

Appendix 207

**THE COLORADO RIVER COMPACT:
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FOR ARIZONA**

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et seq.)¹

There comes a time in the lives of men when a choice must be made of a course to pursue. Perhaps a choice of a profession or some vital principle which will affect the life work or career of the individual are questions that come, and each must choose for himself.

There comes a time when every growing, progressive city or state must choose the course for it to pursue on some vital question which will make for good or ill as the decision is correct or ill advised.

The state of Arizona is now confronted with such a question. No proposition so vital to the welfare and future development of the state has ever been presented to the people for settlement as that which is now presented by the Colorado river compact.

A "compact" was the expected result of legislative action in each of the seven states in the Colorado river basin authorizing and directing the appointment of a representative of each state to form a commission to negotiate a compact respecting the use of the waters of the Colorado river and its tributaries. Such a compact or agreement between two or more states is not permissible except by approval of the United States, and as the United States is also vitally interested in the Colorado river, legislative action of a similar character was taken by the Congress authorizing the President to appoint a representative on the commission to represent the interests of the United States.

An intensive study of the Colorado river and the basin was taken up immediately the members of the commission were appointed, and running through the period of practically two years; a series of 27 meetings were held by the commission during that period of time. So far as the writer has been able to learn, every bit of information known and of record in government departments and elsewhere was made available to the members of the commission. Of the meetings mentioned, a number of them were open meetings held in the different states interested, that the commission might obtain the viewpoint of the citizens on the questions at issue, and these were made matters of record.

¹ Apparently no formal report was submitted to the Arizona Legislature.

The United States geological survey and the United States reclamation service have been exceedingly helpful, the former in collecting and collating the water supply in detail of the whole basin as well as an analysis of the needs of the upper and lower basins; the latter in furnishing an accurate statement of present irrigated acreage and use of water in each state, as well as the prospective or irrigable acreage and need of water in each state; as well also the results of investigations as to return flow from irrigation, losses by evaporation and seepage.

A careful, searching study of the Colorado river and tributaries will disclose a varying condition of flow from as low as approximately 9,000,000 acre feet to as high as 26,000,000 acre feet in a year measured at Yuma. This, however, is what is left in the river after all diversions have been made above that point, including all diversions from the Gila and tributaries, and also from the Colorado for the Yuma project, and from which is taken only what is diverted by the Imperial valley and Mexico, approximately 2,250,000 acre feet per annum in California and 950,000 acre feet in Mexico, the balance wasting into the gulf.

The study discloses the Colorado river basin is divided by nature into two basins, which may be called the upper and lower basins, separated by many hundreds of miles of mountains and high, rocky plateaus, an uninhabited country, through which the river flows in deep canyons, in some places almost a mile deep; the two divisions or basins differ materially in climate, in farming conditions, in economic and living conditions. The upper basin has a comparatively high altitude, a cool climate, a short growing and irrigating season, and portions of it have a heavy precipitation, while the lower basin is for the most part low in altitude, a warm, dry climate, and a long growing season.

The study discloses the drainage in square miles in the states and the production of water to the river as shown by the following interesting table prepared by the United States geological survey:

	<i>Square miles</i>	<i>Acre feet of water</i>
Wyoming.....	18, 000	2, 300, 000
Colorado.....	39, 000	11, 800, 000
Utah.....	40, 000	2, 300, 000
New Mexico.....	23, 000	1, 260, 000
Arizona.....	113, 000	740, 000
Nevada.....	12, 000	negligible
California.....	4, 000	negligible

From the above table it will be seen that the first four states named produce 17,600,000 acre feet of water per annum to the river.

The first principle of the Colorado river compact is a division of the basin into two divisions in accord with the division by nature,

making the division point at Lee's Ferry, which is about midway of the natural dividing mountains; that being the only practical accessible point for hundreds of miles, and at that point there is now established a first-class gauging station for the measurement of the water of the river, and is, too, one of the most promising dam sites on the river; putting the states of Wyoming, Colorado, Utah and New Mexico in the upper division and the states of Arizona, California and Nevada in the lower division. In the upper basin, those portions of all the states that drain into the river above Lee's Ferry and in the lower basin those portions of all the states that drain into the river below Lee's Ferry.

The U. S. reclamation service report: "Problems of Imperial Valley and Vicinity," shows there are irrigated in the upper basin 1,526,000 acres, consuming approximately 2,400,000 acre feet of water per annum; that the feasible irrigable new acreage in the upper basin is 2,500,000, with a need for an additional supply of water of 3,750,000 acre feet per annum, or an ultimate acreage in the upper basin, present and prospective, of 4,000,000 acres, with a consumptive use of water of 6,250,000 acre feet, with a possible intermountain diversion of 350,000 acre feet, making a total consumptive use in the upper basin of 6,600,000 acre feet per annum, foreseen at present.

That the irrigated acreage in the lower basin corrected to date from the Colorado river direct is 513,000, using 2,560,000 acre feet of water per annum; that the known new acreage feasibly irrigable in the lower basin is 754,000, with a demand for 2,540,000 acre feet, making a total of 1,267,000 acres, and a demand for 6,100,000 acre feet of water per annum.

Therefore, the second principle in the compact, the division of the beneficial use of water in the two basins, 7,500,000 acre feet per annum to each basin. As the river is not regular in its flow, great floods come down at certain seasons of the year which are a constant menace to the Palo Verde and Imperial valleys in California and the Yuma valley in Arizona, it is recognized that the river must be controlled for the double purpose of protecting the lower valleys from the menace of flood and storing the water to extend the reclamation of lands, for without storage the natural flow during the irrigating season is barely sufficient to supply the present demand and in some dry years there is not enough; then, too, as we have said, the annual flow fluctuates from 9,000,000 acre feet to 26,000,000 acre feet, and the water of years of abundance must be stored as a reserve against those of famine and the flow regulated as near as possible.

A study of the river discloses an average flow past the station at Yuma of 17,400,000 acre feet per annum; this is below all diversion except the Imperial valley; it is also below all inflowing streams. The station at Laguna dam shows 16,400,000 acre feet per annum. These

figures being the average over the period of 1899 to 1920, both included, a period of 22 years. However, during the period of 1905 to 1920, both years included, Yuma shows an average of 18,244,444 acre feet and Laguna 17,218,000 acre feet per annum. Adding to the amount disclosed at Yuma the amount diverted and used above, including that from the streams in Arizona, would make the production of the basin between 22,000,000 and 24,000,000 acre feet per annum, reckoned from that station.

Further calculations and deductions will disclose practically the same amount of water passing Lee's Ferry as Laguna, each approximately 1,000,000 acre feet less than at Yuma. Further, there is an inflow between Lee's Ferry and the measuring station at Topock, which would be practically the same as at Boulder canyon, of 2,500,000 acre feet; the principal streams which must furnish this are Little Colorado, Kanab creek, Cataract, Diamond creek and the Virgin river. This amount of water is lost by evaporation, percolation or seepage and diversion before it reaches Laguna. That amount, however, is present at or near the Boulder canyon, for use from there if the river can be stabilized and controlled so as to reduce the waste to a minimum.

The Topock station shows about 1,500,000 more water passing there than passes Yuma, or 2,500,000 more than passes Laguna. The 1921 record shows the following:

Yuma, 19,300,000; Topock, 21,500,000, and for 1922: Yuma, 17,600,000; Topock, 19,000,000; Lee's Ferry (the first year), 16,100,000. Now that we have stations at Lee's Ferry and at Grand Canyon, a few years will verify our deductions or show an error in the calculations.

There is, therefore, approximately 17,000,000 acre feet per annum passing Boulder canyon. There is also 16,500,000 passing Lee's Ferry each year on an average. Under the compact the upper states are allotted 7,500,000 acre feet, of which 2,500,000 is already used, leaving 5,000,000 more to be used; that is 1,250,000 acre feet to each of the upper states, if they can make use of that much, and the best-informed men say it will be nearly a century before they will be able to use that much more water, if ever. For the sake of argument, suppose they take all of the 5,000,000 acre feet from now on, there will be left in the river at Lee's Ferry 11,500,000 acre feet per annum on the average. With no more diversions than we now have that amount will show up at Laguna and a million more acre feet will be added at Yuma.

Nevada's wants from the river are nil. California will ultimately need less than 4,000,000 acre feet to reach her limit. If the upper states could take the whole allotment and Arizona waited until California satisfied her needs, there would still be in the river 3,500,000

of water allotted to the lower basin for Arizona out of the 7,500,000 from the Colorado. In addition there would be the difference between 19,000,000 and 7,500,000 plus 5,000,000, which would leave 6,500,000 unallotted and subject to appropriation under the law of appropriation. California having been fully satisfied, there is then 10,000,000 acre feet in the river for Arizona, if she can use it, 3,500,000 under the compact and 6,500,000 unallocated.

No rights in Mexico are recognized in the compact. There is at this time, however, approximately 950,000 acre feet of water used in Mexico. The only treaty now in force between the United States and Mexico pertaining to the Colorado river is the Gadsden treaty of 1853, and that pertains only to the rights of navigation, wherein the citizens of the United States are granted the right of navigating the river between the United States and the gulf. There was no attempt to create or reserve to Mexico or her citizens any rights or to impose on the United States or their citizens any restraints with respect to the use of water for irrigation, although rights of property were secured to all Mexicans who had a claim upon the same. Though some writers of international law say that in a treaty of peace, such as the Treaty of Guadalupe Hidalgo, of 1848, which first fixed the rights of the two nations relative to the Colorado river, a strict construction should be placed upon the terms of the treaty against the dominant nation, but nothing should be implied. The Gadsden treaty was not a treaty of peace and the terms are clear. There is, therefore, no treaty right reserving to or granting to Mexico a right to irrigation water from the Colorado. Nor is there any law or relationship between the two countries binding the United States to recognize a priority of appropriation in Mexico. The United States as a distinct sovereignty may take and use all the water when she will and break no law or obligation.

As a matter of comity the United States may, and probably will, enter into a treaty with Mexico regarding irrigation water, but certainly not to the extent of granting rights to water needed for irrigation in the United States.

In the treaty between the two countries respecting irrigation water for Mexican lands from the Rio Grande, signed by Elihu Root and Joaquin D. Casasus, this expression appears:

The delivery of water as herein provided is not to be construed as a recognition by the United States of any claim on the part of Mexico to the said waters.

And further:

The United States, in entering into this treaty, does not thereby concede expressly or by implication, any legal basis for any claims heretofore asserted or which may be hereafter asserted by reason of any losses incurred by the owners of land in Mexico due or alleged to be due to the diversion of the waters of the Rio Grande within the United States.

This being our criterion, we may, if we can, divert and use all the water of the Colorado in the United States, and establish thereby an absolute right. Any water that crosses the international boundary line may be used by the Mexican people as they see fit, subject to the rights of navigation by United States citizens to and from the Gulf of California.

The third principle established by the compact was to fix a time when the remainder of the water unallotted and unused might be apportioned.

The fourth principle fixes a preference in agricultural uses over power, the social over the industrial, the building of homes out in the open country over the centralizing of people into congested tenements. Nor will a careful analysis show that this will materially lessen the amount of power that can be developed. The river will still furnish all the power that can be used.

The fifth principle, that the upper states shall not withhold water that cannot be reasonably applied for agricultural uses. Nor shall the lower states demand such water for a like use.

The sixth principle confirms vested rights as fixed and unchanged.

The seventh principle permits any state the right to appeal to court to enforce the terms of the compact.

The compact binds the states to assist each other, or at least not to hinder each other in the construction of any project and in financing the same, whether from the public treasury or by private capital. It locates no dam site as the place for work to begin. It proposes no project, either for power or irrigation. It merely fixes rights in the two basins to a certain safe limit and removes all other objections, permitting each state or group of states to develop its or their own projects as best they may so long as they conform to the very broad terms of the compact.