

Colorado River Water Users Association: Law of the River

The Colorado River Compact

Boulder Canyon Project Act

Treaty with Mexico

Upper Colorado River Basin Compact of 1948

Colorado River Storage Project Act

Grand Canyon Protection Act

Arizona vs. California

Future of Western WaterThe Colorado River Compact

o River  
early  
some 16  
in the  
st areas  
ile long  
to deliver  
thout  
co,  
rnment.  
ning to  
e the  
Colorado,  
-a  
y farmers  
of Mexican  
of the

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

t "should  
the  
ong the  
in upper  
simple  
right to  
rst in  
U.S.  
ater water  
the  
vada,  
's water  
streams,  
bitter  
Colorado,  
t deep,  
or this  
wnstream  
den State.  
tricity to  
power  
e the  
and-new

recommended favorably on the canal and added the government undertake the early construction of a storage reservoir on 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 reaches. Water law in most western states was based on the rule that whoever first used water had the first claim on that water, and in 1921, this so-called "first in time, first in right" rule had been extended across state boundaries by a Supreme Court decision. A storage reservoir would mean greater use and Colorado, Utah, New Mexico and Wyoming feared that faster-growing California and Arizona, and perhaps even Nevada, would establish prior rights to large amounts of the river 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 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 power the California-bound water over the mountains and to distant cities. Further proposals provided that just before Colorado reached Mexico, water would be diverted into a brand-new "All-American" canal to irrigate the Imperial Valley. It would

as all  
2 as the  
seven  
en unable  
sh its own  
e same  
r states  
re  
h  
th then  
ral  
e the  
sse and  
d lower  
r. The  
some 18  
lieved to  
Each basin  
each basin  
ned water  
(upper  
e Ferry  
nsecutive

compiled into one package and presented to Congress in 192  
Boulder Canyon Project Act. But approval was to be nearly  
years in coming.  
From 1918 to 1921, the upriver and downriver states had be  
to resolve their differences. Each state sought to establi  
limits on how much Colorado River water it would use. At th  
time, California demanded that the dam be built and uprive  
vowed to block such a proposal in Congress until limits we  
established on each state's demands for river water.  
In late 1921, the Colorado River Commission was formed wit  
representatives from each of the seven basin states and wi  
Secretary of Commerce Herbert Hoover speaking for the fede  
government. Nine meetings of the commission failed to solv  
dispute. Finally, in 1922, a 15-day session broke the impa  
resulted in the Colorado River Compact.  
This historic document divided the river into the upper an  
basins at Lee Ferry, Arizona - near the Arizona/Utah borde  
compact assumed an average flow down the Colorado River of  
million acre-feet of water each year, a figure that was be  
be the average long-term runoff in the river's watershed.  
was allocated use of 7.5 million acre-feet. The states of  
then were responsible for dividing the use of the apportion  
among themselves. Colorado, New Mexico, Utah and Wyoming  
basin states) were to see that the flow of the river at le  
was not depleted below 75 million acre-feet for any ten co

not put to  
s a  
and the  
ere to be  
lion  
lion  
acre-feet in any year.  
The Colorado River Compact was signed on November 24, 1922  
. But  
om over.  
he  
y the  
Supreme Court.  
The Boulder Canyon Project Act  
Congressman Phil Swing and Senator Hiram Johnson were pers  
istent  
er Canyon  
years.  
ures to  
as the  
espite the  
n 1928,  
ona  
r a  
tures of  
ed compact  
cation by

years. Moreover, water stored in the upper basin that was  
beneficial use had to remain available for use by Arizona,  
California and Nevada (lower basin states). In addition, a  
compromise between the position held by upper basin states  
insistence of the Arizona delegation, lower basin states w  
allowed to increase their use of water by a total of 1 mil  
The Colorado River Compact was signed on November 24, 1922  
differences of opinion among the basin states were far fr  
With the Introduction of the Boulder Canyon Project Act, t  
controversy shifted to the halls of Congress and eventuall  
Supreme Court.  
The Boulder Canyon Project Act  
Congressman Phil Swing and Senator Hiram Johnson were pers  
men. They had to be to maneuver through Congress the Bould  
Project Act after a drawn-out struggle that extended seven  
Three times the two California legislators introduced meas  
authorize the legislation. Each time they were turned back  
seven basin states continued to bicker over the Colorado d  
compact they had signed. A fourth attempt was successful i  
notwithstanding considerable debate in the Senate, an Ariz  
filibuster and survival of a joint resolution providing fo  
thorough investigation of the economic and engineering fea  
the project.  
The legislatures of six basin states had ratified the sign  
by early 1923. But Arizona had refused. And without fatifi

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 the 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 concede defeat 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 in 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 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.

ts.

Foreign

t, a

lorado and

lifornia

e then a

lly

carried a

Sixteen

m the

ped the

se but

river

thousands

s began

the

States

Mexico

most

ater the

ctory to

all the

Texas Senator Tom Connally chaired the Senate Committee on 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 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 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

d be  
age  
er,  
rizona. In  
man Phil  
o see the  
otiators  
and  
ves on the  
orado  
parently,  
as the  
asin  
basin  
on State  
asin  
er basin  
re joined  
ee who  
ns began  
re the  
to execute

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 Congress 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 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 not been many "drier than normal" years -if, indeed, they had actually closer to a longer-period normal than their short-term-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, Davis Dam and Hoover Dam - federal projects all - were already in place. In addition, the Colorado River Aqueduct, which, through the large Metropolitan Water District, had been funded entirely by the 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

ult of the  
6 passed  
d the  
ado River  
Colorado  
n New  
ng border,  
dams and  
Gunnison  
zed hold  
s when  
p use of  
to the  
has  
uild the  
es,  
nded. Each  
its  
f water  
ary of the  
protect,  
ich Grand

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 and its tributaries - Glen Canyon on the main stem of the river at the Arizona/Utah border, Bavaajo on the San Juan River in Mexico, Flaming Gorge on the Green River on the Utah/Wyoming border, and Wayne N. Aspinall Storage Unit which consists of three 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 its 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

rea were  
and  
n a manner  
mpact, the  
44 with  
ifornia,  
n Act of  
govern  
the  
long-term  
len Canyon  
programs  
he effect  
cultural  
n in  
the Basin  
Glen  
mittee,  
mmittee

Canyon National Park and Glen Canyon National Recreation A  
established. This includes natural and cultural resources  
visitor uses.  
The act further directs that these actions be undertaken i  
fully consistent with and subject to the Colorado River Co  
Upper Colorado River Basin Compact, the Water Treaty of 19  
Mexico, the decree of the Supreme Court in Arizona vs. Cal  
and the provisions of the Colorado River Storage Protectio  
1956 and the Colorado River Basin Project Act of 1968 that  
allocation, appropriation, development, and exportation of  
waters of the Colorado River Basin.  
The Secretary is also directed to establish and implement  
monitoring programs and activities that will ensure that G  
Dam is operated in a manner consistent with the Act. These  
will include necessary research and studies to determine t  
of management of the dam on the natural, recreational, and  
downstream resources. These actions will also be undertake  
consultation with other Federal agencies, the Governors of  
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  
Canyon Dam. To do that, a Federally chartered advisory com  
called the Adaptive Management Work Group, has been formed  
consistent with the Federal Advisory Committee Act. The co  
began functioning in the fall of 1997.  
Arizona vs. California  
February 24,1994. The uneasy truce between California and

Arizona  
de was  
acre-feet  
fornia  
ps to  
ona  
rse - the  
bout 1  
legal  
e settled  
contract  
ar, a  
nearly 22  
inally, it  
o carry  
posed, a  
ion.  
ss, and as  
ct was  
in 1952,  
ame the  
istory.

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 (a million acre-feet) annually from the Colorado. A prolonged 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  
he 1929  
d the  
opted a  
the extra  
water  
lifornia  
ributary -  
na's  
er had  
vity;  
n 100  
al master  
he high  
of  
izona's  
limited  
asis.  
ion of the  
such  
trump

states over parts of the 1922 Colorado River Compact and the 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 1 million acre-feet granted to the lower basin was surplus and, therefore, it had rights to half. As for the Gila, California contended the water Arizona used from the Colorado River to 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 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 surplus. Arizona had won the waterwar, but California still had one trump card left to play - its Congressional support for the CAP.

In return

4.4

ement.

years,

70 to

t a

2 to give

ion's

he

authorize

o River

er are

How much

rovisions

e's an

t or

ny and the

is

Should

options

hat are

otiations

for that support, Arizona agreed to guarantee California's

million acre-feet a year as a priority over the CAP entitl

With California's backing, the Central Arizona Project was

authorized by Congress in 1968. After nearly 50 turbulent

calm was restored on the lower Colorado.

The following years brought a series of actions: (1) in 19

provide for the storage of water in CRSP reservoirs and se

priority for release of water from Lake Powell; (2) in 197

the U.S. EPA authority to control water quality of the nat

ivers; (3) in 1973 to require actions that would reduce t

salinity of water delivered to Mexico; and (4) in 1974 to

desalting and salinity control projects to improve Colorad

water quality.

And what about tomorrow?

The challenges of the '90s for users of Colorado River wat

many and varied. What about Native American water rights?

should they have? How should it be used? Should there be p

for transfers, leasing, selling? Endangered species - ther

issue of concern to all. How far should it go? At what cos

tradeoffs? Has it already gone too far? The factors are ma

opinions wide-ranging. The uses to which the water is put

becoming a topic of concern along the length of the river.

agricultural water be less subsidized? Should there be new

for satisfying the needs of rapidly growing urban areas? W

the true costs of water? Should marketing and transfer neg

here  
e  
llion  
ty -  
st be done  
stem? Will  
future?  
- clean,  
ld be  
his source  
perations,  
s has easy  
How much  
imes?  
-offs?  
orado  
long has  
states for  
greements  
nking  
ion  
transfers  
er bank to  
al,

be put on fast track? Drought management is another area w  
decisions have to be made. Is there sufficient water in th  
reservoir system to meet current needs fo more than 7.5 mi  
acre-feet in the lower basin? And then there's water quali  
salinity control has long been an ongoing problem. What mu  
to reduce the salt load flowing into the Colorado River sy  
selenium concentration in river water pose a threat in the  
And what about the river's mother-and-apple-pie capability  
non-polluting generation of hydro-electric power? What cou  
better than that? Unfortunately, serious issues surround t  
of energy as well. Repayment, environmental impacts from o  
replacement power from other sources - none of these issue  
answers. And even recreation on the river poses problems.  
water should be devoted to meeting expectations? At what t  
Where? How? At what cost? Who benefits? And for what trade  
There are those who crusade for amendments to the 1922 Col  
River Compact. Though fierce controversy over the Colorado  
been the rule, there is little support in the seven basin  
opening up the compact. Rather, innovative proposals for a  
abound. Concepts under discussion include, among other, ba  
water in Lake Mead for use as needed; a snowpack augmentat  
project in the upper basin to increase runoff; interstate  
of marketing of water, perhaps utilizing an interstate wat  
provide a source of water for states in need during critic

lities  
course, for  
al  
jump, and  
r supplies  
is that

emergency or other unusual water conditions... the possibi  
truly are just beginning to break through the surface. Ofc  
proposals to become more than proposals, there are technic  
concerns to be worked out, legal and political hurdles to  
interests to be protected. But in this era of limited wate  
in the West, one thing about which all seven states agree  
discussions are where solutions begin.