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Hard Times on the Colorado River: Drought,  
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### History of Colorado River Law, Development and Use: A Primer and Look Forward

Greg Hobbs, Jr.

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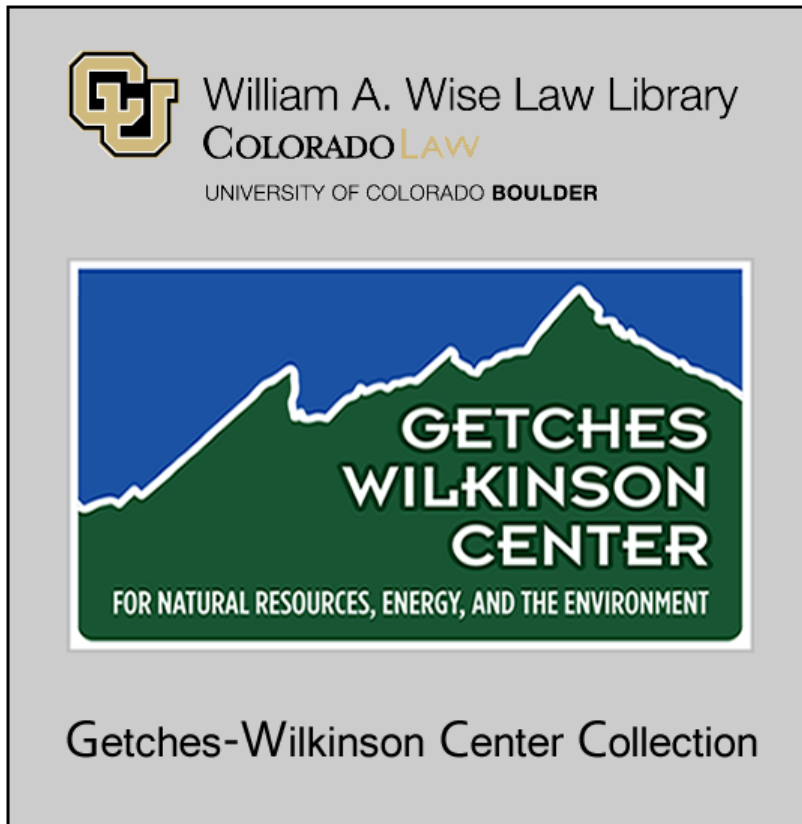
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# **History of Colorado River Law, Development and Use: A Primer and Look Forward**

**By Justice Greg Hobbs**

**“Hard Times on the Colorado River: Drought, Growth and the Future of the Compact,” Natural Resources Law Center, University of Colorado School of Law, June 8-10, 2005**

Thank you for your invitation. It is a privilege to help lead off this important conference.

The title of this session is “Arriving at the Problem.” I am here to talk about the “Law of the River.” Some might say the law of the river is the problem. Others might say that drought is the problem, compounded by mistakes in assumptions of available water supply by those who preceded us. Others, that damming up this noble river and keeping it dammed is about the most damnable thing an execrable species could have perpetrated. Finally, there are those who would say that the compact and the compact reservoirs have proved their worth and durability through the worst drought of recorded history.

Whatever point of view one may hold must yield to admiration for the river itself. In relation to the length and breadth and volume of other rivers, the Colorado River is short, skinny, and dirty looking. But, dear us!, it’s hugely consequential and always fascinating. You cannot walk any length of this magnificent working and singing river unappreciative of its voices, vistas, places, people, creatures, and fantastically-carved land forms.

The river floods in some seasons and seeks to disappear in others. It can take you for a mighty ride on the crest of noisy exaltation, or it can slack off and put you to a sleepy canoe paddle. We divide and use and dwindle it. We revere and take joy in any and all of its reaches. We paint it, photograph it, write poems and tomes of it. And make laws of it.

But, Ah!, the joy of being along any reach of it from mountain peak to canyon bend to desert view to delta déjà vu. And, especially, to be in the gut on the crest of a wave amidst the great chasm’s rumble and, at night on a campsite beach, to look up through towering walls of the Grand Canyon and see nothing but a stream of

the river of stars. Never can we deny to the Colorado River, the Rio Colorado, its world-class place and its right to exist and to serve.

In speaking to you of the law of the river, I have the privilege with her permission to incorporate into this talk and the conference CD Carol Angel's wonderful recent presentation to the Colorado Bar Association. I also rely on the 1978 compilation "Updating The Hoover Dam Documents" published in 1978 by the Bureau of Reclamation, United States Department of the Interior. And of course upon the work of historians and writers to which I cite.

Basic components of the law of the river include:

- 1922 Colorado River Compact
- 1928 Boulder Canyon Project Act
- 1929 California Limitation Act
- 1931 California Seven-Party Agreement
- 1944 United States-Republic of Mexico Water Treaty
- 1948 Upper Colorado River Basin Compact
- 1956 Colorado River Storage Project Act
- 1963 and 1964 Arizona v. California decision and decree
- 1968 Colorado River Basin Project Act
- 1970 Operating Criteria for Colorado System Reservoirs
- 1974 Colorado River Basin Salinity Control Act
- 1992 Grand Canyon Protection Act
- 2001 Interim Surplus Guidelines
- 2003 Colorado River Water Delivery Agreement
- 2003 California Quantification Settlement Agreement

To this list one might add the endangered species conservation and recovery plans for the upper and lower Colorado River Basins. Of course, one must also include the individual project acts for reservoirs constructed by the federal government by the Bureau of Reclamation in the seven basin states and the state law provisions for establishment of local participating districts that co-sponsored those projects in order to put the compacted water beneficial use. Because section 8 of the 1902 reclamation act provides that water rights for projects built by reclamation must settle their water use rights under state law, we must add the water laws of the seven states. To those add the Native American and federal agency reserved water rights and the appropriate rights of the water users who consume water allocated under the 1922 Colorado River

Compact. What an arrangement of federalism interlaces the relationships formed around this river!

Carol's outline, which follows, contains much detail that you may consult following the conference. Plus you have all the talks and papers that make up this conference. So I aim to set some context for our consideration and let the conference take its course, as it surely will. Congratulations, once again, to the Natural Resources Law Center for an excellent forum and program.

### **1922 Colorado River Compact**

Of course the basic constitutional framework for the law of the river is the 1922 compact. It resulted from 27 meetings of the seven commissioners from the Colorado River Basin states chaired by United States Commerce Secretary Herbert Hoover. As Professor Dan Tyler in his biography of Delph Carpenter documents, this Coloradan made bedrock contributions to the formation of the compact. Daniel Tyler, *Silver Fox of the Rockies, Delphus E. Carpenter and Western Water Compacts*, University of Oklahoma Press: Norman (2003).

These included, first, Carpenter's insight that the compact clause of the United States Constitution could be used to make a water treaty between Colorado, Wyoming, Utah, New Mexico, Nevada, Arizona, and California which, when ratified by the United States, would allocate the waters of the Colorado River basin between and among them. Second, when the first seven meetings held in Washington, D.C. failed to produce a compact centered on the irrigable acreage of each state and sent the proceedings to the verge of breaking up, Carpenter suggested that the river itself at Lee's Ferry suggested a perfect working division point of the waters between the four upper basin states and the three lower basin states.

I have had the opportunity to examine the compact negotiation minutes at length and have set forth what I see as defining dialogue in a script of the negotiations prepared for presentation at a Water Education Foundation conference on the Colorado River Compact at Bishop's Lodge, New Mexico, the site of the successful phase of the proceedings and in a paper I delivered to the Colorado River Water Users Association. Justice Greg Hobbs, *"Inside the Drama of the Colorado River Compact Negotiations: Negotiating the Apportionment"* (Water Education Foundation Colorado River

Compact Symposium 2003); Justice Gregory J. Hobbs, Jr., *"The Colorado River of Many Returns: How Conflict, Goodwill and Resolution Set the Course"* (Colorado River Water Users Association 2004).

I would like to make these points about key aspects of the negotiation and data the Commissioners considered that underlie the language of the compact:

--Contrary to the now popular notion that the compact commissioners had only really good water years to work with and, so, hugely over allocated the available supply, they were well aware of the extended drought of the 1890s that lasted through 1902. The 1902 gauge record showed 9,110,000 acre-feet of water at Yuma. They also had flood year records, such as the 25,400,000 acre-feet in 1909. They settled on a working average of 17.4 million acre feet based on recorded U.S.G.S. gauge data.

--There are repeated statements by the Chairman and the commissioners of the need to construct future large storage reservoirs on the river to make the compact allocations work. Carpenter brought with him to the first negotiating session an exhibit prepared by Colorado State Engineer Meeker showing a proposed Glen Canyon reservoir of 50,000,000 acre-feet and a proposed Boulder Canyon reservoir of 31,000,000 million acre-feet.

--Despite suggestions in the negotiations that out-of- Colorado-River-basin exports be prohibited or limited, the negotiators agreed to use of Colorado River allocated waters on any territory that lies within the seven basin states even though the area served might be out of the river's watershed.

--The Commission fended off a suggestion of the U.S. Geologic Survey that the compact should last only 50 years and then be re-negotiated. Instead, the Commission produced a perpetual allocation between the upper basin states and the lower basin states. (Article III (a)). Carpenter had set his sights on a perpetual compact knowing that the lower basin was in prime position to develop first and that the U.S. Supreme Court might apply prior appropriation as the law of equitable apportionment to division of the river's waters, in absence

of a compact. Indeed, the Court's decision in Wyoming v. Colorado, 259 U.S. 419 (1922) , did just that.

--The Commissioners agreed to an annual split of 7.5 million acre-feet of consumptive use annually each to the upper basin and to the lower basin, with the lower basin having an additional 1 million acre-feet of consumptive use to reflect already developed rights on the Gila River. (Article III (a)&(b)).

--The upper basin states fended off the lower basin state demand for a guaranteed annual delivery at Lee Ferry. Carpenter, in particular, was adamant that a history of drought and floods in the Colorado River Basin demonstrated the widely-variable nature of the river and made a yearly water guarantee unnecessary and unbearably onerous to the upper basin. So the negotiators settled on a ten-year running average of 75,000,000 acre feet at Lee Ferry that the upper basin could not deplete. (Article III (d)).

--The Commission provided that the upper basin could not withhold water and the lower basin could not require the delivery of water which cannot reasonably be applied to beneficial use. (Article III (e)).

--The Commission was aware that Mexico and the Colorado River Indian Tribes would require water in the future. They simply could not fix the amount and left it up to treaty making between the United States and Mexico (article III (c)) and to the future workings-out of the Supreme Court's decision in the 1908 Winters reserved tribal water rights case (Winters v. United States, 207 U.S. 564 (1908) (article VII)).

--The Commission provided that any future Mexican delivery guarantee would come from surplus waters, but that in the event of a water deficiency, the upper and lower basins would each be responsible for half of the obligation to Mexico. (Article III (c)).

--The Commission established a state-to-state process for considering and resolving compact disputes, with the Governor of each signatory state appointing a commissioner. The commissioners

could adjust the claim or controversy, subject to ratification by all of the legislatures of the signatory states. (Article VI).

--The Commission provided that unanimous agreement of the signatory states was required to terminate the compact. If that happened all rights established under the compact would continue unimpaired. (Article X).

### **1928 Boulder Canyon Project Act**

The 1922 Compact did not guarantee a particular apportionment of water to any of the seven basin states. Instead, it apportioned water perpetually between upper and lower divisions.

Arizona refused to sign the compact, despite the good work of its Commissioner Norviel, who was instrumental in obtaining the 75 million acre-feet ten year running average provision. He had insisted throughout the negotiations on a meaningful guarantee that the upper basin would not deplete the otherwise available flow of the river below a certain amount. Arizona's primary concern was its apportionment relative to California.

The Boulder Canyon Project Act authorized the reservoir that the lower basin states had long sought to protect against flooding, to produce hydroelectric power, and to assure the protection of a water supply for present perfected and future water uses in the lower basin. This law approved a six-state Colorado River Compact to become the law of the river, as a multi-year state ratification process had not brought Arizona into the fold.

This law also contained provisions later construed by the United States in the 1964 Arizona v. California decree as a lower basin three-state apportionment. It also required California, as a condition for construction of the reservoir, to enact a law limiting its consumptive use annually to 4.4 million acre-feet and one half of any surplus water. California accomplished this in 1929.

In regard to the 7.5 million annual consumptive use allowance to the lower basin, Congress provided for Arizona, California and Nevada to enter into an agreement for an apportionment as follows:

--Arizona 2.8 million acre-feet of consumptive use annually, plus one half of surplus waters, and exclusive beneficial consumptive use of the Gila River



--California 4.4 million acre-feet of consumptive use annually, plus one half of surplus waters

--Nevada 300,000 acre-feet of consumptive use annually

--for the beneficial use of these amounts, the Secretary of Interior was to contract with water users in those three states for storage of the water in the reservoir and permanent delivery service from it

### **1931 California Seven-Party Agreement**

Before entering into water service contracts, the Secretary of Interior insisted on the State of California agreeing to list the relative priority of that state's users of Colorado River water. California responded with the seven party agreement. The first four priorities spoke for California's share of 4.4 million acre-feet but went on to list priorities for an additional 962,000 acre-feet, for a total of 5,362,000 acre-feet.

Of the 4.4 million acre-feet agriculture in the Palo Verde, Yuma, Imperial, Coachella, and Palo Verde districts got a total of 3,850,000 and Metropolitan water District got 550,000 acre-feet. Of the additional 962,000 acre-feet, 662,000 acre-feet was for the Metropolitan Water District and San Diego and 300,000 acre-feet was for Imperial, Coachella, and Palo Verde.

### **1944 United States-Republic of Mexico Water Treaty**

During World War II, linking settlements regarding the Colorado River and the Rio Grande rivers, the United States and Mexico agreed to Mexico's right to have delivered to it 1,500,000 acre-feet of water annually. This was the amount Mexico was using as of 1944. An additional 200,000 acre-feet may be provided when a surplus is declared. In the event of an extraordinary drought, Mexican deliveries can be reduced in the same proportion as consumptive uses in the United States are reduced. Mexico was required to build a diversion structure below the borders of the two countries, which it did by constructing Morelos dam, which intercepts all the remaining live flow of the Colorado River for Mexican use.

### **1948 Upper Colorado River Basin Compact**

In 1948, Colorado, New Mexico, Utah, and Wyoming agreed to apportion 50,000 acre-feet of water annually to Arizona for the portion of that state lying in the upper basin. These four states then agreed to divide up by percentage the annual consumptive use available to them under the 1922 compact. As a result of the 1930s drought, the upper basin states realized that the 75,000,000 ten year running average provision of the 1922 compact exposed them to shortages in drought cycles.

The following calculation is a way of viewing how the 10-year running average 75 million acre-feet delivery requirement to the lower basin might translate into water available for consumptive use by the upper basin states in an average water year, based on river gauge data for the period 1896-2003:

<b>Acre-feet per year</b>	<b>Provisions</b>
14,800,000*	Total average annual water production in the Upper Colorado River Basin
<u>Minus 7,500,000</u>	Or the amount to be delivered to the Lower Basin under the current 10-year running average.
<u>Minus 750,000</u>	Mexican Treaty obligations (a disputed point)
<u>Minus 50,000</u>	For portion of Arizona above upper/lower basin dividing point (above Lee Ferry)
<b>= 6,500,000    Total Annual Average Available to Upper Basin</b>	

- Long-term average 1896-2003. Upper Colorado River Comm'n 55 Annual Rpt. (2003).

Within the Upper Basin, the Colorado River is allocated according to the following percentages:

Colorado = 51.75%

Utah = 23%

Wyoming = 14%

New Mexico = 11.25%

For water planning purposes, the Colorado Water Conservation Board assumes that there is up to 400,000 additional acre-feet of Colorado River water remaining for consumptive use that Colorado can develop under the 1922 and 1948 Colorado River compacts. (Citizen's Guide to Colorado Water Law, Colorado Foundation for Water Education, second edition (2004)).

### **1956 Colorado River Storage Project Act**

In 1956, Congress enacted the Colorado River Storage Project Act,<sup>1</sup> putting into place a network of Colorado River reservoirs structured to support the operation of the 1922 Colorado River Compact.<sup>2</sup> The 1956 Act was inevitable—the years 1905 to 1929 were the longest recorded wet cycle<sup>3</sup>—and resulted in a significant overestimation of Colorado River water available for allocation to the Upper and Lower Basin Colorado River states.<sup>4</sup> The guarantee of a 75 million acre-foot per ten-year period running average to the Lower Basin left the Upper Basin states in dire need of a large storage system that could withstand at least a severe four-year drought.<sup>5</sup>

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<sup>1</sup> 43 U.S.C. §§ 620a–620o (2002).

<sup>2</sup> See *id.*

<sup>3</sup> Doesken & McKee, at 20.

<sup>4</sup> David H. Getches & Charles J. Meyers, *The River of Controversy: Persistent Issues*, in *NEW COURSES FOR THE COLORADO RIVER: MAJOR ISSUES FOR THE NEXT CENTURY* 51, 56 (Gary D. Weatherford & F. Lee Brown eds., 1986).

<sup>5</sup> Based on tree ring studies, the long term average flow of the Colorado River Basin is 13.5 million acre-feet, but the Compact negotiators assumed there was at least an average of 16 million acre-

In turn, reaction to the implementation of the 1956 Act—through the construction of Glen Canyon, Flaming Gorge, Blue Mesa, and Navajo dams—helped to counter-produce the 1964 Wilderness Act,<sup>6</sup> as proposed dams at Echo Park and Marble Canyon dramatized the environmental call for creation of a national wilderness preservation system.

The annual native flow of the Colorado River can vary between 4.4 million acre-feet in drought times to 21.9 million acre-feet in wet years.<sup>7</sup> The Colorado River Compact guarantees a delivery of 75 million acre-feet measured at Lee Ferry to the Lower Basin over any ten-year period.<sup>8</sup> Only by storing water can the Upper Colorado River Basin states “even come close to meeting their allotted annual uses and discharging their Lee Ferry obligations.”<sup>9</sup>

Congress enacted the Colorado River Storage Project (“CRSP”) Act<sup>10</sup> to assist the Upper Basin states in developing their allocation of water, producing hydropower, and ensuring Compact deliveries, among other uses that, as a result of the 1968 Colorado River Basin Act, include fish, wildlife, and recreation.<sup>11</sup> Particularly in times of drought, the Aspinall Unit on the Gunnison River in Colorado—together with Navajo Dam in New Mexico, Glen Canyon Dam in Utah, and Flaming Gorge Dam in Utah—operate as a “savings account,” so that the citizens of Colorado and the other Upper Basin states can develop and use the water allotted to them by

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feet. “The system of reservoirs now in place in the Colorado Basin is capable of storing approximately four times the average annual flow of the river.” KATHLEEN A. MILLER, NAT’L CENTER FOR ATMOSPHERIC RESEARCH, CLIMATE VARIABILITY, CLIMATE CHANGE, AND WESTERN WATER 42 (1997), at <http://www.esig.ucar.edu/wwprac/report.pdf>.

<sup>6</sup> 16 U.S.C. §§ 1131–1136 (2002).

<sup>7</sup> Getches, *supra* note 4, at 56.

<sup>8</sup> COLO. REV. STAT. § 37-61-101 art. III(d).

<sup>9</sup> Edward W. Clyde, *Institutional Response to Prolonged Drought*, in NEW COURSES FOR THE COLORADO RIVER: MAJOR ISSUES FOR THE NEXT CENTURY 113 (Gary D. Weatherford and F. Lee Brown eds., 1986).

<sup>10</sup> Colorado River Storage Project Act, 43 U.S.C. §§ 620–620o (2002).

<sup>11</sup> Colorado River Basin Act, 43 U.S.C. § 1501(a) (2000); Bd. of County Comm’rs v. Crystal Creek Homeowners’ Ass’n., 14 P.3d 325, 333, 339–340 (Colo. 2000).

the Compact “without fear of being ‘called out’ at some time by the demands of the Compact.”<sup>12</sup> See Justice Gregory J. Hobbs, Jr., *The Role of Climate in Shaping Western Water Institutions*, 7 U. Denv. Water L. Rev. 1 (2003).

### **1963 and 1964 Arizona v. California Decision and Decree**

Following several unsuccessful attempts to define its rights through litigation in the United States Supreme Court, Arizona in 1944 negotiated a water delivery agreement with the Secretary of Interior of 2,800,000 acre-feet from the mainstream, plus half of any surplus water. Then, Arizona signed the 1922 compact.

In 1963, the U.S. Supreme Court issued its decision in the long-running dispute between Arizona and California over lower basin state-to-state apportionments. Here I call on Professor Norris Hundley for his insightful commentary on this surprising decision:

The decision represented a tremendous victory for Arizona and a lesser, though nonetheless important, one for the Indians. Though the court refrained from adjudicating the rights of the Indians living along the lower-basin tributaries, it sustained completely the federal government’s claims for the five reservations along the mainstream—Chemehuevi, Cocopah, Yuma, Colorado River, and Fort Mohave. Citing as a precedent the 1908 case of *Winters v. U.S.*, the court declared that “these reservations . . . were not limited to land, but included waters as well . . . It is impossible to believe that when Congress created the great Colorado River Indian Reservation and when the Executive Department of this Nation created the other reservations they were unaware that most of the lands were of the desert kind—hot, scorching sands—and that water from the river would be essential to the life to the Indian people and to the animals they hunted and the crops they raised.” The court agreed with the special master that the Indians possessed rights to “enough water”—about a million acre-feet—“to irrigate all the practicably irrigable acreage on the reservation” and that “all uses of mainstream water within a State are to be charged against that State’s apportionment.” The court also stipulated

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<sup>12</sup> *Crystal Creek Homeowners’ Ass’n*, 14 P.3d at 334 (2000).

that the rights of the Indians dated from the creation of the reservations and were superior to later non-Indian rights, even if those rights were based on uses initiated before the Indians had begun diverting water. Since some of the Indian lands had been set aside as early as 1865 and none later than 1917, this announcement of the Court strengthened considerably Indian rights to Colorado River water.

But Arizona won the greater victory, though it did so in a way that took nearly everyone by surprise. Cutting through the extensive testimony and legal technicalities, the court grounded its opinion not on the compact, but rather on the thirty-five-year old Boulder Canyon Act. In that measure, declared the Court in a five-to-three decision, Congress “intended to and did create its own comprehensive scheme for . . . apportionment.” According to the justices, congress in 1928 had done more than merely *suggest* a lower-basin compact in section 4 (a) of the act. It had actually *authorized* the secretary of the interior to use his contract power to implement a lower-basin pact—a pact “leaving each state its tributaries” and a pact in which “Congress decided that a fair division of the first 7,500,00 acre-feet of . . . mainstream waters would give 4,400,000 acre-feet to California, 2,8000,000 to Arizona, and 300,000 to Nevada. In addition, claimed the Court, the secretary possessed the authority to determine how future surpluses and shortages would be divided among the states.

Norris Hundley, Jr., Water and The West, *The Colorado River Compact and the Politics of Water in the American West* 303-04 (1975).

### **1968 Colorado River Basin Project Act**

The 1968 act authorized construction of the Central Arizona Project. It provided also provided that, in the event of shortage, California's 4,400,000 acre-feet has priority over the Central Arizona Project. It also directed the Secretary of Interior to propose criteria for the coordinated long-range operations of Federal reservoirs, and provided that the criteria make provisions for the storage of water in storage units of the Colorado River Storage Project and releases of water from Lake Powell in this order of priority: (1) the Treaty

obligation to Mexico, chargeable to the States of the upper division if any exists; (2) the upper basin guarantee of 75,000,000 every 10 years to the lower basin; and (3) carryover storage to meet these obligations.

### **1970 Operating Criteria for Colorado System Reservoirs**

These criteria target an annual delivery of at least 8.23 million acre-feet a year from Lake Powell to Lake Mead. These conservative criteria would provide for 7,500,000 acre-feet for the lower basin's annual consumptive use share and half of the Mexican Treaty obligation, a point disputed by the upper basin. An annual review and plan taking into account water in storage and anticipated runoff is contemplated under the criteria. The factors required to be considered include historic stream flow, the most critical periods of record, water supply probabilities, estimated storage depletions in the upper basin, and the necessity to assure that upper basin consumptive uses are not impaired because of failure to store sufficient water to assure required deliveries.

### **Conclusion**

I am pleased, with her permission, to reprint Carol Angel's CLE outline of the law of the river. She puts her finger on current disputed items that will require the attention of the people of the seven basin states and of the United States. Based on historical reflection--conflict, confusion, good will, and resolution are inevitable steps in our ability to treat the Colorado River and each other with respect and live together in community.

**Update on the Law of the River and Future Legal Issues**  
**“Colorado River Compact” CBA-CLE Conference**  
**April 8, 2005**  
**Carol Angel, First Assistant Attorney General<sup>13</sup>**  
**Colorado Department of Law**

**I. LAW OF THE RIVER BASICS**

- A. Colorado River Compact (§ 37-61-101, C.R.S.). Negotiated in 1922 by representatives of the seven Colorado River Basin states and the federal government; effective in 1929 after congressional approval in the Boulder Canyon Project Act (43 U.S.C. § 617-1).

**1. Definitions:**

Article II(a): “The term ‘Colorado River System’ means that portion of the Colorado River and its tributaries within the United States of America.”

Article II(b): “The term ‘Colorado River Basin’ means all of the drainage area of the Colorado River System and all other territory within the United States of America to which the waters of the Colorado River System shall be beneficially applied.”

Article II(c): “The term ‘States of the Upper Division’ means the States of Colorado, New Mexico, Utah and Wyoming.”

Article II(d): “(d) The term ‘States of the Lower Division’ means the States of Arizona, California and Nevada.”

Article II(e): “The term ‘Lee Ferry’ means a point in the main stream of the Colorado River one mile below the mouth of the Paria River.”

Article II(f): “The term ‘Upper Basin’ means those parts of the States of Arizona, Colorado, New Mexico, Utah and Wyoming within and

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<sup>13</sup> The views expressed in this presentation are solely those of the author, not the official position of the Colorado Department of Law or the State of Colorado.



from which waters naturally drain into the Colorado River System above Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System above Lee Ferry.”

Article II(g): “The term ‘Lower Basin’ means those parts of the States of Arizona, California, Nevada, New Mexico and Utah within and from which waters naturally drain into the Colorado River System below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System below Lee Ferry.”

Article II(h): “The term ‘domestic use’ shall include the use of water for household, stock, municipal, mining, milling, industrial and other like purposes, but shall exclude the generation of electrical power.”

## **2. Apportionment:**

Article III(a): “There is hereby apportioned from the Colorado River System in perpetuity to the Upper Basin and to the Lower Basin respectively the exclusive beneficial consumptive use of 7,500,000 acre feet of water per annum, which shall include all water necessary for the supply of any rights which may now exist.”

Article III(b): “In addition to the apportionment in paragraph (a) the Lower Basin is hereby given the right to increase its beneficial consumptive use of such waters by one million acre per annum.”

Article III(c): “If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then, the burden of such deficiency shall be equally borne by the Upper Basin and the Lower Basin, and whenever necessary the States of the Upper Division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in

paragraph (d).”

Article III(d): “The states of the Upper Division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre feet for any period of ten consecutive years reckoned in continuing progressive series beginning with the first day of October next succeeding the ratification of this compact.”

Article III(e): “The States of the Upper Division shall not withhold water, and the States of the Lower Division shall not require the delivery of water, which cannot reasonably be applied to domestic and agricultural uses.

Article III(f) & (g): “Further equitable apportionment” of unapportioned Colorado River System waters may be made after October 1, 1963. III(g) specifies the procedure to be followed. These provisions have not come into play.

### 3. Other Important Provisions:

Article IV(b): “Subject to the provisions of this compact, water of the Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes.” [Note: Article XV(a) of the Upper Colorado compact is identical.]

Article IV(c): “The provisions of this article shall not apply to or interfere with the regulation and control by any state within its boundaries of the appropriation, use and distribution of water.” [Note: Article XV(b) of the Upper Colorado compact is very similar.]

Article VIII: “Present perfected rights to the beneficial use of waters of the Colorado River System are unimpaired by this compact. Whenever storage capacity of 5,000,000 acre feet shall have been provided on the main Colorado River within or for the benefit of the Lower Basin, then claims of such rights, if any, by appropriators or users of waters in the Lower Basin, against appropriators or users of water in the Upper Basin shall attach to and be satisfied from water

that may be stored not in conflict with Article III.”

“All other rights to beneficial use of waters of the Colorado River System shall be satisfied solely from the water apportioned to that Basin in which they are situate.”

B. Upper Colorado River Basin Compact (§ 37-62-101, C.R.S.)  
Negotiated in 1948 by representatives of Arizona, Colorado, New Mexico, Utah, Wyoming and the federal government, approved in 1949. Article I(b) recognizes that “the Colorado River Compact is in full force and effect and all of the provisions hereof are subject thereto.”

1. Definitions: same as the Colorado River Compact.
2. Apportionment: “Subject to the provisions and limitations contained in the Colorado River Compact,” Article III(a) apportions “in perpetuity” the Upper Basin’s share of the consumptive use of water under the Colorado River Compact to individual states. Arizona gets a flat 50,000 AFY. The rest is by percentages:

State	%	% of 7.5 MAF (full supply)	% of 6 MAF (most likely supply)
Colorado	51.75	3,855,375	3,079,125
New Mexico	11.25	838,125	669,375
Utah	23	1,713,500	1,368,500
Wyoming	14	1,043,000	833,000

Article III(b) specifies that the III (a) apportionments “shall be applied in conformity with the following principles:”

- “(1) The apportionment is of any and all man-made depletions;
- “(2) Beneficial use is the basis, the measure and the limit of the right to use;
- “(3) No state shall exceed the apportioned use in any water year when the effect of such excess use, as determined by the commission, is to deprive another signatory state of its apportioned use during the water year; provided, that this subparagraph (b)(3) shall not be construed as:

- “(i) Altering the apportionment of use, or obligations to make deliveries as provided in article XI, XII, XIII or XIV of this compact;
  - “(ii) Purporting to apportion among the signatory states of such uses of water as the upper basin may be entitled to under paragraphs (f) and (g) of article III of the Colorado River Compact; or
  - “(iii) Countenancing average uses by any signatory state in excess of its apportionment.
- “(4) The apportionment to each state includes all water necessary for the supply of any rights which now exist.”

3. Curtailment. Article VIII creates the Upper Colorado River Commission. Article IV specifies that, in the event curtailment of Upper Basin water use becomes necessary, the extent of curtailment by each state “shall be in such quantities and at such times as shall be determined by the commission upon the application of the following principles:”

Article IV (b): “If any state or states of the upper division, in the ten years immediately preceding the water year in which curtailment is necessary, shall have consumptively used more water than it was or they were, as the case may be, entitled to use under the apportionment made by article III of this compact, such state or states shall be required to supply at Lee ferry a quantity of water equal to its, or the aggregate of their, overdraft or the proportionate part of such overdraft, as may be necessary to assure compliance with article III of the Colorado River Compact, before demand is made on any other state of the upper division.”

Article IV(c): “Except as provided in subparagraph (b) of this article, the extent of curtailment by each state of the upper division of the consumptive use of water apportioned to it by article III of this compact shall be such as to result in the delivery at Lee ferry of a quantity of water which bears the same relation to the total required curtailment of use by the states of the upper division as the consumptive use of the upper Colorado river system water which was made by each such state during the water year immediately preceding the year in which the curtailment becomes necessary

bears to the total consumptive use of such water in the states of the upper division during the same water year; provided, that in determining such relation the uses of water under rights perfected prior to November 24, 1922, shall be excluded.”

#### 4. Other Important Provisions.

Article V contains provisions on apportioning reservoir losses.

Article VI: “The commission shall determine the quantity of the consumptive use of water, which use is apportioned by article III hereof, for the upper basin and for each state of the upper basin by the inflow-outflow method in terms of man-made depletions of the virgin flow at Lee ferry, unless the commission, by unanimous action, shall adopt a different method of determination.

Article VII provides that, “The consumptive use of water by the United States of America or any of its agencies, instrumentalities or wards shall be charged as a use by the state in which the use is made. . . .”

Articles X through XIV specifically address the La Plata, the Little Snake, the Henry’s Fork, the Yampa, and the San Juan, all interstate tributaries.

Article XVI provides that “The failure of any state to use the water, or any part thereof, the use of which is apportioned to it under the terms of this compact, shall not constitute a relinquishment of the right to such use to the lower basin or to any other state, nor shall it constitute a forfeiture or abandonment of the right to such use.”

#### C. Lower Basin Apportionment

1. Resolved in *Arizona v. California*, 373 U.S. 546 (1963); decree entered in *Arizona v. California*, 376 U.S. 340 (1964).
2. Divides “all the water in the mainstream below Lee Ferry.” 373 U.S. at 591; decree paragraph I.B.
3. Apportionments of 4.4 MAFY to California, 2.8 MAFY to Arizona, and .3 MAFY to Nevada. Decree, paragraph II.B.1.

4. Surpluses and shortages to be decided by Secretary of Interior. Surplus divided 50% to California, 46% to Arizona, and 4% to Nevada. Division of shortages up to Secretary. Decree, paragraphs II.B.2 and II.B.3.
  5. Defines “consumptive use” as “means diversions from the stream less such return flow thereto as is available for consumptive use in the United States or in satisfaction of the Mexican Treaty obligation.” Decree, paragraph II.A.
  6. Defines “present perfected rights” as a water right, existing as of June 25, 1929, “acquired in accordance with state law, which right has been exercised by the actual diversion of a specific quantity of water that has been applied to a defined area of land or to definite municipal or industrial works, and in addition shall include water rights created by the reservation of mainstream water for the use of federal establishments under federal law whether or not the water has been applied to beneficial use.” Decree, paragraph II.G & H.
  7. Leaves each state the use of its own tributaries, with the exception of apportionment of upper Gila between New Mexico and Arizona. Decree, paragraphs II.C; VIII.B.
  8. The Supreme Court based its decision on sections 4 and 5 of the Boulder Canyon Project Act, 43 U.S.C. §§ 617-617*t*. The BCPA also recites, at Sections 1, 4, 8, 13, 19, that it is subject to, consistent with, or subsidiary to the Colorado River Compact. Article VIII(D) of the Decree also provides that, “This decree shall not affect any issue of interpretation of the Colorado River Compact.”
- D. 1945 Treaty with Mexico on Water Utilization, 59 Stat. 1219. Allots Mexico a “guaranteed annual quantity” of 1.5 MAF. In a surplus, may be increased to 1.7 MAF; in an extraordinary drought, may be reduced in the same proportion as uses within the U.S. are reduced. Does not address how treaty burden is borne within U.S.
- E. Colorado River Basin Project Act, 43 U.S.C. § 1501 et seq., 82 Stat. 886; and Criteria for Coordinated Long-Range

Operation of Colorado River Reservoirs. Primarily, the CRBPA authorized the Central Arizona Project. The Upper Basin extracted protection for Lake Powell in section 602(a). Congress directed the Secretary of the Interior to promulgate operating criteria for Colorado River reservoirs, and directed that “the criteria shall make provision for the storage of water in storage units of the Colorado River storage project and releases of water from Lake Powell in the following listed order of priority:”

“(1) releases to supply one-half the deficiency described in article III(c) of the Colorado River Compact, if any such deficiency exists and is chargeable to the States of the Upper Division . . . ;

“(2) releases to comply with article III(d) of the Colorado River Compact, less such quantities of water delivered into the Colorado River below Lee Ferry to the credit of the States of the Upper Division from other sources; and

(3) storage of water not required for the releases specified in clauses (1) and (2) of this subsection to the extent that the Secretary, after consultation with the Upper Colorado River Commission and representatives of the three Lower Division States and taking into consideration all relevant factors (including, but not limited to, historic stream-flows, the most critical period of record, and probabilities of water supply), shall find this to be reasonably necessary to assure deliveries under clauses (1) and (2) without impairment of annual consumptive uses in the upper basin pursuant to the Colorado River Compact: *Provided*, That water not so required to be stored shall be released from Lake Powell: (i) to the extent it can be reasonably applied in the States of the Lower Division to the uses specified in article III(e) of the Colorado River Compact, but no such releases shall be made when the active storage in Lake Powell is less than the active storage in Lake Mead, (ii) to maintain, as nearly as practicable, active storage in Lake Mead equal to the active storage in Lake Powell, and (iii) to avoid anticipated spills from Lake Powell.”

The Secretary promulgated the required operating criteria in 1970, which set a “minimum objective release” of 8.23 million acre feet

(MAF) per year from Lake Powell. The bases for this number are not specified.

## II. HYDROLOGY

- A. Supply. The Colorado River Compact was negotiated after several decades of abnormally high flows on the Colorado, so that it overestimated the long-term supply of the Colorado River Basin. This wasn't immediately apparent until the low flow years of the 1930s and 1950s. [See chart] Current average virgin flow at Lee Ferry is around 14.8 MAF. The past five years have been ones of extraordinary drought. The 2000 inflow to Lake Powell was 61% of average; 2001 was 59%. The 2002 inflow was 25% of average, the lowest ever recorded since Lake Powell began filling in 1963. 2003 and 2004 inflow were both at 51% of average. Snowpack in the basin above Lake Powell is currently very slightly above average. High precipitation in the Lower Basin has resulted Lake Mead rising to 16.22 MAF (62.7 percent of capacity), while storage in Lake Powell has dropped to 8.06 MAF (33.2 percent of capacity). These figures are as of March 28, 2005.
- B. Deliveries. Nevertheless, because of the high flow years of the mid-1990's, and the Operating Criteria, for the nine-year period from 1996-2004, deliveries past Lee Ferry total over 93 MAF.
- C. Consumptive Uses. Total uses by the Upper Basin have topped out at around 4.2 MAF, and decreased during the drought. Colorado's total uses are around 2.8 MAF. Total uses in the Lower Basin, including reservoir evaporation and tributary uses, are 10-11 MAF.

## III. QUESTIONS TO BE ASKED BEFORE ANY CURTAILMENT IS IMPOSED:

- A. Is Lake Powell down to dead pool? Is there any water in Flaming Gorge, Navaho, and Aspinall? In addition to Lake Powell, there are three other "storage units" constructed under the same law – Flaming Gorge (3.75MAF active capacity); Navajo (about 1 MAF active capacity); and



Aspinall (about .8 MAF active capacity). Like Lake Powell, one of the primary purposes of these projects is to assist the Upper Basin states in using their compact apportionments (by providing protection against a Lower Basin call). There are specific provisions of law and regulations that govern releases from Lake Powell, but no such clear-cut guidance on the other projects.

- B. What have the deliveries past Lee Ferry totaled in the previous nine years? Article III(d) of the Compact operates on a ten-year period, not year-by-year.
- C. During the preceding nine years and the current year, have there been “deficiencies” under Article III(c) of the Compact, so that any portion of the Mexican Treaty obligation is chargeable to the Upper Basin? What does “surplus” mean under Article III(c)? Does it include Lower Basin tributary supplies in excess of the extra 1 MAF allowed to the Lower Basin under article III(b)? To determine a “surplus” or “deficiency,” isn’t an accurate determination of consumptive uses within the Colorado River System necessary? Must the Upper Basin account for transit losses?
- D. Has any Upper Basin State overused its apportionment? How is that apportionment to be determined – a percentage of 7.5 MAF, or some lesser number?
- E. What is the amount of consumptive use in each Upper Basin state for the preceding year? How much is attributable to rights perfected prior to 1922? How is “perfected” defined?

#### IV. REFERENCES

- A. Components of the Law of the River

Colorado River Compact (§ 37-61-101, C.R.S.)

Boulder Canyon Project Act, 43 U.S.C. § 617 et seq., 45 Stat.

1057

Arizona v. California, 283 U.S. 423, 51 S.Ct. 522, 75 L.Ed. 1154 (1931)[Constitutionality of BCPA]

Arizona v. California, 292 U.S. 341, 54 S.Ct. 735, 78 L.Ed. 1298 (1934)[seeking to perpetuate testimony re Compact and the meaning of Article III(b)]

United States v. Arizona, 295 U.S. 174 (1935)[Parker Dam construction]

Arizona v. California, 298 U.S. 558, 56 S.Ct. 848, 80 L.Ed. 1331 (1936)[seeking apportionment of Lower Colorado]

1945 Treaty with Mexico on Water Utilization, 59 Stat. 1219

Upper Colorado River Basin Compact (§ 37-62-101, C.R.S.)

Colorado River Storage Project Act, 43 U.S.C. § 620, 70 Stat.

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Colorado River Basin Project Act, P.L. 90-537, 43 U.S.C. § 1501 et seq., 82 Stat. 886

Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (P.L. 90-537), 35 Fed. Reg. 8951 (June 10, 1970)

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Colorado River Basin Salinity Control Act, P.L. 93-320, 43 U.S.C. § 1517 et seq., 88 Stat. 266

Arizona v. California, 439 U.S. 419 (1979) [supplemental decree]

Arizona v. California, 460 U.S. 605 (1983) [attempt to amend decree]

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## B. Interpretive Materials

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