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**Overview of the Law of the Colorado River:**

***A Historical Perspective  
of the  
Legal and Physical Operations  
of the  
Colorado River***

**Symposium & Workshop  
on  
Restoring Natural Function  
Within A Modified Riverine Environment**

**Co-sponsored By The**

**U.S. Fish and Wildlife Service  
U.S. Bureau of Reclamation**

**Las Vegas, Nevada  
July 8-9, 1998**

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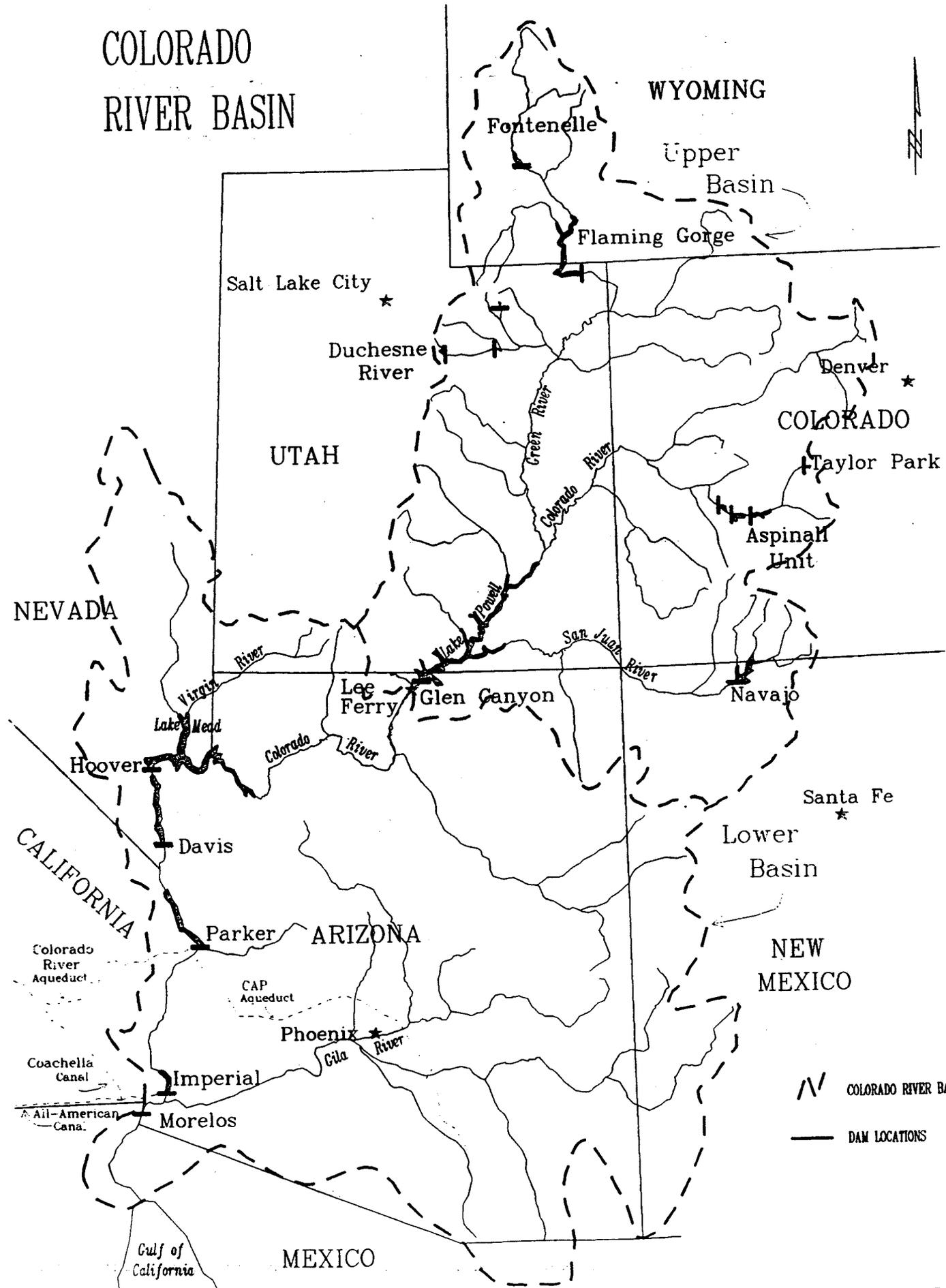
**Christopher S. Harris  
Water Resources Program Manager  
Arizona Department of Water Resources  
Office of Colorado River Management**

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## List of Acronyms

AAC	All-American Canal
BCPA	Boulder Canyon Project Act of 1928
BLM	U.S. Bureau of Land Management
CAP	Central Arizona Project
CRBPA	Colorado River Basin Project Act of 1968
CRBSCA	Colorado River Basin Salinity Control Act of 1974
CRFPA	Colorado River Floodway Protection Act of 1986
CRIT	Colorado River Indian Tribes
CRSP	Colorado River Storage Project Act of 1956
CU	Consumptive Use
CVWD	Coachella Valley Water District
DOI	U.S. Department of the Interior
FACA	Federal Advisory Committee Act of 1972
FMIT	Fort Mojave Indian Tribe
GCD	Glen Canyon Dam
GCPA	Grand Canyon Protection Act of 1992
GCNP	Grand Canyon National Park
IBWC	International Boundary & Water Commission
IID	Imperial Irrigation District
LA	City of Los Angeles
LROC	Long-Range Operating Criteria
mW	megawatt
MWD	Metropolitan Water District of Southern California
NEPA	National Environmental Policy Act of 1969
NGS	Navajo Generating Station
NIB	Northerly International Boundary
PPRs	Present Perfected Rights
PVID	Palo Verde Irrigation District
SIB	Southerly International Boundary
USDA	U.S. Department of Agriculture
WAPA	Western Area Power Administration (aka Western)
WMIDD	Wellton-Mohawk Irrigation and Drainage District
YDP	Yuma Desalting Plant

# COLORADO RIVER BASIN

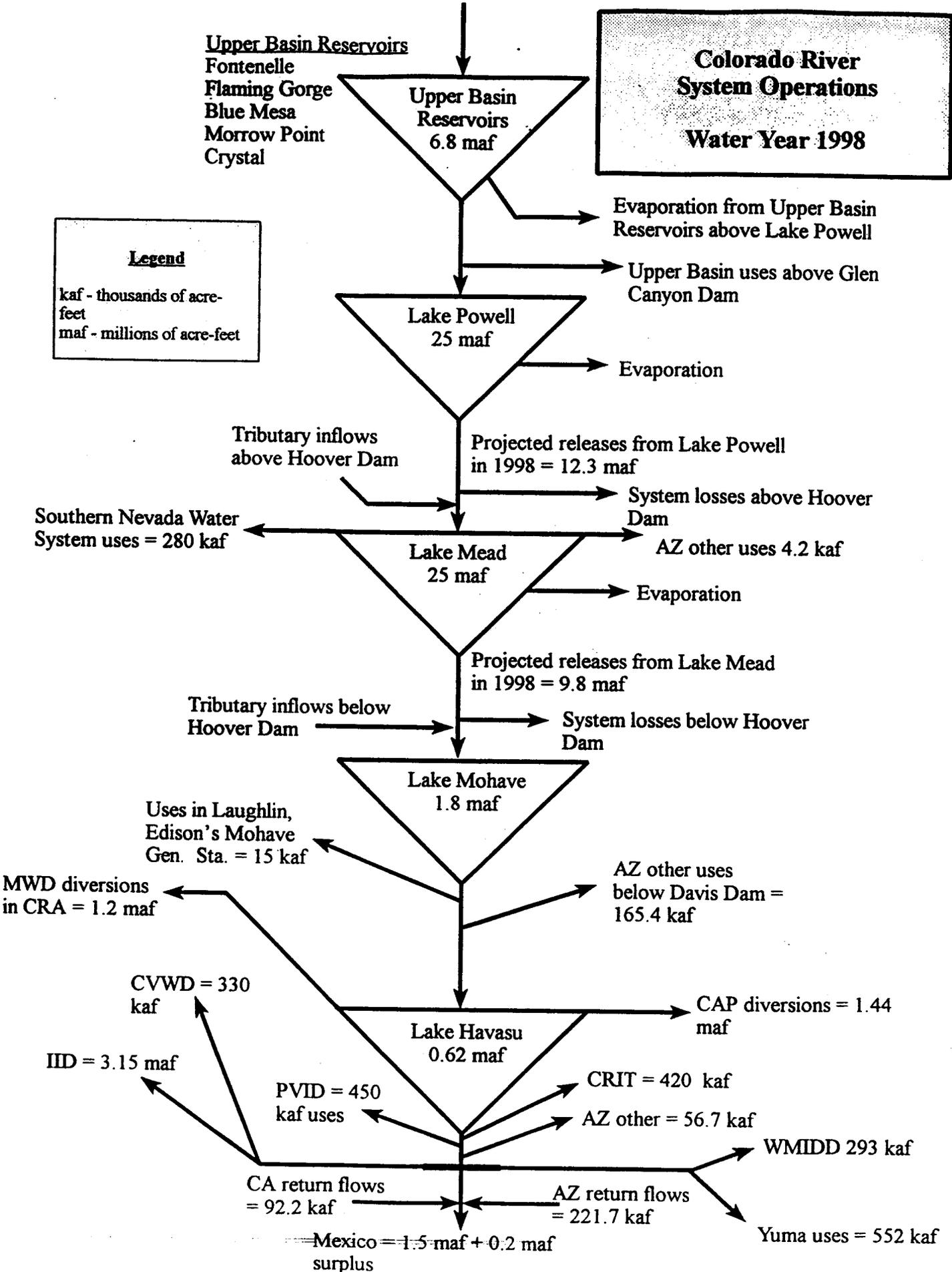


 COLORADO RIVER BASIN  
 DAM LOCATIONS

**Colorado River System Operations  
Water Year 1998**

**Upper Basin Reservoirs**  
Fontenelle  
Flaming Gorge  
Blue Mesa  
Morrow Point  
Crystal

**Legend**  
kaf - thousands of acre-feet  
maf - millions of acre-feet



**Overview of the Law of the Colorado River:  
*A Historical Perspective of the Legal and Physical Operations  
of the Colorado River*<sup>1</sup>**

**Introduction**

- ◆ The Colorado River Basin encompasses approximately 250,000 square miles and covers all or portions of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming.
  
- ◆ The Colorado River originates in northwestern Colorado and traverses about 1,400 miles to its delta in the Gulf of California in Mexico.
  
- ◆ Major tributaries to the Colorado River include: Green, Yampa, White, Duchense, Gunnison, Dolores, San Juan, Little Colorado, Virgin and Gila Rivers
  
- ◆ Average annual flows at Lees Ferry, Arizona are about 15.0 million acre-feet (maf)
  
- ◆ Historic annual flows of the Colorado River have been as high as 23.0 maf and as low as 5.0 maf.
  
- ◆ The Colorado River supplies water to a total of approximately 30 million residents. A significant amount of Colorado River water is exported out of the Basin to the east slope of the Rocky Mountains and to southern California.
  
- ◆ Colorado River water is used on approximately 1.8 million acres of agricultural lands both within and outside of the Colorado River Basin.
  
- ◆ The Colorado River Basin has approximately 60 maf of reservoir storage, or four times greater than the average annual yield of the Colorado River.
  
- ◆ Approximately 12 billion kilowatt hours of electrical energy generation capacity is available at facilities within the Basin.

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<sup>1</sup>The presentation and accompanying informational materials are the interpretation of the author and do not represent the interpretation or official position of the State of Arizona or the Arizona Department of Water Resources.

## **The Law of the River and Development in the Colorado River Basin**

Development of the Colorado River Basin and the genesis of the Law of the River generally stems from three major events:

- ◆ Congressional passage of the 1902 Reclamation Act which authorized construction of irrigation and water storage and delivery projects in the "16 arid western states."
- ◆ Settling and agricultural development in the Imperial Valley, California. In 1905, severe flooding from the Gila and Colorado Rivers breached temporary levees and the entire flow of the Colorado River poured into the Salton Sea for about 18 months.
- ◆ With the June 5, 1922 United States Supreme Court decision in *Wyoming v. Colorado* which ruled that the doctrine of prior appropriation applied across state boundaries, there was significant concern in the other six basin states that California's development and utilization of the Colorado River could preclude development and use by the other states. This concern led the State of Colorado to suggest the need for a compact between the seven states of the Colorado River Basin.

### **Colorado River Compact - November 24, 1922**

- ◆ Each of the Basin States' Governors appointed representatives to the Compact Commission. The Commission was chaired by Secretary of Commerce Herbert Hoover. After several lengthy and contentious meetings the Colorado River Compact was finalized and signed on November 24, 1922 in Santa Fe, New Mexico.
- ◆ The Compact divided the Colorado River Basin into an "upper" and "lower" basin, with the division point at Lee Ferry, Arizona just below the confluence of the Paria and Colorado Rivers.

- ◆ The Compact apportioned 7.5 maf to each basin, with an "additional" 1.0 maf to the lower basin. The Compact also required an average delivery of 75 maf over a moving ten-year period.
- ◆ The Compact apportionment was based upon a limited hydrologic record (1896-1921) which included the "wettest" ten year period ((1914-1923). The Compact Commissioner's thought they had an average annual yield of about 16.0 maf to divide, however based upon the present hydrologic record, the average annual yield is about 15.0 maf.
- ◆ The Compact also recognized that Mexico may have rights to a Colorado River allocation, and that this obligation would be borne equally by both upper and lower basins.

With the signing of the Compact and the recognition of the erratic nature of the flow of the "undeveloped" Colorado River, risk of damaging floods, and California's interest in developing agricultural lands in the Imperial Valley the United States Congress made a significant commitment to the states of the Colorado River Basin with the passage of the Boulder Canyon Project Act.

**Boulder Canyon Project Act - December 21, 1928**

- ◆ The Boulder Canyon Project Act (BCPA) authorized construction of Hoover Dam and power plant and the All-American Canal to the Imperial and Coachella Valleys.
- ◆ The BCPA also resulted in a Congressional "apportionment" of the Lower Basin's 7.5 maf Compact allocation. This apportionment was as follows:

California	4.4 maf/yr
Arizona	2.8 maf/yr
Nevada	0.3 maf/yr

- ◆ The primary purposes of the BCPA include: (1) flood control, (2) improve navigation, (3) flow regulation, (4) provide storage, (5) delivery of stored water, (6) reclamation of public lands and (7) generation of electrical energy.

- ◆ The BCPA requires contracts between the Secretary of the Department of the Interior (DOI) and users of Colorado River water and electrical energy.
- ◆ The BCPA provided Congressional ratification of the 1922 Colorado River Compact.
- ◆ The BCPA also recognized that Mexico might have some future right to waters of the Colorado River.
- ◆ The BCPA required California to "limit itself to 4.4 maf/yr." This was done by an act of the California Legislature on March 4, 1929 (The California Limitation Act).

**The California "Seven Party Agreement" - August 1931**

- ◆ The California Colorado River water-using agencies, in August 1931, apportioned the "California share of the Colorado River" among themselves in the California "Seven Party Agreement." The Agreement prioritized the apportionments as follows:

*Priority 1* Palo Verde Irrigation District (PVID) for 104,500 acres;

*Priority 2* Yuma Project (Reservation Division - Bard and Indian Units) for 25,000 acres;

*Priority 3* Imperial Irrigation District (IID) and lands served by the All-American Canal (AAC) (i.e., IID and Coachella Valley Water District) and for use on 16,000 acres in PVID, a total of 3,850,000 acre-feet less the amount required in Priority 1 and 2;

*Priority 4* Metropolitan Water District of Southern California (MWD) and/or Los Angeles (LA) 550,000 acre-feet;

*Priority 5* Another 550,000 acre-feet to MWD and LA, and an additional 112,000 af for San Diego (which MWD acquired in 1946);

*Priority 6* An additional 300,000 af for use in IID, CVWD and PVID; and

**Priority 7** All remaining water available for use in California for agricultural use in California's portion of the Colorado River Basin (unquantified).

- ◆ The first four priorities sum to the aggregate total of California's mainstream apportionment of 4.4 maf annually. The total aggregate of all seven priorities is 5.36 maf, which, interestingly enough, is a bit more than California's current use of mainstream Colorado River water.

**State of Arizona Contract for Delivery of Colorado River Water - February 9, 1944**

- ◆ This contract, between the Secretary of the Interior and Arizona, obligated the United States to deliver the 2.8 maf/yr for beneficial consumptive use within Arizona, subject to contracts between individual users within Arizona and the Secretary.
- ◆ The contract also required that Colorado River water diversions be measured at the point of diversion for accounting purposes, and if not measured directly, be estimated by the Secretary.
- ◆ The contract also recognized the earlier "present perfected rights" (PPRs) of Colorado River water users in Arizona prior to the effective date of the 1928 BCPA (June 25, 1929).
- ◆ The contract also required Arizona's ratification of the 1922 Colorado River Compact. The Arizona Legislature ratified the Colorado River Compact on February 24, 1944.

**Treaty between the United States and Mexico - February 3, 1944**

- ◆ This treaty allocated the waters of the Rio Grande, Colorado and Tijuana Rivers and expanded the responsibilities of the International Boundary Commission (established in March 1889) as the International Boundary and Water Commission (IBWC).

- ◆ Th Treaty guaranteed delivery of 1.5 maf/yr of Colorado River water to Mexico. Also, in any year in which a surplus is declared and demands in the United States are met, an additional 0.2 maf is allocated to Mexico.
- ◆ The Treaty required the construction of Davis Dam for the regulation of releases from Hoover Dam in order to satisfy the annual obligation to Mexico.

**Upper Colorado River Basin Compact - October 11, 1948**

- ◆ In order to facilitate obtaining federal legislation authorizing construction of water development projects in the upper basin, the upper basin states negotiated an apportionment of the upper basin 7.5 maf 1922 Compact allocation.
- ◆ The Upper Basin Compact allocations are as follows:
 

Arizona	50,000 af/yr
Colorado	51.75% of 7.45 maf/yr
New Mexico	11.25% of 7.45 maf/yr
Utah	23% of 7.45 maf/yr
Wyoming	14% of 7.45 maf/yr
- ◆ The compact also created the "Upper Colorado River Commission" in order to administer the terms of the compact. The Commission includes representatives of each of the signatory states and the United States, with the exception of Arizona.

**Colorado River Storage Project Act - April 11, 1956**

- ◆ The Colorado River Storage Project Act (CRSP) authorized construction of the following units: Curecanti (later renamed the Aspinall Unit) on the Gunnison River, Flaming Gorge on the Green River, Navajo on the San Juan River and Glen Canyon on the Colorado River. CRSP also authorized several land reclamation projects in Utah, Colorado and Wyoming.

- ◆ The CRSP also established the "upper basin fund" to defray costs of operations and maintenance, etc. The funds are generated through revenues collected at each of the projects (i.e., sale of hydropower marketed, etc.).

**United States Supreme Court Decree in *Arizona v. California* - March 9, 1964**

- ◆ The decree in *Arizona v. California* requires the United States to release water from the facilities in accordance with the 1944 Treaty with Mexico and allocations specified in the 1922 Compact and 1928 BCPA.
- ◆ The decree specifies the Secretary's obligations in a normal, shortage and surplus water year.
- ◆ The decree allows the use of one lower basin state's "...apportioned but unused water..." by another lower basin state (Article II.B.6).
- ◆ The decree specifies the amount of water which each mainstream Lower Basin Indian Tribe is allocated (Colorado River Indian Tribes 717,148 af/yr, Fort Mojave Indian Tribe 122,648 af/yr, Yuma-Quechan Indian Tribe 51,616 af/yr, Chemehuevi Indian Tribe 11,340 af/yr and Cocopah Indian Tribe 2,744 af/yr).
- ◆ The decree also allocated Colorado River water to non-Indian federal uses along the Lower Colorado River, including the following:

Lake Mead National Recreation Area	Unquantified;
Havasu National Wildlife Refuge	41,839 af diversion and 37,339 af of consumptive use (CU);
Imperial National Wildlife Refuge	28,000 af div. and 23,000 CU; and
Boulder City Nevada.	5,888 af/yr

- ◆ The decree enjoins the lower basin states from using more Colorado River water than that allocated under Article II of the decree (i.e., the state apportionments or share of surpluses).
- ◆ Article V requires the Secretary to annually account for all Colorado River water released, diverted, and consumptively used in the Lower Colorado River Basin and Mexico.
- ◆ A January 9, 1979 supplemental decree identified and quantified the "present perfected rights" (PPRs), those Colorado River water uses in existence prior to the effective date of the 1928 BCPA (June 25, 1929), in Arizona, California and Nevada.
- ◆ An April 16, 1984 supplemental decree identified and quantified additional Tribal Colorado River water rights for the Cocopah, CRIT and FMIT.

With the water rights issues between the states of Arizona and California finally resolved in the Supreme Court's decree in *Arizona v. California*, Congress was free to finally act upon Arizona's long-term desire for the construction of an aqueduct to convey a significant portion of Colorado River water to central and southern Arizona.

### **Colorado River Basin Project Act - September 30, 1968**

- ◆ The Colorado River Basin Project Act (CRBPA) authorized the construction of the Central Arizona Project (CAP), but in order to obtain California's support for the legislation, Arizona was required to subordinate the use of the CAP to California's 4.4 maf/yr allocation in years of shortage.
- ◆ The CRBPA authorized construction of the Navajo Generating Station (NGS) in order to provide electrical energy to operate the CAP.
- ◆ The CRBPA required contracts between the Secretary and users of CAP water.
- ◆ The CRBPA created a "lower basin fund" similar to the upper basin fund. The fund was to be used to pay for O&M, etc.

- ◆ The CRBPA also required the Secretary to develop Long-Range Operating Criteria (LROC) for the Colorado River reservoir system. The LROC were promulgated on June 8, 1970.

#### **Long-Range Operating Criteria - June 8, 1970**

- ◆ The "Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs" (LROC) required the Secretary to prepare an "Annual Operating Plan" (AOP) for the operation of the Colorado River Reservoir System.
- ◆ The LROC also require the Secretary to evaluate the need for "equalization" of storage between Lake Powell and Lake Mead, so that they are very near equal in capacity. Based upon reservoir contents criteria, an objective was established for a minimum release of 8.23 maf per year.
- ◆ The LROC define "normal, surplus and shortage" water years, and the Secretary's responsibilities.

Because of increased bi-national concerns associated with the quality of water delivered to Mexico, President Nixon commissioned a task force in 1972 (the "Brownell Task Force") to study the salinity issues and negotiate a "permanent and definitive solution" with Mexico to the salinity problems of the Colorado River.

#### **Minute 242 of the International Boundary and Water Commission - August 30, 1973**

- ◆ Minute 242 required the United States to deliver the 1.5 maf annually with a salinity which was an average of 115 ppm,  $\pm 30$  ppm of that diverted at Imperial Dam by users in the United States.
- ◆ Minute 242 also required the construction and utilization of a lined canal (capacity of 353 cfs) to convey the drainage waters from the Wellton-Mohawk Irrigation and Drainage District (WMIDD) at an annual rate of approximately 118,000 af from the United States into Mexico and terminating

at the Cienega de Santa Clara. The WMIDD drainage waters would not count toward satisfaction of the Mexican obligation.

- ◆ Minute 242 also required Mexico and the United States to refrain from pumping more than 160,000 af/yr on each side of the border within 5 miles.

Congress also put its imprimatur on the resolution of Colorado River water quality and salinity problems and addressed needs identified in Minute 242.

### **Colorado River Basin Salinity Control Act - June 24, 1974**

- ◆ Title I of the Colorado River Basin Salinity Control Act (CRBSCA) authorized construction of the Yuma Desalting Plant (YDP), the By-Pass Drain, and a buy-out of approximately 10,000 acres from the WMIDD.
- ◆ The YDP was intended to treat approximately 145,000 acre-feet per year. The electrical energy to operate the YDP would be made available from the NGS.
- ◆ Replacement of the reject (brine) stream is a federal obligation.
- ◆ Title I also authorized lining of a portion of the Coachella Canal to provide replacement water for the reject stream.
- ◆ Title I authorized construction of the Minute 242 well-field to provide approximately 160,000 acre-feet annually.
- ◆ Title I required delivery of approximately 140,000 acre-feet/year at San Luis and the Limitrophe Division per Minute 242.
- ◆ Title II of the CRBSCA authorized construction and implementation of salinity control programs above Imperial Dam. Including the following units: Paradox, Grand Valley, Las Vegas Wash, Lower Gunnison, and McElmo Creek.

- ◆ Title II required USDA voluntary cooperative agricultural programs with irrigation districts and individual farmers in order to improve on-farm efficiency and reduce salt-loading into the Colorado River.
- ◆ Title II required DOI to evaluate Colorado River salt-loading reduction controls from irrigation sources, point sources and diffuse sources.
- ◆ Title required the Bureau of Land Management (BLM) to evaluate lands and implement programs which reduced salt-loading into the Colorado River.
- ◆ Title II created the Colorado River Basin Salinity Control Advisory Council (a FACA committee).
- ◆ Title II established repayment obligations and schedules for upper and lower basin salinity control programs.
- ◆ Title II required DOI to prepare biennial reports to Congress and Basin State Governors regarding salinity control program efficacy.

#### **Hoover Power Plant Act - August 17, 1984**

- ◆ The Secretary was authorized to increase capacity of generating equipment at Hoover Dam (uprating of the turbines).
- ◆ Authorized construction of new visitor facilities and a bridge across the Colorado River below Hoover Dam.
- ◆ The Act authorized the uprating of the Hoover power plant to produce 1,448 megawatts (mW), from the original 1,345 mW.
- ◆ Hoover "Schedule A, B and C Contracts" were executed among users in Arizona, California and Nevada.
- ◆ The Act allows the Secretary of the Department of Energy, through the Western Area Power Administration (Western), to market excess energy from the NGS.

- ◆ The Act requires implementation of energy conservation programs by contract holders of Hoover electrical energy.

### **Colorado River Floodway Protection Act - October 30, 1986**

- ◆ With the aftermath of the 1983-1985 devastating flooding along the Lower Colorado River, Congress enacted the Colorado River Floodway Protection Act (CRFPA). The Act required the Secretary to identify and establish the "Colorado River Floodway" to provide benefits to river users and minimize loss of life and property damage.
- ◆ The CRFPA established a Task Force to advise Secretary of the Department of the Interior and Congress on the establishment of the floodway and management of development within the designated floodway.
- ◆ The Act required development of design criteria for the creation of the floodway boundary.
- ◆ The Act required Reclamation to study tributary floodflows below Davis Dam.
- ◆ The Secretary was required to identify specific boundaries of the 100-year flood, or flows of approximately 40,000 cfs below Davis Dam to the Southerly International Boundary (SIB).
- ◆ The Act required a five-year review of the floodway by the Secretary.
- ◆ The Secretary is prohibited from leasing any federal lands within the designated floodway. Existing leases will be evaluated when the lease term has expired based upon compatibility with the floodway criteria.

### **Grand Canyon Protection Act - October 30, 1992**

- ◆ The Grand Canyon Protection Act (GCPA) required the Secretary to implement "interim operating criteria" for the operation of Glen Canyon Dam (GCD) in order to protect the downstream resources in the Grand Canyon National Park (GCNP).

- ◆ The Secretary was required to complete an analysis of the operation of Glen Canyon Dam under the National Environmental Policy Act (NEPA).
- ◆ The GCPA required preparation and implementation of specific GCD operating plans separate from the requirements of Section 602(b) of the 1968 CRBPA.
- ◆ The Secretary was also required to prepare a report to Congress regarding long-term operations at GCD.
- ◆ The Secretary was to prepare a report which identifies the sources of replacement energy for any generation capacity lost at GCD through implementation of the new operating criteria.
- ◆ The Secretary was required to develop and implement long-term monitoring and research programs which evaluate the efficacy of Glen Canyon Dam operations.

### **Other Components of the Law of the Colorado River**

Also included in the Law of the River are several Native American Water Rights Settlement Acts which involve the use of or right to Colorado River water. These include:

- ◆ Southern Arizona Water Rights Settlement Act of 1982,
- ◆ Ak Chin Settlement of 1984,
- ◆ Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988,
- ◆ San Luis Rey Indian Water Rights Settlement Act of 1988
- ◆ Fort McDowell Indian Community Water Rights Settlement Act of 1990,
- ◆ San Carlos Apache Settlement Act of 1992, and

◆ Yavapai-Prescott Apache Settlement Act of 1994.

Additionally, re-operation of dams and reservoirs in compliance with federal environmental laws and regulations and implementation of basin-wide recovery programs addressing the needs of endangered species and habitats may require rule-making or Congressional legislation.

In 1996, the State of Arizona created the Arizona Water Banking Authority to store water to avoid long-term shortages, facilitate intra- and inter-state water exchanges and help settle Indian water rights claims.

All of these initiatives, as they are approved and implemented, become part of the dynamic framework and blueprint which has guided, and will continue to guide, the management of the Colorado River. This framework is the "Law of the River."

## **Major Players in the Colorado River Basin**

### **United States of America**

U.S. Bureau of Reclamation  
U.S. Fish and Wildlife Service  
National Park Service  
U.S. Bureau of Land Management

### **Lower Basin States**

#### **Arizona**

Arizona Department of Water Resources  
Arizona Game and Fish Department  
Arizona Power Authority  
Central Arizona Water Conservation District  
Arizona's Users of Colorado River water along the Mainstream

#### **California**

Colorado River Board of California  
California Department of Fish and Game  
Metropolitan Water District of Southern California  
Palo Verde Irrigation District  
Imperial Irrigation District  
Coachella Valley Water District  
Los Angeles Department of Water and Power  
San Diego County Water Authority  
Southern California Edison

#### **Nevada**

Colorado River Commission of Nevada  
Nevada Division of Wildlife  
Southern Nevada Water Authority

## **Lower Basin Native American Tribes (Mainstream)**

Colorado River Indian Tribes  
Hualapai Indian Tribe  
Fort Mojave Indian Tribe  
Chemehuevi Indian Tribe  
Fort Yuma-Quechan Indian Tribe  
Cocopah Indian Tribe

## **Upper Basin States**

### **Upper Colorado River Commission**

#### **Colorado**

Colorado Water Conservation Board  
Colorado Water Conservation District  
Colorado Division of Wildlife

#### **New Mexico**

New Mexico State Engineer's Office  
New Mexico Department of Fish and Game

#### **Utah**

Utah Division of Water Resources  
Utah Division of Wildlife Resources  
Central Utah Water Conservancy District

#### **Wyoming**

Wyoming State Engineer's Office  
Wyoming Game and Fish Division

## **Upper Basin Tribes (Mainstream)**

Navajo Nation

Hopi Indian Tribe

San Juan Southern Paiute Consortium

Ute Mountain Ute Indian Tribe

Southern Ute Indian Tribe

Jicarilla Apache Indian Tribe

## **Chronology of Construction of Major Dams on the Colorado River**

<b>Laguna Dam</b>	<b>Completed in 1909</b>	<b>Supplied water to Yuma Project. With completion of Imperial Dam, Laguna Dam now functions as the regulatory structure below Imperial Dam.</b>
<b>Hoover Dam</b>	<b>Completed in 1935</b>	<b>Created 25 maf Lake Mead and supplies water and generates power for users in the Lower Basin.</b>
<b>Imperial Dam</b>	<b>Completed in 1938</b>	<b>Imperial Dam and diversion works and the All-American Canal provide approximately 3.0 maf annually to the Imperial and Coachella Valleys.</b>
<b>Parker Dam</b>	<b>Completed in 1938</b>	<b>Parker Dam created Lake Havasu which serves as the forebay for the Metropolitan Water District of Southern California's Colorado River Aqueduct. The CAP's Havasu Pumping Plant also withdraws water from the east side of Lake Havasu just above Parker Dam.</b>

Davis Dam	Completed in 1953	Davis Dam was constructed to regulate the Colorado River below Hoover Dam and facilitate deliveries of water to Mexico.
Flaming Gorge Dam	Completed in 1962	Flaming Gorge Dam and reservoir, on the Green River, was authorized in the 1956 CRSP Act.
Blue Mesa Dam	Completed in 1962	Blue Mesa Dam and reservoir is the largest component of the Aspinall Unit on the Gunnison River and was part of the 1956 CRSP, originally authorized as the "Curecanti Unit."
Glen Canyon Dam	Completed in 1963	The "keystone" facility of the 1956 CRSP, stores approximately 25 maf in Lake Powell and generates more than a 1,000 mW of energy.

Navajo Dam	Completed in 1963	This dam and reservoir on the San Juan River in New Mexico, part of the 1956 CRSP, provide water and electrical energy to Indian and non-Indian users in the Farmington, New Mexico region and the Navajo Indian Irrigation Project.
Fontenelle Dam	Completed in 1964	Fontenelle is part of the Seedskafee Project on the Upper Green River in Wyoming. This project also resulted in the creation of the Seedskafee National Wildlife Refuge below Fontenelle Dam.
Morrow Dam	Completed in 1968	Morrow Dam, on the Gunnison River, is a smaller dam and reservoir below Blue Mesa and is part of the Aspinall Unit authorized in the 1956 CRSP.
Crystal Dam	Completed in 1976	Crystal Dam, on the Gunnison River, is a smaller dam below Blue Mesa and is part of the 1956 CRSP.

## **Major Aqueducts and Transbasin Export Facilities**

### **Lower Basin Aqueducts and Transbasin Export Facilities**

All-American and Coachella Canals	AAC completed in 1940 Coachella completed in 1948	The AAC and Coachella Canals convey approximately 3.0 maf into the Imperial and Coachella Valleys. Primarily for agricultural purposes.
Colorado River Aqueduct	Completed in 1941	Metropolitan Water District's aqueduct conveys approximately 1.2 maf into the Los Angeles and San Diego metropolitan regions. Primarily for M&I uses.
Central Arizona Project	Completed in 1993	Can convey approximately 1.5 maf into central and southern Arizona for M&I and agricultural uses.
Southern Nevada Water System	Completed in 1983, system expansion under current construction	Can convey approximately 0.3 maf from Lake Mead to the metropolitan Las Vegas region.

## Upper Colorado River Basin Aqueducts and Transbasin Export Facilities

Colorado-Big Thompson	Completed in 1956	Conveys approximately 250,000 af of Colorado River water through the Rocky Mountains into the South Platte River Basin in the Fort Collins region.
Central Utah Project	Construction is on-going	Conveys approximately 125,000 annually to M&I and agricultural uses along the west slope of the Wasatch Front in the Great Basin in central Utah.
Denver Water System	Essentially completed in 1964	Conveys approximately 130,000 af annually of Colorado River water through the Rocky Mountains to the Denver metropolitan region.
Frying Pan-Arkansas	Essentially completed in the mid-1970s	Conveys approximately 50,000-70,000 af annually of Colorado River water to M&I and agricultural uses in the Colorado Springs-Pueblo region of Colorado's east slope.

**San Juan-Chama**

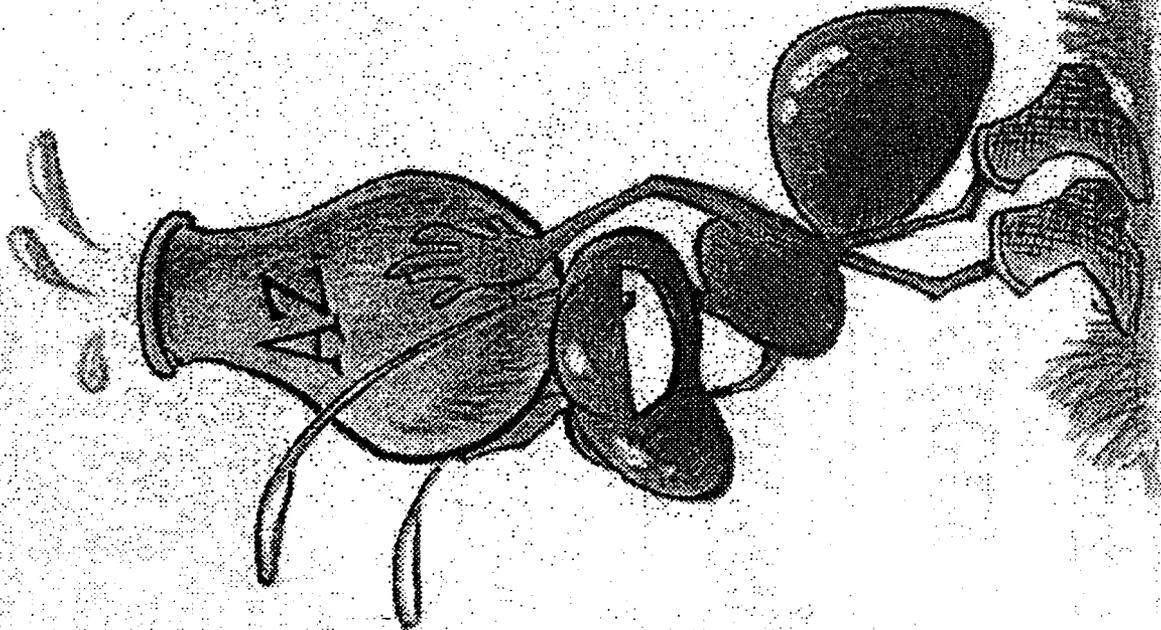
**Completed in 1971**

**Conveys approximately  
110,000 af annually of  
Colorado River water  
into the Rio Grande  
Basin for M&I and  
agricultural uses along  
the Rio Grande in central  
New Mexico.**

lor.wpd

csb 6/23/98







SO WHAT'S IT  
GOING TO TAKE TO  
HAVE MY WAY  
WITH YOUR  
VIRGIN?

VIRGIN  
RIVER

LAS  
VEGAS

INDECENT PROPOSAL

DAVE COVERLY '03  
THE SATIRIC TRIBUNE