered into to handle a particular problem or task."

2. J. MUYS, *INTERSTATE WATER COMPACTS* 5 (1971) (NTIS 202 998).

3. A chronological list of water allocation compacts and subcompacts involving the State of Colorado is found in the appendix to this article.

## II. SIGNIFICANT GEOGRAPHY

Geographic and orographic conditions play major roles in the distribution and amounts of precipitation that fall upon Colorado. The location and arrangement of the mountains and valleys through their influence upon air movements determine to a great extent the nature of the runoff of the various stream systems. Precipitation varies annually from 40-50 inches on the high mountain ranges to about 8-10 inches in the more arid regions of the state.

Water has acted as an important catalyst for both agriculture and industry in the economic development of Colorado from the time the first white settlers arrived. As in most western states, the distribution of population shows no direct correlation to the availability of surface water. As an example, about two-thirds of the Colorado people live within the South Platte River basin that produces less than 10 percent of the state's average annual surface water. The Colorado River Basin contains about 10 percent of the population, but its average annual surface runoff comprises about 70 percent of the total.

Colorado, in relation to its neighboring states, is a high-altitude region having in excess of 50 mountain peaks reaching over 14,000 feet. Reference is often made to Colorado as the "roof of the nation." Five major stream systems, the Arkansas, Colorado, Platte, and Republican Rivers, and the Rio Grande, deliver water to nine other states under compact terms.<sup>4</sup> Thus, despite its arid regions, Colorado is a water-producing state from the standpoint that precipitation falls upon it, and much of the runoff flows beyond its borders.<sup>5</sup>

## III. A CAPSULE OF EARLY COLORADO WATER HISTORY

Construction of the earliest recorded continuous water development by white settlers was started as early as 1852 on

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4. Arizona, California, Kansas, Nebraska, Nevada, New Mexico, Texas, Utah, and Wyoming.

5. An interesting statement in UNITED STATES BUREAU OF RECLAMATION & COLORADO DEP'T OF NATURAL RESOURCES, WATER FOR TOMORROW, COLORADO STATE WATER PLAN 2-14 (1974), says:

With few exceptions, waters originating in other states are not available for use in Colorado. On the other hand, all the surface flows of the State, except natural losses, are available by gravity to 18 other states.

This statement appears to be a slight exaggeration of the actual facts, but it does indicate the nature of the problem.

the People's Ditch, a diversion from the Rio Grande in the San Luis Valley in southeastern Colorado. This ditch has been used since its completion and has the earliest decreed priority (1852) in Colorado. About this same time other water developments were initiated, the largest of which was on the Purgatory River near Trinidad.

In the 1860s and 1870s many new immigrants constructed more extensive irrigation facilities in the valleys of the Rio Grande, Purgatory, and South Platte Rivers. Irrigation development was very rapid, especially in the warmer climate of southern Colorado where by 1864 in the Purgatory River basin the summer base flows were completely appropriated.

Later in the 19th century and in the early years of the 20th century larger irrigation systems were constructed in the Rio Grande Valley and in the South Platte, Arkansas, and Colorado River basins. Where it has been physically and economically possible these irrigation enterprises have been expanded. Irrigation systems in these basins still constitute the foundation for a substantial portion of the economy of the state.

It should not be overlooked that some of the earliest water usage in Colorado was for mining and mineral processing. Exportation of water from the West Slope to eastern Colorado commenced in 1880 when the small Ewing Ditch for placer mining was constructed from the headwaters of the Eagle River to the Arkansas River watershed. Today 25 transmountain diversions transport approximately one-half million acre-feet of Colorado River system water per year to eastern Colorado for domestic, municipal, agricultural, electric energy generation, and industrial purposes.

Since 1900 settlement of the West has been very rapid. Passage by the Congress of the Reclamation Act in 1902, together with the increasing demands for more lands for agricultural and industrial expansion, accelerated the development of water resources and hydroelectric energy generation.

#### IV. NEED FOR INTERSTATE RIVER AGREEMENTS

Colorado and her sister states became deeply involved in the western migrations of people. Conditions were right for settlement, for acquisition of mineral and agricultural lands, and for the development of the related water resources with the blessing and encouragement of federal and state govern-

ments. Water supplies of western streams at first appeared to be limitless. By the beginning of the 20th century it was realized that the water supplies of these same streams were far from ample in proportion to the other natural resources—such as land, minerals, oil, and gas—that required water for their exploitation and processing.

With the State of Colorado as a nucleus at the headwaters of important water sources, formal legal processes evolved from pressures of increasing populations claiming the use of more and more waters from streams that flowed by gravity to other states.

Aside from the unique position of Colorado at the “roof of the nation,” Colorado also found herself in a vulnerable political situation with respect to other states using water from the same river systems. Colorado officials soon became aware of the fact that water users in these other states were staking claims to the consumptive use of large quantities of water from what they believed should be Colorado rivers. There was real apprehension that these claims might develop into permanent legal rights under the doctrine of prior appropriation. There was some irony in the situation, too, because this doctrine, also known as the “Colorado doctrine,” had been perfected in Colorado in earlier days to establish valid water rights for mining enterprises.

It was inevitable that the requirements for more and more water would collide with the limited supply. This collision led to disagreements among users of waters of interstate streams and, consequently, to actual or potential disputes between and among states. The result had to be either interstate litigation, an adversary approach, or use of the interstate compact, a cooperative, constitutionally approved approach through mutual understandings of the disputants.<sup>6</sup> Colorado has been a leader with respect to both approaches in the field of water resources.

#### V. STATE OF COLORADO—INTERSTATE RIVER COMPACTS

Compacts were not generally used for the apportionment

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6. U.S. CONST. art. I, §10, clause 3 provides:

No State shall, without the consent of Congress . . . enter into any agreement or compact with another State or with a foreign power.

of water between and among states until 1922. With Colorado as one of the paramount leaders, the Colorado River Compact of 1922 was negotiated by commissioners representing the seven states of the Colorado River Basin—Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming — and a federal representative, Mr. Herbert Hoover. Among the various factors that precipitated action on the part of Colorado and her neighboring upstream states, the following appear to have had a major influence:

(a) In 1907 the Supreme Court had encouraged the use of interstate agreement or litigation in the settlement of a dispute between Colorado and Kansas involving the Arkansas River.<sup>7</sup>

(b) The other states of the basin had for years viewed with trepidation the apparent efforts of California to dominate water usage from the Colorado River. In August 1920 the League of the Southwest, an organization for the promotion of western development, adopted a resolution stating that the rights of the Colorado River Basin states and of the United States should be settled and determined by compact. By January 1922 each of the seven states and the United States had appointed commissioners to negotiate an agreement. Simultaneously, California was pressing Congress vigorously for authorization of construction of a federally-financed regulating reservoir on the lower reaches of the river to provide flood control, electric power, and irrigation benefits.

(c) In June 1922 the U.S. Supreme Court handed down its decision in *Wyoming v. Colorado*,<sup>8</sup> which upheld the doctrine of prior appropriation of water without regard to state lines. The final negotiation of the compact took place in the atmosphere created by the Court's decision.

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7. In *Kansas v. Colorado*, 206 U.S. 46, 97 (1907) the Supreme Court said:

As Congress cannot make compacts between the States, as it cannot, in respect to certain matters, by legislation compel their separate action, disputes between them must be settled either by force or else by appeal to tribunals empowered to determine the right and wrong thereof.

8. In *Wyoming v. Colorado*, 259 U.S. 419, 496 (1922), the Supreme Court, in its opinion, said:

As the available supply is 288,000 acre-feet and the amount covered by senior appropriations in Wyoming is 272,500 acre-feet, there remain 15,500 acre-feet which are subject to this junior appropriation in Colorado.

The decision in *Wyoming v. Colorado* confirmed the fears of Colorado and the other states of the Colorado River Basin that the already rapidly growing State of California was in an opportune position to appropriate the lion's share of Colorado River waters. The upriver states openly opposed the construction of storage or diversion works on the lower reach of the river that would place that area in a position to monopolize the use of the waters through prior appropriation. Delph E. Carpenter, Commissioner for the State of Colorado, effectively summarized the situation:

The upper state has but one alternative, that of using every means to retard development in the lower state until the uses within the upper state have reached their maximum. The states may avoid this unfortunate situation by determining their respective rights by interstate compact before further development in either state, thus permitting freedom of development in the lower state without injury to future growth in the upper.<sup>9</sup>

The decision in *Wyoming v. Colorado* became the stimulus which consummated the Colorado River Compact, signed on November 24, 1922.

A. *Colorado River Compact*<sup>10</sup>

In the 1920s, laws with respect to rights to use water from interstate streams were not firmly established. Each state claimed the exclusive authority to regulate the appropriation of all water within its borders. The federal government claimed jurisdiction of interstate streams. The lower reach of the Colorado River was considered navigable and subject to federal laws. At the same time people of the Southwest were promoting the idea that there should be federal financing of the construction of a large multiple-purpose water development in the lower basin, principally for the benefit of California.

If a stalemate of long duration were to be avoided, some type of agreement allocating the use of the river's waters among the seven basin states was necessary. The lower basin states wanted an interstate agreement because they needed the political support of the upper basin states for passage of authorizing

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9. R. WILBUR & N. ELY, *THE HOOVER DAM DOCUMENTS*, H.R. Doc. No. 717, 80th Cong., 2d Sess. A84 (1948).

10. Colorado River Compact, Pub. L. No. 70-642, §§12-19, 43 Stat. 1057 (1928) (signed by the States 24 Nov. 1922) [hereinafter Colorado River Compact].

legislation by the Congress. The upper basin states, like Colorado, favored a compact in order to protect their deferred water use against prior appropriations in the lower basin.

The State of Colorado's main concern was to effectuate an equitable apportionment of the waters of the Colorado River system in perpetuity in order to assure that, in the future when it was needed, her water resource development would not be impaired or precluded. The purpose of the Colorado River Compact, as stated in Article I, adequately expresses the objectives being sought and has become representative of similar statements of purpose in other compacts that followed.

#### ARTICLE I

The major purposes of this compact are to provide for the equitable division and apportionment of the use of the waters of the Colorado River System; to establish the relative importance of different beneficial uses of water; to promote interstate comity; to remove causes of present and future controversies; and to secure the expeditious agricultural and industrial development of the Colorado River Basin, the storage of its waters, and the protection of life and property from floods. To these ends the Colorado River Basin is divided into two Basins, and an apportionment of the use of part of the water of the Colorado River System is made to each of them with the provision that further equitable apportionments may be made.

The Colorado River Compact is regarded as the grandfather of water allocation compacts in the United States. Among some of its more important provisions are the following:

1. The Colorado River Basin was divided into two subbasins—the upper basin and the lower basin—with the line of demarcation located at Lee Ferry, Arizona, which was defined as a point one mile below the mouth of the Paria River which is located a few miles south of the Utah-Arizona boundary. Here the waters of the entire upper basin system, including the Paria River and return flows from the upper basin projects, converge into one stream.
2. The annual beneficial consumptive use of 7,500,000 acre-feet of water was apportioned to each subbasin—to the upper basin and to the lower basin—with the lower basin granted the right to consumptively use another million acre-feet annually if it is available.

3. States of the basin were aligned into two divisions. The states of the upper division include Colorado, New Mexico, Utah, and Wyoming; the states of the lower division are Arizona, California, and Nevada.

4. Rights of Mexico to use water under a future treaty were recognized.

5. The states of the upper division are not to cause the flow of the Colorado River at Lee Ferry to be less than 75,000,000 acre-feet in any period of ten consecutive years.

6. The Colorado River Basin is defined to include "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."

7. A term which is very important to the State of Colorado is, "Colorado River System," which means "that portion of the Colorado River and its tributaries within the United States of America."

8. The Compact negotiators, believing they were dividing the use of only a part of the river's flow, provided that at any time after October 1, 1963, if and when either basin had reached its total consumptive use as apportioned, the use of the remaining waters could be further apportioned between the two basins.

9. The Colorado was recognized as a navigable river, but "the use of its waters for purposes of navigation shall be subservient to the uses of such waters for domestic, agricultural, and power purposes."

10. Consumption of water for agricultural and domestic purposes was made dominant over impoundment and use of water for generation of electric energy.

11. Each state was permitted to regulate and control the appropriation, use, and distribution of water within its boundaries, subject to other provisions of the Compact.

12. The Compact may be terminated at any time by the unanimous agreement of the signatory states,

but all rights established under it shall be perpetuated.

13. The compact is not to be construed as affecting the obligations of the federal government to the Indian tribes.

It should be noted that water quality is not mentioned in the Colorado River Compact. Also, the apportionments of water are to two defined subbasins and not to individual states.

*B. La Plata River Compact*<sup>11</sup>

Colorado and New Mexico executed this Compact in 1922 to provide for the division of waters of the La Plata River. An allocation formula limits the use of water by each state on the basis of magnitudes of the streamflow during specified periods of time. Rotation of the use of the waters between the two states during low flow periods is permitted if the respective state engineers concur that the most beneficial use of the waters can be accomplished in this manner.

*C. South Platte River Compact*<sup>12</sup>

This Compact between Colorado and Nebraska divides the waters of the South Platte River. During certain periods, such as from October 15 to April 1, Colorado has full use of the waters of the South Platte River within Colorado with Nebraska entitled to divert surplus waters under certain conditions. Between April 1 and October 15, if the flow at the state line is less than 120 cubic feet per second, Colorado cannot permit diversions from the lower reaches of the river to water users whose dates of priority are later than June 14, 1897.

*D. Rio Grande Compact*<sup>13</sup>

The Rio Grande Compact involves apportionments of the waters of the Rio Grande among three states: Colorado, New Mexico, and Texas. Colorado's obligation to deliver water at the New Mexico state line is based on runoff measurements at four "index" stream-gauging stations on the headwater

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11. La Plata River Compact, Pub. L. No. 68-346, 43 Stat. 796 (1925) (signed by the States 27 Nov. 1922).

12. South Platte River Compact, Pub. L. No. 69-37, 44 Stat. 195 (1926) (signed by the States 27 Apr. 1923).

13. Rio Grande Compact, Pub. L. No. 76-96, 53 Stat. 785 (1939) (signed by the States 18 Mar. 1938).

streams. This Compact includes schedules of required deliveries of water, for an accrual system of debits and credits in annual deliveries, and control of reservoir storage waters.

This Compact has a water quality element in it. If water is delivered from the closed basin portion of the San Luis Valley after 1937, Colorado shall not be credited with the amount of such water delivered, unless the proportion of sodium ions is less than 45 percent of the total positive ions when the salinity concentration exceeds 350 parts per million.

E. *Republican River Compact*<sup>14</sup>

Colorado, Kansas, and Nebraska negotiated this Compact apportioning the waters of the Republican River and its tributaries.

The State of Colorado's share of the water amounts to 43,100 acre-feet per year based upon the average virgin flow<sup>15</sup> from six specified tributaries of the Republican River. Provision is also made for adjusting the allocations if the computed virgin flow for a given year varies more than ten percent from the average annual virgin flow.

F. *Upper Colorado River Basin Compact*<sup>16</sup>

The federal government informed the states of the Colorado River Basin that no water development projects could be constructed in those states until the states had agreed upon their respective rights to deplete the water supply of the Colorado River, or the courts had apportioned available water among them.<sup>17</sup> The five states (Arizona, Colorado, New Mexico, Utah, and Wyoming) having interests in the upper basin negotiated and executed the Upper Colorado River Basin Compact in 1948. After each state's legislature had ratified this Compact, Congress gave its consent to it in 1949. The consumptive use of water apportioned to the upper basin by the Colorado River Compact of 1922<sup>18</sup> was allocated on an annual

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14. Republican River Compact, Pub. L. No. 78-60, 57 Stat. 86 (1943) (signed by the States 31 Dec. 1942).

15. "Virgin flow" is the flow of a stream undepleted by the activities of man.

16. Upper Colorado River Basin Compact, Pub. L. No. 81-37, 63 Stat. 31 (1949) (signed by the States 11 Oct. 1948) [hereinafter Upper Colorado River Basin Compact].

17. Letter from the Director, Bureau of the Budget to the Secretary of the Interior, H.R. Doc. No. 419, 80th Cong., 1st Sess. (1947).

18. Colorado River Compact, art. III.

basis by the Upper Colorado River Basin Compact to the upper basin states as follows:<sup>19</sup>

Arizona	50,000 acre-feet
and of the remainder:	
Colorado	51.75 percent
New Mexico	11.25 percent
Utah	23.00 percent
Wyoming	14.00 percent

The Compact created the Upper Colorado River Commission as an administrative agency for the four upper division states: Colorado, New Mexico, Utah, and Wyoming. Arizona with its fixed amount of consumptive use of water and minor interests in the upper basin is not a member of the Commission. The President appoints a federal representative who has the same vote as each state's commissioner and who serves as chairman. Rules and regulations are described under which the Commission can order curtailment of water uses within a state or states when deemed necessary to meet delivery requirements by the upper division states to the lower basin under the terms of the Colorado River Compact. Three agreements or subcompacts between Colorado and other signatory states<sup>20</sup> pertaining to the use of water of interstate tributaries are included within the Compact. Recognition is given and more definitive terms are applied to the La Plata River Compact of 1922.<sup>21</sup> Consumptive use of water in the upper basin and in each state thereof is to be measured in terms of manmade depletions of the virgin flow of the Colorado River at Lee Ferry<sup>22</sup> instead of by the method of diversions of water minus return flows as used in other portions of the basin.

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19. Upper Colorado River Basin Compact, art. III.

20. Subcompacts within the Upper Colorado River Basin Compact are: Little Snake River (art. XI) between Colorado and Wyoming; Yampa River (art. XIII) between Colorado and Utah; and San Juan River (art. XIV) between Colorado and New Mexico.

21. Upper Colorado River Basin Compact, art. X.

22. Upper Colorado River Basin Compact, art. II(e) states that Lee Ferry means a point in the Colorado River one mile below the mouth of the Paria River. This point is about 13 miles downstream from the Utah-Arizona state line and is the division point between the Upper and Lower Basins.

### G. *Arkansas River Compact*<sup>23</sup>

The Arkansas River Compact provides operating criteria for John Martin Reservoir constructed by the Corps of Engineers in 1943. The Compact provides that during the winter storage season (November 1 - March 31) Colorado may demand releases of water from the reservoir equivalent to the river flow but not to exceed 100 cubic feet per second.

During the summer (April 1 - October 31) Colorado may demand releases of storage water equivalent to the river flow up to 500 cubic feet per second. Kansas may demand releases of water equal to the portion of the river flow between 500 and 750 cubic feet per second. Storage water may be released upon demand of both states concurrently or separately in amounts depending upon the amount of stored water available. Under concurrent demands Colorado is entitled to 60 percent of the water released, and Kansas 40 percent.

### H. *Costilla Creek Compact*<sup>24</sup>

This Compact negotiated by Colorado and New Mexico apportions the waters of Costilla Creek, a tributary of the Rio Grande which traverses the state line three times before entering the Rio Grande in New Mexico. Allocations are also made of storage water from Costilla and Eastdale Reservoirs.

### I. *Animas - La Plata Project Compact*<sup>25</sup>

This document establishes the priority of New Mexico users of water from the Animas - La Plata Project (if and when it is constructed) as equal to the priority of Colorado water users who will receive water from the project. The Compact was deemed necessary by Colorado and New Mexico to clarify the relationship between potential Colorado and New Mexico water users.

## VI. EFFECTS OF INTERSTATE RIVER COMPACTS ON THE STATE

### A. *Impacts on Water Supply*

In analyzing the effects of interstate river compacts upon the State of Colorado, the first question that presents itself is,

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23. Arkansas River Compact, Pub. L. No. 81-82, 63 Stat. 145 (1949) (signed by the States 14 Dec. 1948).

24. Amended Costilla Creek Compact, Pub. L. No. 88-198, 77 Stat. 350 (1963) (original signed by the States 30 Sept. 1944).

25. Animas - La Plata Project Compact, Pub. L. No. 90-537, §501(c), 82 Stat. 885, 898 (1968).

"How has the ultimate water supply of the state been affected?" Table 1 illustrates the effects on the state in quantities of water committed to other states in relation to the total water supply available in Colorado from five major river systems.

Table 1 shows that Colorado is using an average of about 5.6 million acre-feet per year of a total of 15.6 million acre-feet of water produced. Colorado will be able to increase its use about 1 million acre-feet to a total of about 6.6 million acre-feet per year for the state as a whole, or about 42 percent of the produced water supply. Colorado is furnishing nearly 8.8 million acre-feet of water to sources outside the state to meet compact commitments.

TABLE 1  
*Colorado — Surface Water Supply  
and Use Within Colorado<sup>26</sup>*

River System	Surface Water Supply	Import	Use (1975)	Compact Commitments	Remainder Available **
Arkansas	.88	.16	.84	.05	.15
Colorado	10.74	0	2.15	7.75	.84
Platte	2.04	.34	1.66	.52	.20
Republican	.35	0	.23	.12	0
Rio Grande	1.58	0	1.26	.32	0
Total	15.59	.50*	6.14	8.76	1.19

\*This item also counted as a depletion in Colorado River Basin. Actual use by State of Colorado = 6.14 — .50 = 5.64.

\*\*State + Import — Use — Compact Commitments = Remainder Available.

Table 1 also shows that the drainage basins in Colorado, excluding the Colorado River Basin, produce a total of 4.85 million acre-feet of water per year of which Colorado uses 3.99 million. Compact commitments to the other states amount to 1.01 million acre-feet per year of which 860,000 acre-feet per year are being used. The remaining 350,000 acre-feet are still

26. Adapted from Table VI-11 of U.S. DEP'T OF THE INTERIOR, CRITICAL WATER PROBLEMS OF THE ELEVEN WESTERN STATES 261 (1975).

available at the state boundary. The compacts pertaining to these drainage areas, insofar as protection of Colorado's right to use water therefrom, have been a distinct advantage to the State of Colorado which is using 82 percent of the water originating in the state.

In the Colorado River Basin over 70 percent of the virgin flow of the river, as measured at Lee Ferry, originates within the State of Colorado.<sup>27</sup> According to Table 1 about 72 percent of this supply is allocated by compacts to be used in other states.

#### B. *Administrative Impacts*

Administration of compacts by Colorado officials to implement the expressed purposes of the compacts, including the delivery of waters allocated, have at times presented problems of varying complexity to the state. These problems are usually unique to a given river basin and compact. Therefore, a brief mention of a few problems facing the state will be made.

##### 1. La Plata River Compact

On some occasions the flow of the La Plata River is so low that under the 50-50 compact split of the waters between Colorado and New Mexico neither state can receive a usable supply. In order to alleviate this situation the states agreed to adopt a system of rotation of the streamflow between the water users of the two states. In recent years a problem of maintaining an agreeable rotation system has developed. The ultimate impact of this problem on the state is unknown, and a solution is yet to be attained.

##### 2. South Platte River Compact

Presently Colorado is planning to construct the Narrows Reservoir near Fort Morgan. Although Nebraska has not yet formally complained about this potential reservoir, officials of that state are reported to be investigating the possible effects upon Nebraska water users. Under present conditions during the non-irrigation season, a large quantity of water flows in the South Platte River from Colorado into Nebraska. Also a large

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27. *Final Report, Engineering Advisory Comm. to Upper Colorado River Basin Compact Comm'n*, in 3 OFFICIAL RECORD OF NEGOTIATIONS OF UPPER COLORADO RIVER BASIN COMPACT (1948). Lee Ferry is the point of delivery of water to the Lower Basin under the Colorado River Compact.

number of irrigation pumping wells have been drilled in Colorado in the river basin since execution of the Compact in 1923. There is reason to speculate that the storage of water in the Narrows Reservoir may not only affect the amount of water delivered to Nebraska but may also affect pumping from wells and diversions of water made in Colorado after the date of the Compact. Officials of the State of Colorado will need to watch this situation carefully in order to assure compliance with the South Platte River Compact.

### 3. Rio Grande Compact

The Rio Grande Compact has been a bone of contention among Colorado, New Mexico, and Texas for about 20 years, principally because Colorado failed on many occasions to deliver sufficient quantities of water at the New Mexico state line. The deficits in deliveries finally became of sufficient magnitude that Texas entered a lawsuit in the U.S. Supreme Court against Colorado in an endeavor to force Colorado to meet its obligations under the Rio Grande Compact.<sup>28</sup> The Supreme Court in 1967 granted leave to Texas to file a complaint. New Mexico intervened in the case on the side of Texas.<sup>29</sup> In 1968 the Court issued a continuance order. As long as Colorado meets its annual Compact water delivery commitment at the state line each year, the case will remain in abeyance. Meanwhile, an administrative solution is being developed.

Colorado has had to enforce the curtailment of the use of water by irrigators in the San Luis Valley in recent years in order to meet the Compact commitment. The state has also sponsored the construction of the Closed Basin Project in the San Luis Valley as a federal reclamation project to make possible the continuance of irrigation in Colorado and at the same time deliver the required amounts of water to New Mexico and Texas.

The restrictions of the Rio Grande Compact have caused serious impacts on the development and economy of the local area and the state.

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28. *Texas v. Colorado*, 389 U.S. 1000 (1967), *continuance granted*, 391 U.S. 901 (1968).

29. *Kansas v. Colorado*, 185 U.S. 125 (1902); *Kansas v. Colorado*, 206 U.S. 46 (1907); and *Colorado v. Kansas*, 320 U.S. 383 (1943).

#### 4. Republican River Compact

Colorado law treats underground water in the same manner as surface water, *i.e.*, as being a part of the total supply of a river basin. If the pumping of water from this basin in Colorado increases to such an extent that deliveries of water to Kansas are affected, Kansas will undoubtedly object.

#### 5. Arkansas River Compact

Prior to the Arkansas River Compact of 1948 the use of the waters of the Arkansas River was a subject of litigation between Colorado and Kansas in at least three different legal proceedings.<sup>29</sup> There have been continuing problems with the administration of the interstate Compact. Although Kansas was given the right to 40 percent of the water stored in John Martin Reservoir, there are times when Kansas' share of the water does not arrive at the state line. There is also a problem related to a large number of irrigation wells in Colorado that are depleting the groundwater and thus contributing to the overall problem of compact administration.

#### 6. Costilla Creek Compact

Problems with administration of this compact have been minor.

#### 7. Animas - La Plata Project Compact

The Animas - La Plata Project, which was authorized by the Congress in 1968,<sup>30</sup> has not been constructed. Therefore, this Compact has not been put into effect.

#### 8. Colorado River Compact

The Colorado River Compact does not provide for a permanent administrative agency. There are two articles in the document that indicate that a certain amount of administration was anticipated. For instance, the Compact specifies that the chief official of each state charged with the administration of water rights, together with the Director of the U.S. Reclamation Service and the Director of the U.S. Geological Survey shall cooperate, *ex officio*, to determine and coordinate facts relating to water supply and consumption, publish a record of annual flows of the Colorado River at Lee Ferry, and perform

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30. Colorado River Basin Project Act, Pub. L. No. 90-537, 82 Stat. 885 (1968).

such other duties as may be assigned by mutual consent of the seven basin states.<sup>31</sup>

The Compact also provides that if any claim or controversy arises between any of the signatory states, the governors of the states affected, upon the request of one of them, shall appoint commissioners with power to consider and adjust such claim or controversy, subject to ratification by the legislatures of the affected states.<sup>32</sup> This provision of the Compact has never been invoked. The 1964 decision of the U.S. Supreme Court in the fourth *Arizona v. California*<sup>33</sup> lawsuit requires the Secretary of the Interior to act as water master or administrator for operation of the lower main stem of the Colorado River for deliveries of water to Arizona, California, and Nevada.

#### 9. Upper Colorado River Basin Compact

Unlike any of the other river agreements to which the State of Colorado is a party, this Compact created an interstate agency known as the Upper Colorado River Commission to administer the Upper Colorado River Basin Compact.<sup>34</sup> The Commission is composed of one commissioner appointed by each state and one commissioner appointed by the President to represent the United States of America. The Commission is charged with certain well-defined powers and duties, among them that of making findings as to the necessity for and the extent of curtailment of use of water by each of its member states in the event such curtailment becomes necessary, in order to maintain the river flow to the lower basin in compliance with Article III of the Colorado River Compact.<sup>35</sup> Due to the fact that none of the member states of the Commission have used their full apportionments of water it has not been

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31. Colorado River Compact, art. V. The present Commissioner of the U.S. Bureau of Reclamation is the successor to the Director of the U.S. Reclamation Service.

32. Colorado River Compact, art. VI.

33. *Arizona v. California*, 373 U.S. 546 (1963).

34. Upper Colorado River Basin Compact, art. VIII.

35. Upper Colorado River Basin Compact, arts. IV & VIII(8). Under art. III(c), (d) of the Colorado River Compact the Upper Division States, which are the same as the member states of the Upper Colorado River Commission, are required to: (a) deliver at Lee Ferry water to supply their obligation under the Mexican Treaty, whatever that may be determined to be by some future Supreme Court decision; and (b) to not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75 million acre-feet for any period of 10 consecutive years.

necessary to invoke this power of the Commission.

## VII. PROTECTION OF COLORADO'S RIGHTS TO USE WATERS OF INTERSTATE STREAMS

Although there have been administrative problems, compacts have been beneficial to Colorado in protecting the use of interstate waters against prior appropriation and use in other states. This beneficial impact far outweighs any administrative problems that have been encountered, some of which have been caused by Colorado water users themselves combined with poor administration of water rights within the state. The Rio Grande situation is an example of this point. The pending *Texas v. Colorado* lawsuit can be regarded as an outgrowth of the Rio Grande Compact. It certainly was not caused by the Compact itself, but by the failure of Colorado to meet its commitments thereunder.

Certainly, there are other related benefits from water-use compacts to the State of Colorado. Some of the compacts, notably the Upper Colorado River Basin Compact, made possible the construction of a number of water development projects that otherwise would have had to be foregone. This Compact also led to close interstate cooperation in promoting Congressional legislation to authorize the Colorado River Storage Project and participating projects of which Colorado is a major beneficiary.<sup>36</sup> The allocation of water resources by means of amicable mutual agreements has saved much time and energy through the avoidance of litigation. Compacts have defined the respective rights of all parties to the use of water, have resolved mutual interstate difficulties, and bound Colorado and her neighbors together with regional development ties.

The federal government with its vast resources on public lands and its deep interest in water resource development has been effectively kept within reasonable bounds in its pursuit of dominance by Colorado's interstate compacts. Most federal agencies seem to feel a moral obligation to stay within the limits of interstate river compacts to which the Congress has given its approval. In fact, federal-state cooperation has led to the development of a large portion of Colorado's compact-allocated water supplies.

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36. Colorado River Storage Project Act, 43 U.S.C. § 620 (1970).

## VIII. SPECIAL PROBLEMS FOR COLORADO UNDER THE COLORADO RIVER COMPACT

### A. *Litigation*

The existence of interstate river compacts has not always been used to the benefit of Colorado, especially in the political arena. In spite of the fine language utilized by capable negotiators in the past in writing compacts, they are susceptible to different interpretations by different parties under different political situations at a later time. This is especially true if all of the facts are not at the disposal of the compact negotiators. An excellent example of a compact in this category is the Colorado River Compact.

In 1922 when the Compact was being negotiated, it appeared that the annual average virgin flow of the Colorado River at Lee Ferry was about 17 million acre-feet. Data collected during the last 54 years indicate that this average annual virgin flow may be less than 14 million acre-feet. Based upon the 1922 assumption as to water supply, the negotiators wrote into the Compact the provision that the upper states should not deplete the flow at Lee Ferry below 75 million acre-feet for each period of ten consecutive years.<sup>37</sup> Obviously with annual allocations totaling 17.5 million acre-feet (1.5 million to Mexico,<sup>38</sup> 8.5 million to the lower basin, and 7.5 million to the upper basin<sup>39</sup>) some allocations cannot be met.

In the 1950s California knew about this shortage. California bitterly opposed the Congressional authorization of water development projects in the Upper Colorado River Basin for the benefit of Colorado and her sister states on the grounds that there was insufficient water in the river, and that the upper basin should bear all of the shortage in water supply under the compact allocation.<sup>40</sup>

Arizona interprets the Compact in such a way that Colorado and the other upstream states would be charged with all

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37. Colorado River Compact, art. III(d).

38. Mexican Water Treaty, 59 Stat. 1219, T.S. No. 994 (1944).

39. Colorado River Compact, art. III(a), (b).

40. See *Hearings on S. 1555*, 83d Cong., 2d Sess. (1954); *Hearings on H.R. 270*, 2836, 3383, 3384, 4488, & S.500, 84th Cong., 1st Sess. (1955) (Bills to authorize the Secretary of the Interior to construct, operate, and maintain the Colorado River Storage Project and participating projects).

of the shortage in water supply plus the delivery of one-half of the United States annual water obligation to Mexico (not one-half of any deficiency) plus losses in the river to deliver one-half of the Mexican water delivery.<sup>41</sup> The Secretary of the Interior, although he denies he is interpreting the compacts, in his calculations of available water supply assumes that Colorado and her sister upper division states should bear the shortage and deliver to the lower basin an amount equal to one-half the entire United States annual water delivery to Mexico in addition to 7.5 million acre-feet per year (1/10 of 75,000,000 under Article III (d) of the Compact). The effect of these interpretations, according to the Secretary of the Interior, is to leave 5.8 million acre-feet of water for annual consumption by Colorado, New Mexico, Utah, and Wyoming.<sup>42</sup> This arbitrary method of calculation reduces the water available to Colorado under the Compact from 3.8 to 2.98 million acre-feet per year—a reduction of 23 percent of the amount intended for Colorado when the Compact was executed in 1922.

Arizona also contends that the waters of the Gila River which flow through parts of New Mexico and Arizona are not included under the Colorado River Compact water apportionments, although those apportionments are made from the Colorado River system which is defined by the Compact to include the Colorado River and all of its tributaries within the United States.

The State of Colorado is strongly opposed to the above interpretations of the Compact and the actions of the Secretary of the Interior in his decisions affecting the river which result in an inequitable distribution of the benefits. These issues will

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41. W. Steiner, *Water for Energy as Related to Water Rights in the Colorado River Basin*, May 1975 (presented at the Conference on Water Requirements for Lower Colorado River Basin Energy Needs, University of Arizona). See also Weatherford & Jacoby, *Impact of Energy Development on the Law of the Colorado River*, 15 *NATURAL RESOURCES J.* 171 (1975).

42. U.S. DEP'T OF THE INTERIOR, *CRITICAL WATER PROBLEMS OF THE ELEVEN WESTERN STATES* (1975). The Governor of Arizona apparently believes that the Secretary of the Interior does interpret the compacts in arriving at 5.8 million acre-feet per year for the Upper Basin. Thus, the Governor has written:

The 5.8 m.a.f. is supportable by interpretation of Compacts and was derived on the basis of an interpretation. It may not be the final or right interpretation, but it is an interpretation.

Letter from Governor of Arizona to Secretary of the Interior, 7 Aug. 1974.

have to be settled by the U.S. Supreme Court. At the present time there is no other alternative that can be reasonably anticipated. Because of the basic differences in philosophy among involved parties there is no chance of seeking a more equitable apportionment of water through renegotiation of the Colorado River Compact.

The issues involving inclusion of the Gila River under the compact, the determination of the upper and lower basins' shares of the Mexican Treaty burden, equitable distribution of the water storage, consumptive use, and energy generation benefits are all interrelated. They are also of great importance in the determination of the course of Colorado's future water development and related resources conservation program, especially as related to social and economic values.

#### B. *Water Quality*

The Environmental Protection Agency under the Federal Water Pollution Control Act Amendments of 1972<sup>43</sup> has declared that salinity in the Colorado River system is a form of pollution, and therefore falls under its jurisdiction.

On other river systems where the administration of the use of the waters is not under the terms of interstate river compacts, the attitude of the Environmental Protection Agency has been that a part of the water resource, including water from reservoirs constructed for other purposes could be released under edict of the federal government for dilution purposes to enhance water quality. When the EPA and its predecessor agencies first became active on the Colorado River this concept was also expressed. To anyone who has been closely associated with the salinity problem, it is apparent that the presence of the Colorado River Compact and the Upper Colorado River Basin Compact, combined with the close political unity of the seven basin states concerning this problem, caused the EPA to look at it in a more reasonable light. In fact, the EPA cooperated fully to the extent possible under the law with the seven basin states in seeking a completely different kind of solution to the salinity problem, a solution that was acceptable to both the states' and federal interests. The result was a cooperative

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43. Federal Water Pollution Control Act Amendments, 33 U.S.C. §§1251 *et seq.* (Supp. III, 1973).

effort by the states to sponsor the passage of legislation<sup>44</sup> by the Congress that should cause the salt concentration in lower reaches of the river to become no worse than it was in 1972, *if the authorized salinity control measures are effective*. The states, also with the cooperation of the Environmental Protection Agency and the Department of the Interior, established salinity criteria at several points on the main stem of the river, as required under the Federal Water Pollution Control Act Amendments, and adopted a plan of implementation to meet those criteria.<sup>45</sup>

The two Colorado River compacts aided in reaching a solution to the salinity problem that will have far less adverse social and economic impacts on the State of Colorado than would a solution involving the use of large quantities of high quality water for dilution purposes to improve water quality in downstream states. Representatives of the EPA in the beginning complained that the compacts impaired their ability to accomplish the purposes of the water pollution laws to control and enhance water quality. The important point is that the compacts inhibited the EPA in any designs it may have entertained to revolutionize the entire scheme of river management.

#### IX. CONCLUSIONS

The State of Colorado has heavily influenced the history and development of the compact concept; compacts are a mutually agreeable means of settling existing water disputes and preventing future controversies over the waters of interstate streams. Colorado, a party to the first interstate water allocation compact in the United States and to a total of nine similar agreements, together with her sister states, has had a great impact on the process of interstate water allocation. Conversely, water compacts to which the state is a party have had and will continue to have their influences on the nature and

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44. Colorado River Basin Salinity Control Act, Pub. L. No. 93-320, 88 Stat. 266 (1974) (codified in various portions of 43 U.S.C.). It is acknowledged that the negotiation of Minute No. 242 to the International Boundary and Water Commission, United States and Mexico, to settle an impending salinity problem between the two countries, stimulated action and gave impetus to the passage of the Salinity Control Act by the Congress. Title I of the Act also implements Minute No. 242 exclusively for the benefit of Mexico. See also 24 U.S.T. 1968, T.I.A.S. 7708 (1973).

45. 41 Fed. Reg. 13656 (1976) (water quality standards for salinity of the Colorado River System, promulgated by the Environmental Protection Agency).

direction of actions of state officials in the future development, conservation, and utilization of the water resources of Colorado. Compact terms have served as parameters for resource development processes.

Officials of the state have done an effective job in preserving the rights of Colorado citizens to use waters of interstate streams. It can be said with respect to river systems with headwaters in Colorado that, without compacts, other states probably would have obtained the permanent rights to use the bulk of interstate waters by prior appropriation due to their more rapid settlement and development. The benefits of this compact protection greatly outweigh the adverse effects of administrative problems that have been created, or the trials and tribulations that will be associated with seeking judicial corrections of inequities through Supreme Court interpretations of the Colorado River Compact. This is not to say that such judicial determinations should not be sought, because they certainly should be whenever inequities are believed to exist and the remedy will be beneficial to the state.

Changes in the overall economy have made possible the great expansion of groundwater pumping in several of Colorado's river basins in recent years. The interweaving of Colorado laws related to groundwater and surface water may lead to future disputes with neighboring states, if extraction of water from wells materially affects the streamflow across state lines. In that event, litigation under the compacts can be expected, and the legal position of Colorado will be tested under compact interpretation.

Although compacts have attained a great stature in the allocation of the use of water resources of interstate streams in the West, they should not be regarded as the means of permanent resolution of all water problems. Many years ago the writer attended a water conference in Colorado at which the century-old East Slope-West Slope controversy over the transmountain diversion of Western Slope Colorado River water to the Eastern Slope was being aired in no uncertain terms. One of the participants facetiously suggested that a permanent settlement of the fight could be attained by dividing Colorado at the Continental Divide, giving the western portion to Utah and the eastern portion to Kansas, and negotiate an interstate streams compact between Utah and Kansas!

In Colorado as well as in other parts of the West, exploitation is gradually being superseded by a sense of conservation. As the ultimate limit of the use of available water resources is approaching it is hoped that interstate water compacts may prove to be effective devices in aiding members of society to live together and make the most of what remains. As the goals and desires of Colorado society change, time may prove that too much rigidity in one or more of the interstate compacts could impair or preclude arriving at the best possible combination of social and economic benefits. Such changes ordinarily do not happen in one state alone. They usually occur on a regional basis. An atmosphere may be created in which trade-offs can be possible. At that point it is hoped that reasonable men will be able to sit around the table and reach interstate agreements that will be as successful as those of the past.

Interstate river compacts notwithstanding, one conclusion seems certain. To paraphrase a noted water authority of the State of Colorado, the final chapter in the continuing struggle over the waters of Colorado's rivers has not yet been written, and may never be.<sup>46</sup>

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46. F. Sparks, *Synopsis of Major Documents and Events Relating to the Colorado River*, 20 July 1976 (presented at a symposium sponsored by the Colorado Water Congress and Western State University).

### Appendix

#### INTERSTATE WATER ALLOCATION COMPACTS TO WHICH THE STATE OF COLORADO IS A PARTY

Colorado River Compact, COLO. REV. STAT. ANN. §§37-61-101 *et seq.* (1973), approved by Congress, Pub. L. No. 70-642, §13, 45 Stat. 1057, 1059 (1928) (signed by the States 24 Nov. 1922). Text may be found at 70 Cong. Rec. 324 (1928).

La Plata River Compact, Pub. L. No. 68-346, 43 Stat. 796 (1925) (signed by the States 27 Nov. 1922).

South Platte River Compact, Pub. L. No. 69-37, 44 Stat. 195 (1926) (signed by the States 27 Apr. 1923).

Rio Grande Compact, Pub. L. No. 76-96, 53 Stat. 785 (1939) (signed by the States 18 Mar. 1938).

Republican River Compact, Pub. L. No. 78-60, 57 Stat. 86 (1943) (signed by the States 31 Dec. 1942).

Upper Colorado River Basin Compact, Pub. L. No. 81-37, 63 Stat. 31 (1949) (signed by the States 11 Oct. 1948).

Arkansas River Compact, Pub. L. No. 81-82, 63 Stat. 145 (1949) (signed by the States 14 Dec. 1948).

Amended Costilla Creek Compact, Pub. L. No. 88-198, 77 Stat. 350 (1963) (original signed by the States 30 Sept. 1944).

Animas-La Plata Project Compact, Pub. L. No. 90-537, §501(c), 82 Stat. 898 (1968).

#### SUBCOMPACTS

Little Snake River, in Upper Colorado River Basin Compact, Pub. L. No. 81-37, art. XI, 63 Stat. 31 (1949) (signed by the States 11 Oct. 1948).

Yampa River, in Upper Colorado River Basin Compact, Pub. L. No. 81-37, art. XIII, 63 Stat. 31 (1949) (signed by the States 11 Oct. 1948).

San Juan River, in Upper Colorado River Basin Compact, Pub. L. No. 81-37, art. XIV, 63 Stat. 31 (1949) (signed by the States 11 Oct. 1948).

