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The Colorado River Compact



As the 20th century dawned, the vast domain of the Colorado River lay almost entirely untouched. Though there had been a few early filings for diversion and a "grand ditch" conveying water some 16 miles across the Continental Divide into eastern Colorado in the late

1800s, California's Imperial Valley was among the first areas to tap the river's true potential. In early 1901, the 60 mile long Alamo Canal, developed by private concerns, was completed to deliver Colorado River water for irrigation, and a wasteland was transformed. But the Imperial Valley did not move ahead without problems. About 50 miles of the canal coursed through Mexico, leaving the valley farmers at the mercy of a foreign government. And in 1905, the river, raging with floods, eroded the opening to the canal, roared through and created the Salton Sea before the river was pushed back into its normal channel.

With the constant threat of flood looming along the lower Colorado, demands grew for some sort of permanent flood control work - a storage reservoir and dam on the river. And Imperial Valley farmers called for a canal totally within the United States, free of Mexican interference.

By 1919, Imperial Irrigation District had won the support of the federal Bureau of Reclamation. A bureau engineering board recommended favorably on the canal and added the government "should undertake the early construction of a storage reservoir on the drainage basin of the Colorado."

While this report was greeted with enthusiasm by people along the river's lower stretches, it was viewed with alarm by those in upper reaches. Water law in most western states was based on the simple rule that whoever first used water had the first claim or right to that water, and in 1921, this so-called "first in time, first in right" rule had been extended across state boundaries by a U.S. Supreme Court decision. A storage reservoir would mean greater water use and Colorado, Utah, New Mexico and Wyoming feared that the faster-growing California and Arizona, and perhaps even Nevada, would establish prior rights to large amounts of the river's water before they could make use of flows passing through their streams, into the Colorado and heading south. The conflict was most bitter surrounding Boulder Dam - a structure proposed to tame the Colorado, providing flood control and forming a lake hundreds of feet deep, hundreds of miles long. California particularly clamored for this dam - and for

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Parker Dam which would be built 150 miles downstream to back up water to be sent to southern reaches of the Golden State. Water from the lake behind Boulder Dam would generate electricity to pump the California-bound water over the mountains and to power distant cities. Further proposals provided that just before the Colorado reached Mexico, water would be diverted into a brand-new "All-American" canal to irrigate the Imperial Valley. It was all compiled into one package and presented to Congress in 1922 as the Boulder Canyon Project Act. But approval was to be nearly seven years in coming.

From 1918 to 1921, the upriver and downriver states had been unable to resolve their differences. Each state sought to establish its own limits on how much Colorado River water it would use. At the same time, California demanded that the dam be built and upriver states vowed to block such a proposal in Congress until limits were established on each state's demands for river water.

In late 1921, the Colorado River Commission was formed with representatives from each of the seven basin states and with then Secretary of Commerce Herbert Hoover speaking for the federal government. Nine meetings of the commission failed to solve the dispute. Finally, in 1922, a 15-day session broke the impasse and resulted in the Colorado River Compact.

This historic document divided the river into the upper and lower basins at Lee Ferry, Arizona - near the Arizona/Utah border. The compact assumed an average flow down the Colorado River of some 18 million acre-feet of water each year, a figure that was believed to be the average long-term runoff in the river's watershed. Each basin was allocated use of 7.5 million acre-feet. The states of each basin then were responsible for dividing the use of the apportioned water among themselves. Colorado, New Mexico, Utah and Wyoming (upper basin states) were to see that the flow of the river at Lee Ferry was not depleted below 75 million acre-feet for any ten consecutive years. Moreover, water stored in the upper basin that was not put to beneficial use had to remain available for use by Arizona, California and Nevada (lower basin states). In addition, as a compromise between the position held by upper basin states and the insistence of the Arizona delegation, lower basin states were to be allowed to increase their use of water by a total of 1 million acre-feet in any year.

The Colorado River Compact was signed on November 24, 1922. But differences of opinion among the basin states were far from over. With the Introduction of the Boulder Canyon Project Act, the controversy shifted to the halls of Congress and eventually the Supreme Court.

The Boulder Canyon Project Act

Congressman Phil Swing and Senator Hiram Johnson were persistent men. They had to be to maneuver through Congress the Boulder Canyon Project Act after a drawn-out struggle that extended seven years. Three times the two California legislators introduced measures to authorize the legislation. Each time they were turned back as the

seven basin states continued to bicker over the Colorado despite the compact they had signed. A fourth attempt was successful in 1928, notwithstanding considerable debate in the Senate, an Arizona filibuster and survival of a joint resolution providing for a thorough investigation of the economic and engineering features of the project.

The legislatures of six basin states had ratified the signed compact by early 1923. But Arizona had refused. And without fatigation by all seven states, the compact would not become binding and obligatory.

A series of events, extending from the time the first bill was introduced until the fourth was passed, saw on bill introduced requiring ratification of the compact by only six states; the California Legislature linking its approval to Congress approving a reservoir near Boulder Canyon; the upper basin states introducing amendments to protect their interests; the Utah Legislature backtracking and repealing its compact ratification; Arizona filibustering one bill into defeat; and finally California agreeing to a limitation of 4.4 million acre-feet plus one-half of any surplus as its share of the water use allocated to the lower basin.

The Senate approved the project on December 14, 1928, the House quickly followed and on December 21, President Calvin Coolidge signed it into law.

Arizona refused to condede fefeat and sought to have the Supreme Court declare the act unconstitutional. In May of the following year, the high court threw out the complaint. The way was clear to build what then was the world's biggest dam. And the way was paved to future use of the river's water.

The Treaty

It was almost like a seven-handed poker game and the pot sitting in the middle of the table was the water of the Colorado River.

Since the early years of the 20th century, the seven basin states had been bluffing each other for shares of that pot. Sitting at the end of the table was an eighth player, Mexico, eager to join the game.

Since 1929, the basin states had tried to give Mexico a minimum share of 750,000 acre-feet of water a year and keep the game seven-handed. That was the most water Mexico had to that point used in a single year, but officials south of the border demanded as much as 4.5 million acre-feet. Treaty negotiations collapsed. But the completion of Boulder Dam in 1935 and Parker Dam a few years later, bringing long-sought flood control along the lower river, resulted in the flourishing of Mexican agriculture.

By 1941, Mexico was using 1.5 million acre-feet each year and its government was ready to negotiate again, this time playing one river against another. Most of the flow of the lower portion of the Rio Grande rises in Mexican tributaries and Texas farmers sought a treaty to protect flourishing groves.

Under a cloak of wartime secrecy, the International Boundary and Water Commission began drafting a treaty that would cover both rivers. The Mexican negotiating position was strengthened by the United States' need for a strong ally on its southern border. California, believing it stood to lose the most water if Mexico were guaranteed a sizable entitlement of the Colorado, found itself standing alone in opposition to the treaty. Much of the water, it reasoned, would come from "surplus" flows described in the Colorado River Compact.

The other basin States, fearful that Mexico would increase its demands in the future, though earlier having recommended considerably less, were willing to give up 1.5 million acre-feet. It was felt that amount would not jeopardize their entitlements.

Texas Senator Tom Connally chaired the Senate Committee on Foreign Relations which considered the treaty that was hammered out, a treaty that granted Mexico the water it wanted from the Colorado and gave Texas a favorable apportionment of the Rio Grande. California continued to obstruct final approval by the Senate for more than a year. It was a futile delaying action, and the Senate finally ratified the treaty by a 76-10 vote in April 1945.

Mexico approved the treaty in September, but the document carried a time bomb. The treaty made no provision for water quality. Sixteen years later, the bomb went off.

In 1961, a canal to drain the increasingly salty water from the Wellton-Mohawk Valley in Arizona was completed. But it dumped the water into the Colorado below the last point of American use but above the Mexican point of diversion. The salinity of the river increased dramatically and Mexico bitterly complained that thousands of acres of its crops were being damaged. The two countries began negotiations even though the United States maintained that the treaty had no water quality provision. In 1965, the United States agreed to build a new drainage canal that would carry the Wellton-Mohawk water to the international boundary. There Mexico could release it to the Gulf of California when it was the most saline or let it flow into the river when less salty.

However, this solution proved inadequate and eight years later the United States agreed to deliver water of a quality satisfactory to Mexico.

As a temporary measure, the canal would be extended to run all the way to the Gulf and all Wellton-Mohawk drainage water would be carried through it. Water would be released from U.S. storage reservoirs as a replacement. The permanent solution, however, involved construction of a huge desalting plant at Yuma, Arizona. In 1992, this plant began operation at one-third capacity.

The Upper Colorado River Basin Compact of 1948

In contrast to the lower basin where California's Congressman Phil

Swing and Senator Hiram Johnson had to be persistent men to see the Boulder Canyon Project Act become reality, upper basin negotiators had no need for such tenacity. Whereas, California, Nevada and Arizona had not been able to reach agreement among themselves on the allocation of the lower basin's use of the flow of the Colorado (and, in fact, would not do so for many years to come), apparently, there was little conflict among upper basin states. This was the case despite the fact that, in apportioning use of upper basin waters, agreement was needed not only from the four upper basin states, but from Arizona as well for though the Grand Canyon State receives most of its Colorado River water from the lower basin entitlement, a small portion of the state falls in the upper basin area.

Colorado, New Mexico, Utah, and Wyoming representatives were joined by that of Arizona in meeting with the president's appointee who would represent the federal government. Preliminary sessions began in July of 1946 and it was little more than two years before the group gathered in Santa Fe, New Mexico in October of 1948 to execute an agreement among the five states.

Since 1922 when the Colorado River Compact had assumed a dependable flow down the river of 18 million acre-feet each year, there had been many "drier than normal" years -if, indeed, they had not been actually closer to a longer-period normal than their shorter-period estimates had shown.

Since the residual amount available each year for the upper basin was variable, those states agreed to divide water among them on a percentage basis, with one exception - Arizona would receive 50,000 acre-feet for its small upper basin area. As for the rest, Colorado would lead the list of allotments with about 52 percent; Utah with 23 percent to provide its growing cities and farms and Wyoming with a 14 percent share followed in order; and New Mexico would have about 11 percent for its uses. It was time to move on to the development of these supplies.

The Colorado River Storage Project Act

It was the 1950s and in the lower basin, Laguna Dam, Imperial Dam and the All-American Canal into Imperial Valley, Parker Dam, Davis Dam and Hoover Dam - federal projects all - were already in place. In addition, the Colorado River Aqueduct, which, through Metropolitan Water District, had been funded entirely by the large population of Southern California, had been in operation for more than a decade. While only limited development had taken place in the upper basin, states there were anxious to catch up with those in the lower basin, fearing an effort would be made to claim water, being used primarily by California, that was intended for use in the upper reaches. With Wyoming, Colorado, Utah and New Mexico exerting pressure to approve development of that water and as a result of the lack of dependability of the river's flow, Congress in 1956 passed the Colorado River Storage Project Act. This act authorized the construction of four major storage dams on the upper Colorado River and its tributaries - Glen Canyon on the main stem of the Colorado at

the Arizona/Utah border, Bavaajo on the San Juan River in New Mexico, Flaming Gorge on the Green River on the Utah/Wyoming border, and Wayne N. Aspinall Storage Unit which consists of three dams and reservoirs - Blue Mesa, Morrow Point and Crystal - on the Gunnison River in Colorado.

These dams and others which subsequently have been authorized hold surplus water that wet winters provide for use in dry years when supplies are meager. This allows the upper basin to develop use of its river apportionments while assuring a full allocation to the lower basin.

As part of the 1956 act and at subsequent times, Congress has authorized the construction of participating projects to build the facilities necessary to move the water to the municipalities, industries and agricultural interests for which it is intended. Each of the major dams produces hydroelectric power which benefits customers throughout the western states. It is a program of water and power working together for the good of all.

Grand Canyon Protection Act

The Grand Canyon Protection Act of 1992 directs the Secretary of the Interior to operate Glen Canyon Dam in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established. This includes natural and cultural resources and visitor uses.

The act further directs that these actions be undertaken in a manner fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in Arizona vs. California, and the provisions of the Colorado River Storage Protection Act of 1956 and the Colorado River Basin Project Act of 1968 that govern allocation, appropriation, development, and exportation of the waters of the Colorado River Basin.

The Secretary is also directed to establish and implement long-term monitoring programs and activities that will ensure that Glen Canyon Dam is operated in a manner consistent with the Act. These programs will include necessary research and studies to determine the effect of management of the dam on the natural, recreational, and cultural downstream resources. These actions will also be undertaken in consultation with other Federal agencies, the Governors of the Basin States, Indian Tribes, and the general public, including representatives of academic and scientific communities, environmental organizations, the recreation industry, and contractors for the purchase of Federal power produced at Glen Canyon Dam. To do that, a Federally chartered advisory committee, called the Adaptive Management Work Group, has been formed consistent with the Federal Advisory Committee Act. The committee began functioning in the fall of 1997.

Arizona vs. California

February 24, 1994. The uneasy truce between California and Arizona along the lower Colorado that had lasted for nearly a decade was shattered.

With the Mexican treaty almost ironed out and 1.5 million acre-feet of water destined to be guaranteed to Mexico and with California increasing its use of the river, Arizona took historic steps to protect its interests. Three measures approved by the Arizona Legislature that day set the two states on a collision course - the stakes: title to more than 300 billion gallons of water (about 1 million acre-feet) annually from the Colorado. A prolonged legal battle would drag on for nearly 19 years before it would be settled by the nation's high court.

In the first of the measures, the Legislature approved a contract with the federal government for 2.8 million acre-feet a year, a contract that California disputed. Then, after a delay of nearly 22 years, Arizona ratified the 1922 Colorado River Compact. Finally, it appropriated \$200,000 to conduct surveys for an aqueduct to carry water from the Colorado to the Phoenix area.

Two years later, the Central Arizona Project (CAP) was proposed, a joint effort of Arizona and the federal Bureau of Reclamation. California spearheaded the fight against the CAP in Congress, and as long as title to the river's water was disputed, the project was blocked in the House of Representatives.

Arizona again sought recourse from the U.S. Supreme Court in 1952, and eleven more years would be needed to sort out what became the longest and most complicated water case in federal court history.

At the core of the dispute were differing interpretations by the two states over parts of the 1922 Colorado River Compact and the 1929 Boulder Canyon Project Act - the flow of the Gila River and the so-called "surplus water".

Of the 7.5 million acre-feet allocated to the lower basin, California had agreed its share was 4.4 million when it adopted a limitation act in 1929. Additionally, California contended the extra 1 million acre-feet granted to the lower basin was surplus water and, therefore, it had rights to half. As for the Gila, California contended the water Arizona used from the Colorado River tributary - some 2 million acre-feet - should be subtracted from Arizona's allocation. Arizona, meanwhile, asserted the "surplus" water had been apportioned and should not be declared surplus.

The complex case went through four years of pre-trial activity; another two years were consumed by testimony from more than 100 witnesses. It wasn't until December of 1960 that the special master appointed to hear the case submitted his final report to the high court.

Finally, on June 3, 1963, the Supreme Court ruled in favor of Arizona in a five-to-three decision. The court supported Arizona's position regarding water from the Gila, and California was limited to 4.4 million acre-feet of water a year on a dependable basis. However, the

court did agree with California's interpretation of the disputed "surplus" water, giving it rights to half of any such surplus.

Arizona had won the waterwar, but California still had one trump card left to play - its Congressional support for the CAP. In return for that support, Arizona agreed to guarantee California's 4.4 million acre-feet a year as a priority over the CAP entitlement. With California's backing, the Central Arizona Project was authorized by Congress in 1968. After nearly 50 turbulent years, calm was restored on the lower Colorado.

The following years brought a series of actions: (1) in 1970 to provide for the storage of water in CRSP reservoirs and set a priority for release of water from Lake Powell; (2) in 1972 to give the U.S. EPA authority to control water quality of the nation's rivers; (3) in 1973 to require actions that would reduce the salinity of water delivered to Mexico; and (4) in 1974 to authorize desalting and salinity control projects to improve Colorado River water quality.

And what about tomorrow?

The challenges of the '90s for users of Colorado River water are many and varied. What about Native American water rights? How much should they have? How should it be used? Should there be provisions for transfers, leasing, selling? Endangered species - there's an issue of concern to all. How far should it go? At what cost or tradeoffs? Has it already gone too far? The factors are many and the opinions wide-ranging. The uses to which the water is put is becoming a topic of concern along the length of the river. Should agricultural water be less subsidized? Should there be new options for satisfying the needs of rapidly growing urban areas? What are the true costs of water? Should marketing and transfer negotiations be put on fast track? Drought management is another area where decisions have to be made. Is there sufficient water in the reservoir system to meet current needs for more than 7.5 million acre-feet in the lower basin? And then there's water quality - salinity control has long been an ongoing problem. What must be done to reduce the salt load flowing into the Colorado River system? Will selenium concentration in river water pose a threat in the future? And what about the river's mother-and-apple-pie capability - clean, non-polluting generation of hydro-electric power? What could be better than that? Unfortunately, serious issues surround this source of energy as well. Repayment, environmental impacts from operations, replacement power from other sources - none of these issues has easy answers. And even recreation on the river poses problems. How much water should be devoted to meeting expectations? At what times? Where? How? At what cost? Who benefits? And for what trade-offs?

There are those who crusade for amendments to the 1922 Colorado River Compact. Though fierce controversy over the Colorado long has been the rule, there is little support in the seven basin states for opening up the compact. Rather, innovative proposals for agreements abound. Concepts under discussion include, among other, banking water in Lake Mead for use as needed; a snowpack augmentation project in the upper basin to increase runoff; interstate transfers of

marketing of water, perhaps utilizing an interstate water bank to provide a source of water for states in need during critical, emergency or other unusual water conditions... the possibilities truly are just beginning to break through the surface. Ofcourse, for proposals to become more than proposals, there are technical concerns to be worked out, legal and political hurdles to jump, and interests to be protected. But in this era of limited water supplies in the West, one thing about which all seven states agree is that discussions are where solutions begin.