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II The Lower Basin

1. History of Water Development

In 1901 the Alamo Canal was completed from the Colorado River near Yuma, Arizona, into the Imperial Valley of California to meet agricultural irrigation demands. Fifty miles of this canal traversed into Mexico. The Reclamation Act of 1902 was passed to encourage the development of the western portion of the United States. In 1905 the Colorado River flooded and broke into the Alamo Canal and began to fill the Salton Sink of California. The Colorado River flowed to the Salton Sink until February of 1907 when the river was diverted back to its channel. After this event, settlers in the Imperial Valley of California began action for a water delivery system that was totally within the United States to avoid problems in working with the Mexican government, to reduce the potential for future floods entering the Salton Sink, and to reduce sediment carried into their irrigation system.

The first dam on the Colorado River was completed in 1909, named Laguna Dam, approximately 25 miles upstream of Yuma, Arizona, which diverted Colorado River water for irrigation use in the Yuma area. Then, with the subsequent passage of the laws cumulatively called "The Law of the River", Hoover Dam was completed in 1935; Parker and Imperial Dams were completed in 1938; Headgate Rock Dam was completed in 1942; Palo Verde diversion was completed in 1957; Morelos Dam was completed in 1948; and Davis Dam was completed in 1950.

2. Water Distribution

Today, in the Lower Basin, Colorado River water is delivered to about 1.2 million acres of land (560,000 in Arizona; 650,000 in California) for agricultural irrigation, and to 22 million people (3 million in Arizona; 18 million in California; and 1 million in Nevada) for municipal and industrial use. In Mexico, Lower Colorado River treaty water is delivered to over 550,000 acres of land for agricultural use and to over 1.5 million people.

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The Colorado River Compact of 1922, provided adequate water for present needs in the Basin and protected the water rights of those states who were not growing as fast as California. The Compact divided entitlements to Colorado River water, 7.5 MAF to each of the Upper and Lower Basins, but each Basin was responsible for dividing the water among themselves.

The Boulder Canyon Project Act of 1928 divided the Lower Basin entitlement: 2.8 MAF for Arizona, 300,000 AF for Nevada, and 4.4 MAF for California. ~~California was also entitled to 50% of any surplus water available to the Lower Basin.~~ This law also authorized the construction of Imperial Diversion Dam and the All American Canal.

The California Seven-Party Agreement established priorities for California's entitlement. The first 3.85 MAF is allotted for Palo Verde Irrigation District (120,500 acres), the Reservation Division of the Yuma Project, the Imperial Irrigation District and Coachella Valley Water

District. The next 550,000 AF allotment is to the Metropolitan Water District of Southern California (MWD). If surplus water is available, MWD is entitled to an additional 550,000 AF, the City and County of San Diego is entitled to 112,000 AF, Imperial Irrigation District and Coachella Valley Water District, and Palo Verde Irrigation District (16,000 acres) are entitled to 300,000 AF of surplus water.

Although the Colorado River Compact of 1922 did not provide for a specific entitlement of Colorado River water to Mexico, it did specify that the Upper and Lower Basins share the obligation to provide water to Mexico when surplus is not available. The Mexican Water Treaty of 1944 guaranteed Mexico 1.5 MAF per year, with the possibility of an additional 200,000 AF in years of surplus. Therefore, in years of no surplus, the Lower Basin's share of Mexico's entitlement (750,000 AF) must come from the Lower Basin entitlement of 7.5 MAF.

To date, the Colorado River Basin has been able to meet all the demands placed onto it, due to the storage capabilities and adequate runoff supply. However, to prepare for times when Colorado River runoff is not adequate, conservation measures have implemented for the Lower Basin which include accounting for return flows (drainage, reuse of water, interstate banking of water and water transfers.

C. Conservation

The 1964 Supreme Court Decree in *Arizona v. California* decreed that an annual accounting of all diversions of Colorado River Water in the Lower Basin, and all return flows to it be maintained. Return flows, which comprise irrigation tailwater and drainage, pumped groundwater, and municipally treated effluent, can be used to meet the demands of downstream users, including Mexico. The Decree allowed California higher usage of Colorado River water, when surplus is available, on an annual, temporary basis.

The Colorado River Basin Salinity Control Act of 1974 authorized construction of the Yuma Desalting Plant to treat drainage from the Wellton-Mohawk Valley, and authorized construction of a well field near the Arizona/Mexico border to help meet Mexico's entitlement by utilizing pumped groundwater, at a quality specified in the 1944 Treaty.

The Reclamation Reform Act of 1982 required that districts receiving water from the Colorado develop water conservation plans with appropriate water conservation measures.

The Rule on Interstate Banking of Water was published in 1997, which permits holding of surplus flows by one State for the benefit of another State.

California is taking steps to comply with the terms of a Quantification Settlement Agreement, negotiated between the Basin States, which requires California to develop a plan to return to the 4.4 MAF entitlement provided for in the Boulder Canyon Project Act of 1928, and is given a 15-year period to achieve this goal. This 15-year period is referred to as the "interim period".

In 1999, irrigation districts in the area of Yuma, Arizona, formed an association with federal and municipal governments to study and improve management of the Yuma area water resources with particular focus on pumped groundwater and drainage return flows.

The Imperial Irrigation District is currently in negotiations with the City of San Diego and Metropolitan Water District to transfer some of its entitlement. This transfer would convert Colorado River water from agricultural irrigation use to municipal use.

Lining of the Coachella Canal is a project currently being reviewed for environmental impacts, and lining of the All American Canal is a future project for review. It is estimated that lining these canals will save approximately 150,000 AF per year currently lost to seepage.