FIFTY-FIFTY DIVISION

COLORADO RIVER FLOW - YUMA BASIS

The Yuma Station records all of the flow of the Colorado River. The records cover a long period of years and are considered authentic and reliable from 1902 to date.

The river naturally divides itself into upper and lower portions.

The upper part of the basin includes that part of the drainage area within Utah (except the Virgin), Wyoming, Colorado, New Mexico (except the Gila and Little Colorado), and a trivial portion of the area of Arizona which is too negligible to constitute a factor in the division of waters.

The upper basin area is the region of origin of the greater part of the waters of the stream. All the streams in this area finally unite to form the Colorado River as it enters the canyon below the mouth of the San Juan and immediately above the Utah and Arizona line.

The lower portion of the basin includes that part of the drainage area within the States of California, Nevada, Arizona, the Little Colorado and Gila portions of New Mexico, and the lands in the Republic of Mexico.
The lower portion of the basin contributes the smaller part of the water supply and contains large acreages of irrigable lands, while the upper part of the basin contains smaller acreages in proportion to the water supply.

For the purposes of future distribution of the water supply of the river, the basin may be conveniently divided at or near the Utah-Arizona line and for present convenience Lee's Ferry in Arizona may be taken as the point of division. If at a later date the Glen Canon Reservoir is constructed, rating stations may be established on the San Juan, Colorado, Fremont and Escalante at or near points where said streams enter the reservoir, where records may be obtained in substitution for records to be kept at Lee's Ferry prior to the construction of such a reservoir.

The basin of the river as so divided will hereafter be termed "upper basin" and "lower basin" respectively.

At the present about 200,000 acres are being irrigated in Mexico by waters diverted from the Colorado River. To what degree this acreage will be increased depends entirely upon international arrangements to be hereafter agreed upon between the United States and Mexico. The amount of the increased future diversions, if any, is entirely conjecturable. It is said that about
800,000 acres of land in Mexico are irrigable from the Colorado River including present irrigated acreage. If the United States should deprive her own territory of the benefit of waters necessary to serve this entire 8000,000 acres, it is estimated that an annual diversion of about 2,400,000 acre feet would be required for the service of the Mexico lands. None of the lands in Mexico were irrigated prior to the construction of the Imperial Valley canal by citizens of the United States, and all of the lands now under irrigation in Mexico are served entirely by the Imperial Valley canals. The degree to which the United States may later feel called upon to sacrifice the development of her own territory for the benefit of Mexico will depend entirely upon future international relations.

The division of the waters of the river can be made between the seven states of the Colorado River basin with provision for future distribution of any additional burden upon the stream imposed by international treaty.

The annual average flow of the Colorado River at Yuma rating station has been 17,400,000 acre feet.

The Gila, Bill Williams, Virgin, Little Colorado, and other streams contribute 1,740,000 acre feet between Lee's Ferry and Yuma.
If the total natural flow of the river at Yuma (17,400,000 acre feet) were to be divided equally between the upper and lower basins using Lee's Ferry as the point of diversion the upper basins would be called to deliver to the lower basins at Lee's Ferry one-half of the Yuma flow (8,700,000 acre feet) less the in-flow between Lee's Ferry and Yuma (1,740,000 acre feet), or an average annual flow of 8,960,000 acre feet to pass Lee's Ferry for the use of the lower basin.

And additional burden upon the river resulting from treaty obligations between the United States and Mexico should be distributed equally upon the water supply of the two basins. To illustrate: If the United States should agree with Mexico that the United States should annually furnish three acre feet per acre for 800,000 acres of land it would thereby impose a burden of 2,400,000 acre feet upon the river in the United States. Fifty per cent (1,200,000 acre feet) of this burden would then fall upon each of the two divisions of the basin. This would require the upper states to cause 1,200,000 acre feet average additional flow to pass Lee's Ferry, or a total average annual flow of 8,160,000 acre feet to pass Lee's Ferry.

If the United States agreed with Mexico to furnish an amount less than 2,400,000 acre feet annual delivery, the burden would be correspondingly lessened on the ratio of equal relief to each of the divisions of the
Objection may be raised that the waters of the Gila should not be included within the total flow of the river. But such objections are without force. The Gila is just as capable of substantial regulation as are the other streams of the river drainage. The San Carlos, Verde, Sentienl, and other reservoirs may be constructed to control the waters of the stream and the first use of these waters along the course of the stream and the tributaries thereof will not wholly consume the water supply of the Gila, but will so control the flow that any part thereof entering the Colorado River may be delivered into Mexico. Any objections upon the ground of contemplated abandonment of the present diversion of Colorado River waters to Imperial Valley canals is likewise without force. If the present diversion system is abandoned such abandonment must be at the expense of the lower river and the burden thereof cannot justly be imposed upon the upper territory.

There is an existing operating diversion system below Yuma. This diversion system is capable of diverting the water from the stream and supplying the same to the Mexican lands. All of the upper states may in justice demand that this diversion shall continue, and that if it is abandoned such abandonment shall be at the expense of the lower river territory causing the abandonment.
DIVISION OF COLORADO RIVER—LEE'S FERRY BASIS

It is authoritatively estimated that the natural flow of the river at Lee's Ferry is equivalent to about 90% of the natural flow at Yuma, or slightly more than 95% of the flow at Laguna Dam.

Ninety per cent of the average annual flow at Yuma (17,400,000 acre feet) amounts to 15,660,000 acre feet. This leaves 10% of the Yuma flow (1,740,000 acre feet) coming into the river between Lee's Ferry and Yuma.

An equal division upon the basis of the average annual flow of the river at Lee's Ferry (15,660,000 acre feet) would result in a requirement that the upper basin should annually deliver to the lower basin at Lee's Ferry an average annual flow of 7,830,000 acre feet.

This method of division would give to the lower basin 7,830,000 acre feet plus 1,740,000 acre feet, or a total of 9,570,000 acre feet out of the total 17,400,000 acre feet flow of the river, or a delivery and allotment to the lower basin of 55% of the annual flow of the river, and 45% to the upper basin.

The additional 10% of the river going to the lower basin would be available to care for any additional burden
placed upon the river by international treaty.

The upper basin should not be called upon to contribute any additional part of the water supply, unless the international burden should exceed 1,740,000 acre feet, in which event the additional burden should be distributed equally between the two basins and the upper basin should only be called upon to deliver an amount of water in acre feet equivalent to one-half of the difference between the total annual treaty delivery and 1,740,000 acre feet.
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