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James S. Lochhead

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An Upper Basin Perspective on California's Claims to Water from the Colorado River Part I: The Law of the River

**AN UPPER BASIN PERSPECTIVE ON
CALIFORNIA'S CLAIMS TO WATER FROM THE
COLORADO RIVER
PART I: THE LAW OF THE RIVER[†]**

JAMES S. LOCHHEAD[‡]

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I. INTRODUCTION

Even before the negotiation of the 1922 Colorado River Compact¹ (“Compact”), the Upper Division States² in the Colorado River Basin were concerned about securing and protecting a reliable water supply for their use and development. That concern persists, and is manifested in their positions relative to current issues that include endangered species; marketing, leasing, and banking; Indian reserved rights; salinity; and the needs and values of the inexorable in-migration of people to the West. The Upper Basin³ has also felt itself under constant threat of the prospect that rapid development in California could give rise to a priority of use—ultimately usurping future development and economic opportunity in the Upper Basin. As a result, issues in California have always been at the top of the Upper Basin’s agenda and remain a paramount Upper Basin concern.

California’s dependence on the use of water surplus to its basic apportionment⁴ under the Law of the River⁵ represents the most

1. Colorado River Compact, 123 Colo. Sess. Laws 684, COLO. REV. STAT. § 37-61-101 to -104 (2000) [hereinafter Compact].

2. The Compact defines “States of the Upper Division” to mean the states of Colorado, New Mexico, Utah, and Wyoming. *Id.* § 37-61-101, art. II(e).

3. The Compact defines “Upper Basin” to mean those parts of the States of Arizona, Colorado, New Mexico, Utah, and Wyoming within the Colorado River Basin above Lee Ferry, and also areas in those states outside of the Basin to which Colorado River water is diverted for beneficial use. *Id.* § 37-61-101, art. II(f).

4. The term “basic apportionment” refers to the amount of water that can be beneficially consumed by a Lower Division state pursuant to Article II(B)(1) of the Decree of the United States Supreme Court in *Arizona v. California*, 376 U.S. 340, 342 (1964), and under a “Normal” determination by the Secretary of the Interior pursuant to Article III(3)(a) of the Criteria for Coordinated Long-Range Operation of Colorado

current "California problem." For many years, California has been using as much as 800,000 acre-feet in excess of its basic apportionment. Increasing water use in Arizona and Nevada that has pushed total water use in the Lower Basin⁶ over its Compact allocation has exacerbated the problem. As a result, the Secretary of the Interior and the Basin states, other than California,⁷ have pressured California water supply agencies to reduce their dependence on surplus Colorado River flows. Additionally, they have demanded California meet its legal obligation to live within its means under the Law of the River.

The reason for such mandates is simple and illustrates why solving the California problem is of fundamental importance to the other states. If California is allowed to continue to exceed its basic apportionment in the face of increasing need in the other Basin states, and if established allocations are not enforced, then the foundation of the Law of the River—the allocation of the right to consume water among the states—may be meaningless. This loss of security of allocation would undermine the certainty and reliability of supply for water users in each of the Basin states, thereby making resolution of other management and environmental issues on the Colorado River virtually impossible, short of divisive, costly, and time-consuming litigation. A reliable allocation of supply provides a legal framework through which the federal government and the states can manage the Colorado River to meet changing demands and values. Therefore, each state has a vital stake in assuring the maintenance and enforcement of that framework.

The Law of the River, of which the Compact is the foundation, is the product of economic need, social conflict, politics, and law. To appreciate fully this set of laws, one must understand the historical context that created the laws and the motives of those who fought for and negotiated each compromise. Through that understanding, one

River Reservoirs, 35 Fed. Reg. 8951 (June 10, 1970) [hereinafter *Operating Criteria*]. Article II(d) of the Compact defines "States of the Lower Division" to mean Arizona, California, and Nevada. Compact, *supra* note 1, § 37-61-101, art. II(d). The basic apportionment of the Lower Division States is as follows: Arizona—2.8 million acre-feet per year ("m.a.f./yr"); California—4.4 m.a.f./yr; and Nevada—0.3 m.a.f./yr. *Arizona*, 376 U.S. at 342. The Decree in *Arizona v. California* and the Operating Criteria make provisions for "shortage" and "surplus" conditions, when the states of the Lower Division can use less or more, respectively, than their basic apportionments. *Id.*; see also *Operating Criteria*, at 8951.

5. The "Law of the River" refers to a body of law affecting the interstate and international use, management, and allocation of water in the Colorado River System, including the 1922 Colorado River Compact, the Mexican Water Treaty of 1944, the Upper Colorado River Basin Compact, several United States Supreme Court decisions, the Decree in *Arizona v. California*, and a host of federal laws and administrative regulations.

6. Article II(g) of the Compact defines "Lower Basin" to mean those parts of Arizona, California, Nevada, New Mexico, and Utah within the Colorado River Basin below Lee Ferry, and also areas in those states outside of the Basin to which Colorado River water is diverted for beneficial use. Compact, *supra* note 1, § 37-61-101, art. II(g).

7. Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming.

can discern the policy underpinnings of the current positions of the states, tribes, and water agencies that rely on the Colorado River's supply. Therefore, this article will examine the historical context of the Law of the River before reviewing the evolution and potential resolution of the current problem of California's dependence on surplus flows.

This article will consist of two parts. Part I will review the development of the Law of the River from an Upper Basin perspective. It will focus on the motivations of the Upper Division states, particularly Colorado, in pressing for the Compact and later laws. These motivations were premised on key themes or principles that remain relevant today. Part I also will summarize a few of the major unresolved issues under the Law of the River that create uncertainty, and therefore motivate the Upper Basin to press the California issue. Part II of the article, which will appear in a later edition of the *University of Denver Water Law Review*, will use the historical perspective of Part I as a basis to review the history of discussions over the last ten years between the states, the Department of the Interior, Indian Tribes, and other water users. These discussions have resulted in historic proposals and agreements by which California agencies will in fact work toward reducing their overall water use. Since, like other states, California requires some reliability of supply, interim surplus guidelines for the operation of Colorado River Reservoirs will facilitate this "California Plan." Adopted by the Secretary of the Interior, these procedures will guide operations of the reservoirs in a way that will assist California in achieving a "soft landing" to water use within its basic allocation.

II. THE COLORADO RIVER COMPACT

The development of the Colorado River began when the early irrigation of the Imperial Valley in California involved a canal route through Mexico. The canal route required the cooperation of the Mexican government and implicated international relations between the United States and Mexico.⁸ This international complication increased the desire in the Imperial Valley for an "All-American Canal" and led to discussion and debate over the need to construct large storage facilities on the lower Colorado River.⁹ Irrigation interests in California clamored for construction of a large dam to reduce the threat of floods, such as those that occurred between 1905 and 1907 and created the Salton Sea.¹⁰ These interests looked to enhance the reliability and security of their water supply. Competing proposals for development of a large hydroelectric project augmented the demand for a large reservoir.

It soon became clear that such comprehensive financing and

8. NORRIS HUNDLEY, JR., *WATER AND THE WEST* 22-23 (1975).

9. *Id.* at 45-52.

10. *Id.* at 27.

development required the assistance of the federal government. Comments of federal employees and commentators, such as John Wesley Powell, Richard J. Hinton, and Arthur Powell Davis, further fueled the debate. As early as 1878, they argued for federal control over the comprehensive development of the Colorado River.¹¹ However, federal assistance also required the cooperation of the other Basin states, which successfully blocked any financing proposals in Congress. The Upper Basin was anxious about the potential rate of development in the Lower Basin and was concerned that the water supply forecasts of the federal government might be unreasonably optimistic.¹² Thus, the California proposals threatened the security and reliability of the Upper Basin supply.

A proposal made in 1920 by Delph Carpenter of Colorado to the League of the Southwest ("League"), in his capacity as legal advisor to Colorado's Governor, broke the stalemate.¹³ Carpenter urged the states to use the powers retained by them under the Compact Clause of the United States Constitution¹⁴ to equitably apportion the right to use the waters of the Basin among them. Carpenter designed his proposal to protect the security of future development opportunity in the other states, while allowing development for the benefit of California to proceed. The proposal provided the vehicle for the League to urge Congress to construct an All-American Canal and flood control storage on the lower Colorado River, with a compact as a necessary prerequisite.¹⁵ Hence in 1921, Congress authorized the appointment of a federal commissioner and approved the negotiation of an interstate compact.¹⁶

Carpenter did not make his proposal out of thin air, nor did he do so without a clear understanding of the goals he wanted to achieve in the subsequent compact negotiations. He had in mind several basic principles he thought a compact could establish, which ultimately would inure to the benefit of the Upper Basin and to Colorado in particular. First, Carpenter sought assurance that Colorado could develop a share of the Colorado River in perpetuity, as needs and economic conditions dictated. Second, although he was a staunch proponent of the prior appropriation doctrine and the belief that a water right is a property right, Carpenter sought to eliminate the operation of the prior appropriation doctrine as applied on an interstate basis. Third, Carpenter was adamant in his defense of state sovereignty and sought to preserve state autonomy over intrastate water appropriation and administration. Fourth, he felt strongly that

11. *Id.* at 8-9.

12. *Id.* at 96-97.

13. Daniel Tyler, *Delphus Emory Carpenter and the Colorado River Compact of 1922*, 1 U. DENV. WATER L. REV. 228, 240 (1998).

14. U.S. CONST. art. I, § 10, cl. 3. The most complete discussion of the Compact Clause remains Felix Frankfurter & James M. Landis, *The Compact Clause of the Constitution—A Study in Interstate Adjustments*, 34 YALE L.J. 685 (1925).

15. HUNDLEY, *supra* note 8, at 90-93.

16. Act of Aug. 19, 1921, ch. 72, 42 Stat. 171, 171-72.

litigation was the interstate equivalent of war and sought to avoid the threat of litigation among the states as well as between the states and the federal government. Finally, Carpenter saw development of the Colorado River as key to reliability and security of supply and sought to create a foundation for its comprehensive development and regulation.

Although the principles of the Upper Basin in proposing and negotiating the compact were clear, it is worthwhile discussing them in some detail, since the same motivations underlie the policy positions of many states today.

A. THE UPPER BASIN SOUGHT THE ASSURANCE OF THE ABILITY TO DEVELOP A SHARE OF THE COLORADO RIVER IN PERPETUITY, AS NEEDS AND ECONOMIC CONDITIONS DICTATE

Delph Carpenter looked at early United States Supreme Court cases and studied the constitutional foundation of the relationships between state and federal governments. In his view, under international law, a lower nation could not arrest the development of an upper nation and deny to its inhabitants the use of water. However, while Carpenter felt the upper nation was entitled to make full use of waters, the nations, as a matter of international comity, could allocate waters through a treaty.¹⁷ Carpenter believed that before formation of the Union, the territories were independent sovereigns and surrendered only specific powers to the federal government. Under the Tenth Amendment to the United States Constitution, the states retained specific powers not surrendered. The power to compact was founded upon the same principle as the power in the Supreme Court to settle controversies between the states, or between the United States and a state. These powers assume the respective sovereignty of the states and the federal government.¹⁸ As a result of these sovereign powers, Carpenter believed the states could, with the consent of Congress under the Compact Clause, agree to a perpetual allocation of water.¹⁹ Through this allocation, Carpenter's intent was to preserve

17. The Harmon Doctrine may have influenced Carpenter's views. The Harmon Doctrine was an 1895 U.S. Attorney General's opinion advising the Secretary of State that the United States could exercise absolute sovereignty over the Rio Grande River in the United States. Since that time, international law has evolved to reflect more equitable principles. See A. Dan Tarlock, *International Water Law and the Protection of River System Ecosystem Integrity*, 10 *BYU J. PUB. L.* 181 (1996).

18. Carpenter stated: "In other words, the States of the Union, by consent of Congress, have the same power to enter into compacts with each other as do independent nations, upon all matters not delegated to the Federal Government." *Historical Memorandum In Re Colorado River and Brief of Law of Interstate Compacts: Hearings on H.R. 6821 Before the House Judiciary Comm.*, 67th Cong. (1921) (brief written by Delph E. Carpenter) [hereinafter *Historical Memorandum*]; see also Tyler, *supra* note 13, at 232-35.

19. Delph E. Carpenter, *Application of the Reserve Treaty Powers of the States to Interstate Water Controversies*, Address before the Colorado Bar Association (1921), in 24 *COLO. BAR ASS'N* 1, 1-29 (1921) (on file with the Colorado Water Conservation Board).

the Upper Basin's right to develop water resources as economic needs dictated.²⁰

The final Compact achieved the Upper Basin's desire for a perpetual allocation. Article III(a) of the Compact apportions exclusive beneficial use of water to each Basin "in perpetuity" despite extensive discussions of possible time limits in the negotiations.²¹ In the ultimate consent to the Compact, the congressional debates underscore the clear intent of Congress that the Compact effectuated an equitable, perpetual allocation between the Upper and Lower Basins.²²

After finalization of the Compact, Carpenter emphasized the perpetual nature of the allocation in urging ratification of the Compact by the Colorado legislature, stating:

The apportionment to the upper territory is perpetual. It is in no manner affected by subsequent development. It is not required that the water shall be used within any prescribed period.

. . . .

Broadly speaking, from a Colorado viewpoint, the compact perpetually sets apart and withholds for the benefit of Colorado a

20. During the negotiation of the Compact, Carpenter stated with regard to a proposed time limit on the Compact:

There is no impending disaster above. That country should develop along its natural lines. It is to the welfare of the river that it should not develop suddenly above, and it is to the welfare of the river that it should develop suddenly below. Now, the span of time should be sufficient in the growth of the Basin generally, so that each individual farmer, as well as each individual project should be protected. Thus, each may start naturally, and in such a way that when he does develop a new farm or a new project the country will be ready and the returns from the production will be sufficient, so that he may pay for the burden of the development.

. . . .

. . . That will serve to illustrate the reasons why upper development will come gradually. The development will not be all at once. It will be promoted by need.

Minutes, Fourteenth meeting of the Colorado River Comm'n, Bishop's Lodge, Santa Fe, N.M. (Nov. 13, 1922) (on file with the Colorado Water Conservation Board).

Later in the negotiations, Carpenter stated, "[t]he whole theory of the compact is this: That the water apportioned to each basin is adequate not only for all of its present uses, but for the increase of development within each basin." Minutes, Twenty-fourth meeting of the Colorado River Comm'n, Bishop's Lodge, Santa Fe, N.M. (Nov. 23, 1922) (on file with the Colorado Water Conservation Board).

21. See, e.g., Minutes, Sixth meeting of the Colorado River Comm'n, Dep't of Commerce, Wash., D.C. (Jan. 30, 1922) (on file with the Colorado Water Conservation Board); Fourteenth meeting of the Colorado River Comm'n, *supra* note 20; Twenty-fourth meeting of the Colorado River Comm'n, *supra* note 20.

22. John U. Carlson & Alan E. Boles, Jr., *Contrary Views of the Law of the Colorado River: An Examination of Rivalries Between the Upper and Lower Basins*, 32 ROCKY MTN. MIN. L. INST. 21-1, 21-4 to 21-7 (1986).

preferred right to utilize the waters of the river within this State to the extent of our present and future necessities.²³

Thus, the Compact renders a race for development between Upper and Lower Basins unnecessary. The Compact assures the Upper Basin that the Lower Basin's entitlement is only a finite share of the Colorado River, thus allowing the Upper Basin to make long-term capital investments with a degree of security in its water supply.²⁴ The Upper Basin is free to develop water as economic need dictates, regardless of how long that might take. The Upper Basin is not required to answer questions about the pace of its development, or, more importantly, to undertake premature or environmentally destructive water project development simply to hoard water for future need against the Lower Basin.²⁵

B. THE UPPER BASIN SOUGHT TO ELIMINATE THE APPLICATION OF THE PRIOR APPROPRIATION DOCTRINE ON AN INTERSTATE BASIS

In addition to the enormous financial demand of large-scale development, the need for coordination in the development of the Colorado River also became apparent because of the slightly different legal doctrines in each of the western states. Interstate disputes highlighted these differences, and the assertion of federal authority over interstate waters exacerbated them. Early in the twentieth century, Colorado litigated three lawsuits in the United States Supreme Court involving interstate waters—*Kansas v. Colorado I* and *II*,²⁶ and *Wyoming v. Colorado*.²⁷ The *Kansas v. Colorado* cases involved

23. Delph E. Carpenter, *In Re Colorado River Compact*, Report before the Governor of Colorado, Oliver H. Shroup (Dec. 15, 1922), reprinted in SENATE JOURNAL, 24th Gen. Assembly, at 78–79 (Colo. 1923) [hereinafter *Carpenter Report*] (on file with the Colorado Water Conservation Board).

24. In his inaugural address in January 1923, newly elected Governor William E. Sweet agreed with the policy of his predecessor Oliver Shoup, supporting the Compact:

Our present irrigated area in round numbers is about three and one-half million acres. We must extend this area and thereby increase our agricultural output and our rural population, thus building up our towns and cities.

. . . .

The Colorado River Compact . . . seems to effect a division that is fair and at the same time gives to private and public capital that degree of certainty necessary to investment in enterprises depending upon water supply from that source.

Governor William E. Sweet, Inaugural Address (Jan. 9, 1923), reprinted in SENATE JOURNAL, 24th Gen. Assembly, at 148–49 (Colo. 1923).

25. In fact, Article III(e) of the Compact expressly prohibits the hoarding of water, providing that, “[t]he States of the Upper Division shall not withhold water, and the States of the Lower Division shall not require the delivery of water, which can not reasonably be applied to domestic and agricultural uses.” Compact, *supra* note 1, § 37-61-101, art. III(e).

26. *Kansas v. Colorado* (Kansas I), 185 U.S. 125 (1902); *Kansas v. Colorado* (Kansas

disputes between two states with different water law systems. Colorado was a pure prior appropriation state, while Kansas water law, like California law, employed a combination of riparian and prior appropriation doctrines. Colorado asserted it had a sovereign right to fully deplete the Arkansas River.²⁸ The Supreme Court held that Kansas, as a downstream state, did not have the right to all of the water in the Arkansas River undepleted by Colorado.²⁹ However, the Court also held that Colorado, as the state of origin, did not have the right to retain all the water within its borders.³⁰ Therefore, the Court imposed an equitable apportionment of water, without regard to the relative dates of use within the two states.

In contrast, the decision in *Wyoming v. Colorado* involved two pure prior appropriation states. In this case, the Court declined to apply the Doctrine of Equitable Apportionment, and instead applied a rule of interstate priority—between two prior appropriation states, the doctrine of prior appropriation applies.³¹ Thus, the result in the *Wyoming* case became one of the principal motivating factors in Colorado's desire to pursue the negotiation of the Compact. The Upper Basin feared the Lower Basin could use the *Wyoming* decision to obtain permanent preferential rights to water simply by developing faster.³² In the Compact negotiations, Colorado sought to make sure the states would never use the rule in the *Wyoming* case to deprive the Upper Basin of its right of development.³³

The Upper Basin achieved its goal. Several provisions of the Compact limit the Lower Basin's claim on Upper Basin water. The first, of course, is the perpetual allocation of consumptive use made in Article III(a). Regarding water flowing from the Upper to the Lower Basin, Article III(e) provides that one cannot make a claim except to the extent actually needed for domestic and agricultural purposes. Article IV(b) makes power generation subservient to consumption for domestic and agricultural purposes. Finally, Article VIII provides that the Compact does not impair present perfected rights, and all other rights are to be satisfied solely from water apportioned to the basin in which they are situated.

After the Compact negotiations, Carpenter discussed his view of the effect of the *Wyoming* case, and how the Compact had resolved the

II), 206 U.S. 46 (1907).

27. *Wyoming v. Colorado*, 259 U.S. 419 (1922).

28. *Kansas I*, 185 U.S. at 143.

29. *Kansas II*, 206 U.S. at 117–18.

30. *Id.*

31. *Wyoming*, 259 U.S. at 470–71.

32. David H. Getches, *Competing Demands for the Colorado River*, 56 U. COLO. L. REV. 413, 420 (1985).

33. HUNDLEY, *supra* note 8, at 104. At one point in the Compact negotiations, Herbert Hoover asked Carpenter, "I take it that you necessarily deny the whole theory of priority of utilization as between states." Carpenter replied, "Emphatically." Minutes, Seventh meeting of the Colorado River Comm'n, Dep't of Commerce, Wash., D.C. (Jan. 30, 1922) (on file with the Colorado Water Conservation Board).

issue.

Further development on the lower river will in no manner affect this apportionment or impair the right of the upper States to consume their apportionment whenever their necessities require. Any immense reservoir hereafter constructed on the lower river cannot be the basis of a preferred claim which will interfere with the future development of the Upper Basin. The development in the Lower Basin will be confined to the apportionment made to that basin, with the permissible increase. Any excess of development cannot infringe upon the reservation perpetually set apart to the upper territory. There can be no rivalry or contest of speed in the development of the two basins. Priority of development in the Lower Basin will give no preference of right as against the apportionment to the Upper Basin.³⁴

C. THE UPPER BASIN SOUGHT TO PRESERVE STATE AUTONOMY AND SOVEREIGNTY OVER INTRASTATE WATER APPROPRIATION AND ADMINISTRATION

For years, the West had seen far reaching claims of authority asserted by the federal government over the use, allocation, and development of western waters. One of the major purposes in negotiating the Compact for the Upper Basin was to erect a shield against federal claims of authority, thus preserving state regulatory authority over allocation and administration of waters within state borders.

One example of this federal incursion about which Carpenter was concerned occurred pending the negotiation of the Root-Casasus Treaty with Mexico in 1906. The Department of the Interior placed an embargo on the construction of all water projects on public lands in the Rio Grande Basin. The embargo lasted some thirty years, preventing development in the Rio Grande Basin in Colorado. Carpenter sensed a federal plot, stating, "[t]he real purpose was to prevent any construction on the headwaters of the stream while encouraging that construction along the lower river through which a monopolistic claim could later be asserted."³⁵ Carpenter asserted that

34. *Carpenter Report*, *supra* note 23, at 78. Some disagreement occurred in Colorado about whether the *Wyoming* decision would even apply on the Colorado River. Colorado attorney Ward Bannister believed that California and the interstate application of the prior appropriation doctrine was not so much of a threat. He stated:

Now, it is the contention of the people in our State, and I think of the other upper States as well, that inasmuch as California has exactly the same kind of water law as has Kansas—in other words, a State whose fundamental water law is riparianism, with such appropriation rights as there are carved out of previously existing riparian rights, that the rule to be applied to [the Colorado River] would be exactly the same as the rule laid down in *Kansas v. Colorado* for the Arkansas River.

REUEL LESLIE OLSON, *THE COLORADO RIVER COMPACT* 171 n.207 (1926) (citations omitted); *see also* HUNDLEY, *supra* note 8, at 179–80.

35. *Upper Colorado River States: Hearings on Swing-Johnson Bill Before the House Comm. on Irrigation and Reclamation*, 67th Cong. 9 (1926) (statement of Delph E. Carpenter,

after Wyoming had initiated the construction of the Pathfinder Reservoir, a similar embargo occurred against development in the headwaters of the North Platte Basin in Colorado.³⁶

The United States also made direct assertions of broad legal authority in the case of *Kansas v. Colorado*. Carpenter summarized, "the United States intervened in the case urging that, by the enactment of the [National Reclamation Act], Congress had adopted a policy of national control and supervision over interstate streams, which was to supersede state control, upon a rule of priority of appropriation regardless of state lines."³⁷

The United States had asserted a similar claim in a Colorado proceeding for the adjudication of the water rights to the Grand Valley project by local water users. Carpenter explained:

Government counsel appeared before the State Court and insisted that the proposed project would occupy a preferred position compared with other appropriators; that the United States and not the states is the source of title to all water rights; that by the enactment of the National Reclamation Act Congress had, by implication, set apart and dedicated all of the then unappropriated waters of western rivers for the primary purpose of ultimate diversion by canals to be built under the National Reclamation Act and that all rights of other appropriators and users must be subordinate to the preferred right of the Government to divert as much water as it might see fit under date of the approval of the National Reclamation Act.³⁸

The United States lost the Grand Valley case but continued to assert plenary federal control in other forums. In *Wyoming v. Colorado*, the federal government asserted claim to all the unappropriated water in western streams and rivers. However, the Supreme Court found it was not necessary to address the federal claims. The federal government also asserted appropriation claims in federal courts under the theory state courts had no jurisdiction over them.

Even in the Compact negotiations, the United States made broad claims of superceding authority. The relationship of state and federal authority was one of the fundamental issues the Compact addressed. Herbert Hoover explained the Constitutional interests of the United States in his opening address to the Colorado River Commission ("Commission"), stating: "The Federal Government is interested through its control of navigation, through protection of its treaty obligations, through development of national irrigation projects and through virtual control of power development depending upon the use of public lands."³⁹

Interstate River Comm'r for Colorado) [hereinafter *Hearings*]; see also, Tyler, *supra* note 13, at 233.

36. Tyler, *supra* note 13, at 233-34.

37. *Hearings*, *supra* note 35, at 11.

38. *Id.* at 12-13.

39. Minutes, First meeting of the Colorado River Comm'n, Dep't of Commerce, Wash., D.C. (Jan. 26, 1922) (on file with the Colorado Water Conservation Board).

The discussion of federal/state authority also arose directly toward the end of the Compact negotiations, when Herbert Hoover raised concerns about the issue of the retained authority of the federal government then under discussion. Ottamer Hamele, Chief Counsel of the Reclamation Service, urged that the Compact contain a general reservation of rights by the federal government. Hamele asserted that the Compact was in reality an agreement only among the states and that failure to include a reservation of federal rights could jeopardize the prospects for congressional ratification. When asked by Hoover for an enumeration of the federal rights, Hamele responded:

Why the federal rights are first, the paramount right of navigation, which affects flood control. The United States also has the ownership, I believe, of all of the unappropriated water of the Basin. It has an interest in the building of irrigation works under the national irrigation act. It has rights under the Federal Water Power Act that possibly don't conflict with anything in this compact, but there are possibilities that we could conceive of by which that Act could be amended so that those rights might become in conflict with this compact unless they were reserved. It also has rights in connection with its treaties with the Indian tribes.⁴⁰

In view of his experience in resisting broad federal claims, it would have been natural if Carpenter were upset with Hamele when Hamele raised these same federal claims. Fortunately for Carpenter (and for the prospects of an agreement), Hoover came to Carpenter's defense, and affirmed the intent of the Compact with regard to the preservation of states' rights. Hoover said to Hamele, "[w]ell, we have provided here for an apportionment. That apportionment is not yet appropriated. If the federal government should intervene and say that the unappropriated water was its possession and province, it would destroy this entire apportionment between the seven states."⁴¹

Ultimately, the Compact did address several of the specific federal powers the Commissioners had discussed. The Compact made explicit in Article VIII that it did not affect vested water rights. Article III(a) and (b) specifically apportioned to the states the right to consumptively use unappropriated water, thus affirming state ownership of that water. That ownership was subject to the reserved authority of the United States to enter into a treaty with Mexico, and the Compact specified in Article III(c) the waters that the United States could use to satisfy any such obligation. While Article VII specifically left the question of quantification of Indian reserved water rights for future resolution, the Compact appears to charge the use of reserved rights against the basin in which the use is made. Article IV acknowledged that the Colorado River was not navigable-in-fact and

40. Minutes, Twenty-second meeting of the Colorado River Comm'n, Bishop's Lodge, Santa Fe, N.M. (Nov. 22, 1922) (on file with the Colorado Water Conservation Board).

41. *Id.*

made uses for navigation subservient to domestic, agriculture, and power purposes (but reserved the authority of Congress to disapprove of this paragraph).

The Upper Basin asserted the Compact preserved the autonomy of the states to regulate and allocate water under their own state systems. After finalization of the Compact, Carpenter addressed the Compact's intent to preserve intrastate regulation of water through the prior appropriation doctrine.

Intrastate control of appropriations made within the apportionments provided by the compact is specifically reserved by paragraph (c) Article IV. This includes such regulations as each state may provide by its constitution and laws respecting the preference of one class of use over other classes of use. In other words the constitution and laws of Colorado control the details of appropriation, use and distribution of water within the state. The compact does not attempt to invade such matters of local concern. When approved, the compact will be the law of the river as between the states. It deals wholly with interstate relations. This paragraph refers to intrastate control. Whatever the intrastate regulation and control may be it cannot effect the interstate relations. No law of any state can have extraterritorial effect or interfere with the operation of the compact as between the states.⁴²

After the Compact negotiations, in his testimony on the Swing-Johnson Bill (later enacted as the Boulder Canyon Project Act of 1928), Carpenter asserted that part of the movement to negotiate the Compact had evolved from the desire to preserve state autonomy. Before the Compact, the Upper Basin States saw the Boulder Canyon dam proposal as a "monopolistic structure[] proposed for lower river protection."⁴³ Carpenter summarized the Upper Basin States' opposition to authorization of the lower basin reservoir without simultaneous ratification of the Compact.

The upper states have done everything within their power to speedily solve the underlying legal problems involved in the construction of flood control works for the lower river territory. They insist that they be afforded the protection of the Colorado River Compact, preferably by all seven states, before any further claims attach to the river.

42. Delph E. Carpenter, *In Re Colorado River Compact, Supplemental Report* (Mar. 20, 1923), reprinted in SENATE JOURNAL, 24th Gen. Assembly, at 891 (Colo. 1923) [hereinafter *Supplemental Report*]. The United States Supreme Court later upheld this theory of interstate allocation versus intrastate regulatory control. See *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938). However, as held in *Hinderlider*, the Compact effectuated a legislative equitable apportionment, and therefore set a limit on the authority of the states to vest rights to use water in excess of its limits, and also vested each state with the authority to enforce its terms. *Id.* at 103, 106-11.

43. *Hearings*, *supra* note 35, at 22.

They are not willing to permit their territory to be burdened and their people to be harassed [sic] with any such conditions as have prevailed upon the Rio Grande, North Platte and other rivers. In necessary self defense they must resist the construction of any reservoir upon the lower river until their rights have been settled by compact.⁴⁴

In authorizing the construction of Hoover Dam and consenting to the Compact, Congress affirmed the concept of state autonomy in intrastate allocation and administration. When Congress passed the Boulder Canyon Project Act⁴⁵ in 1928, it contained no general federal reservation of rights. The Act subjected the rights of the United States in or to waters of the Colorado River to the provisions of the Compact.⁴⁶ It gave the states an official advisory role, with full access to records, in the activities of the Secretary of the Interior under the Act.⁴⁷ Finally, the Act specifically disclaimed any interference with the rights of the states to adopt laws and policies concerning the appropriation, control, and use of waters within their borders, subject only to the Colorado River Compact or other compacts.⁴⁸

D. THE UPPER BASIN SOUGHT TO AVOID THE THREAT OF INTERSTATE LITIGATION AMONG THE STATES AND BETWEEN THE STATES AND THE FEDERAL GOVERNMENT

At the opening meeting of the Commission, Hoover stressed that avoiding litigation was one of the primary purposes of the Compact.

It is hoped that such an agreement may be arrived at by this Commission as will prevent endless litigation which will inevitably arise in the conflict of state rights, with the delays and costs that will be imposed upon our citizens through such conflicts. The success of its efforts will contribute to the welfare of millions of people.⁴⁹

Carpenter responded to Hoover:

As you well observed in your opening address the prime object of the creation of this Commission was to avoid future litigation among the states interested in the Colorado River and the utilization of the benefits to be obtained from its water supply.⁵⁰

Carpenter had experience in the vagaries of interstate Supreme

44. *Id.* at 25.

45. Boulder Canyon Project Act, ch. 42, 45 Stat. 1057 (codified as amended at 43 U.S.C. § 617 (1994)).

46. 43 U.S.C. §§ 6171 (b)–(d), 617m (1994).

47. *Id.* § 617o.

48. *Id.* § 617q.

49. First meeting of the Colorado River Comm'n, *supra* note 39.

50. *Id.*

Court litigation and a fear of federal intrusion.⁵¹ He saw the mechanism of an interstate compact as a way to settle differences and avoid protracted and expensive litigation, both among the states, and between the states and the federal government.⁵² Carpenter stated the following:

A suit between the States is but a substitute for war. It is the last resort, and should not be resorted to until all avenues of settlement by compact have been exhausted. It has been suggested that the Supreme Court should announce the principle that no suit between the States would be entertained without a preliminary showing that reasonable efforts had been made by the complaining State to compose the differences between it and the defendant State by mutual agreement or interstate compact.⁵³

Carpenter also stated:

The Colorado River Compact was conceived and concluded for the purpose of preserving the autonomy of the states, of defining the respective jurisdictions of the states and of the United States and of assuring the peace and future prosperity of an immense part of our national territory. With it there will be no overriding of state authority by national agencies. Otherwise, interstate and state-national conflict, strife, rivalry and interminable litigation will be inevitable.⁵⁴

Article I of the Compact does, in fact, include as part of its purposes, "to promote interstate comity" and "to remove causes of present and future controversies."⁵⁵

E. THE UPPER BASIN SOUGHT TO CREATE A FOUNDATION FOR THE
COMPREHENSIVE DEVELOPMENT AND MANAGEMENT OF
THE COLORADO RIVER

California's primary motivation in entering compact negotiations was the prospect of gaining political support for construction of the All-American Canal and a large reservoir on the lower Colorado River to control floods, generate power, and regulate water supply. However, all of the Commissioners were aware of the wildly fluctuating nature of the Colorado River flow, and the need for comprehensive reservoir development to achieve security in any allocation among the states. In his opening remarks to the Commission at its first meeting, Hoover said:

The problem is not as simple as might appear on the surface for while there is possibly ample water in the river for all purposes if

51. See *supra* Section I.B.-C.

52. Tyler, *supra* note 13, at 241.

53. *Historical Memorandum*, *supra* note 18.

54. *Hearings*, *supra* note 35, at 2.

55. Compact, *supra* note 1, § 37-61-101, art. I.

adequate storage be undertaken, there is not a sufficient supply of water to meet all claims unless there is some definite program of water conservation.

....

... [I]t may develop in the course of our inquiry that there is a deficiency of water in the Colorado River unless we assume adequate storage. There may be a surplus if storage is provided. Therefore, the solution of the whole problem may well be contingent on storage.

....

It would seem to me that it would be a great misfortune if we did not give to Congress and to the country a broad project for development of the Colorado River as a whole. . . .⁵⁶

Later in the negotiations, at the thirteenth through sixteenth meetings, the negotiators reached the heart of the issues in dividing the waters. They discussed how much water to allocate each basin, what types of delivery guarantee the Upper Basin should make, and over what period to measure the delivery obligation.

The first agreement reached was the measuring point—Lee Ferry.⁵⁷ The Commissioners then turned to the concept of averaging. Carpenter proposed that the Upper Basin average its delivery obligation over a period of ten years, recognizing that storage in the Upper Basin would be a necessary prerequisite to meeting that obligation. He stated:

[A] consideration of the stream flow tables . . . indicates that a ten year period gave a fair and reasonably accurate average of the flow of the river, taking both high and low cycles, and that a ten year period would reach into both cycles and largely include them, and that as the future development in both the upper and the lower basin must rely upon storage, the storage facilities would care for that rise and fall.

....

[A]ny student of the river must realize that the future development in both areas will be that predicated upon the construction of reservoirs. Nevertheless, we have no power to say by whom these reservoirs shall be constructed, in what localities or when they shall be constructed. That should be left free to both communities to use such instrumentalities as may be at hand, and the division of the water

56. First meeting of the Colorado River Comm'n, *supra* note 39.

57. Delph Carpenter is credited with originating the "fifty-fifty plan" of dividing the River into two sub-basins and apportioning the water between them. Tyler, *supra* note 13, at 243.

should be so made that either area may build, or neglect to build, of its own notion, and as it may believe construction or lack of construction is at any one time justified.

....

In truth, the best possible safeguard for the lower states to insure a delivery at Lee's Ferry within reasonable inclusive figures from year to year would be the immediate development of the reservoir storage of the upper area.⁵⁸

Ultimately, of course, the Commissioners arrived at a delivery obligation by the Upper Basin predicated on a ten-year running average and not contemplated on a one-year minimum delivery obligation. Clearly, the basis for this understanding was the assumption that Congress would approve, at some point, the comprehensive development of regulatory storage throughout the entire basin. Congress did lay this foundation for such development in the 1928 Boulder Canyon Project Act.

III. THE 1928 BOULDER CANYON PROJECT ACT

After the representatives of the states and the federal government negotiated the Compact, the Compact needed each of the States' ratification and Congress's consent. State ratification proved to be a challenging undertaking. By 1928, when Congress passed the Boulder Canyon Project Act,⁵⁹ only four of the seven states had ratified the Compact.⁶⁰ Arizona was particularly adamant in its opposition to the Compact and refused to ratify. To bypass recalcitrant Arizona, the effectiveness of the Boulder Canyon Project Act was contingent upon California limiting itself to total water consumption from the Colorado River of 4.4 million acre-feet per year ("m.a.f./yr"), and upon ratification of the Compact by any six states, including California.⁶¹ California almost immediately passed the California Limitation Act⁶² and ratified the Compact. Ratification by Utah followed, and the Boulder Canyon Project Act became effective.⁶³ Soon after, in the 1931 California Seven-Party Agreement,⁶⁴ the major California entities agreed among themselves on the priorities within California.

58. Minutes, Thirteenth meeting of the Colorado River Comm'n, Bishop's Lodge, Santa Fe, N.M. (Nov. 13, 1922) (on file with the Colorado Water Conservation Board).

59. Boulder Canyon Project Act, ch. 42, 45 Stat. 1057 (codified as amended at 43 U.S.C. § 617 (1994)).

60. HUNDLEY, *supra* note 8, at 276.

61. 43 U.S.C. § 617c(a) (1994). As with other major ideas in the settlement of major issues on the Colorado River, Delph Carpenter is credited with the "Six-State Plan" for ratification of the Compact that Congress adopted in the Boulder Canyon Project Act. Tyler, *supra* note 13, at 259.

62. Act of Aug. 14, 1929, 1929 Cal. Stat. 38. Under this Act, the state of California irrevocably and unconditionally, and as a covenant for the benefit of the other Basin States, limited its use of Colorado River water to 4.4 m.a.f./yr.

63. HUNDLEY, *supra* note 8, at 281.

64. See discussion *infra* Section IV.

After the Compact negotiation, and pending state ratification and congressional consent, discussions arose over who would build and pay for the monumental works contemplated by the states. Possible candidates included the federal government, irrigators, power customers, or private entities. Additionally, the states worried about their respective jurisdictional responsibilities and the authority of the Federal Power Commission if a private entity constructed a major dam. This debate did serve to make one fact perfectly clear: the construction and operation of any major facility on the Colorado River was too big, and the international and interstate issues too complex, for anyone other than the federal government to undertake.⁶⁵

The federal government did undertake this responsibility in 1928, when the Boulder Canyon Project Act authorized the construction of the Hoover Dam and the All-American Canal. As the states would later see in the United States Supreme Court decision in *Arizona v. California*,⁶⁶ the Boulder Canyon Project Act also represented a major step by Congress in the imposition of federal authority (albeit with the consent of and in coordination with the states), in the allocation, regulation, and management of the Colorado River.

The Upper Basin interests also pursued their idea of comprehensive storage development. They secured in the 1928 Boulder Canyon Project Act a provision authorizing the Secretary of the Interior to study and report to Congress, on a comprehensive and coordinated basis, the potential development of water projects throughout the Basin.⁶⁷

The Depression and World War II delayed the comprehensive study authorized in 1928. Once completed in 1946, the study maintained the theme that one could not accomplish coordinated storage on or management of the Colorado River without first securing interstate allocations. The study recommended that the Upper Basin States divide the waters among themselves through their own interstate compact, so as to allow this development to occur.⁶⁸

IV. THE 1931 CALIFORNIA SEVEN-PARTY AGREEMENT

Although the Boulder Canyon Project Act authorized the Secretary of the Interior ("Secretary") to allocate water by contract among water users in the Lower Basin, the Secretary requested that California water users provide him with recommendations regarding how to make the allocation within California. The Seven-Party Agreement ("Agreement"), between the major water agencies in California, made that intrastate apportionment. The Agreement allocated the first 3.85 m.a.f. of water delivered to California to agricultural uses in the Imperial, Coachella, and Palo Verde areas, and to the Yuma Project of

65. *Id.* at 113–37.

66. *Arizona v. California*, 373 U.S. 546 (1963).

67. Boulder Canyon Project Act, ch. 42, § 15, 45 Stat. 1065 (codified as amended at 43 U.S.C. § 617n (1994)).

68. Carlson & Boles, *supra* note 22, at 21-7 to 21-9.

the Bureau of Reclamation. The Agreement allocated the priorities, totaling 1.212 m.a.f., to the Metropolitan Water District of Southern California.⁶⁹ The Agreement allocated subsequent priorities to agricultural agencies. The priorities, and the agencies serving them, are important to a clear understanding of current issues relating to California's use of water. Table I shows the allocation of water made by the Agreement.

TABLE I: CALIFORNIA SEVEN-PARTY AGREEMENT PRIORITIES

PRIORITY	DESCRIPTION	AGENCY
1	Palo Verde Irrigation District — gross area of 104,500 acres	MWD
2	Yuma Project (Reservation Division) — not exceeding a gross area of 25,000 acres	MWD
3(a)	Imperial Irrigation District and lands in Imperial and Coachella Valleys to be served by the All-American Canal	MWD
3(b)	Palo Verde Irrigation District — 16,000 acres of mesa lands	MWD
4	Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain	MWD
5(a)	Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain	MWD
5(b)	City and/or County of San Diego ⁷⁰	MWD
6(a)	Imperial Irrigation District and lands in Imperial and Coachella Valley	MWD
6(b)	Palo Verde Irrigation District — 16,000 acres of mesa lands	MWD
7	Agricultural Use in the Colorado River Basin in California	MWD
TOTAL		

69. The Metropolitan Water District of Southern California (which is "Metropolitan," "Met," or "MWD"), supplies wholesale water to members of the Southern California Coastal Plain, from Ventura County to San Diego.

70. In 1946, the City of San Diego, San Diego County Water District, Metropolitan Water District, and the Secretary of the Interior entered into an agreement in which the right to storage and delivery of Colorado River water vested in the Metropolitan Water District and was merged with and added to the rights of the Metropolitan Water District under conditions since satisfied.

There are two important points to note concerning these allocations under the Agreement. First, the Agreement allocated more than California's basic apportionment of 4.4 m.a.f./yr under the Boulder Canyon Project Act. Thus, the agreement also allocated interruptible surplus water. It just so happens that the entity most in need of a secure water supply, the Metropolitan Water District of Southern California ("Metropolitan"), has the right to divert 550,000 acre-feet within the 4.4 m.a.f. limitation, and 662,000 acre-feet above the limitation. Metropolitan's diversion facility from the Colorado River—the Colorado River Aqueduct—has a capacity of about 1.3 m.a.f./yr. Therefore, any limitation that may be imposed on overall use in California to 4.4 m.a.f./yr will limit Metropolitan to a diversion of less than one-half of the capacity of its conveyance facility.

Second, the Agreement provides no cap or quantification of use within the priorities allocated to the agricultural districts entitled to divert the first 3.85 m.a.f. of California's allocation. Acreage (104,500 acres) limits the first priority, held by the Palo Verde Irrigation District, not any quantity of water. The Agreement gives the second priority, held by the Reservation Division of the Yuma Project, whatever amount of water it may need to irrigate 25,000 acres. Even more problematic, the Imperial Irrigation District, the Coachella Valley Water District, and 16,000 acres of land on the Lower Mesa in the Palo Verde Valley share the third priority, with no allocation or quantification of rights between them, other than the 1934 Compromise Agreement that gives the Imperial District first call on third priority water.

These matters have become quite significant in the discussions among the Basin States and within California over the last several years on the development of a California Plan to implement measures to limit California's use to 4.4 m.a.f./yr. As we will see in Part II of this article, the problem of Metropolitan's priority and capacity over and above California's basic apportionment, and the lack of defined quantification in the Agreement, are two of the major issues that California must resolve to eventually live within its means as provided in the Law of the River.

V. THE MEXICAN WATER TREATY OF 1944

The Mexican Water Treaty of 1944⁷¹ ("Treaty") is critical to a complete understanding of the Law of the River. In years to come, issues surrounding the environmental and urban demands in the Colorado River Delta and Mexicali Valley will become increasingly important. However, the importance of the Treaty for the purpose of this article is its requirement that the United States guarantee delivery of 1.5 m.a.f./yr to Mexico, plus up to an additional 200,000 acre-feet, if the Secretary of the Interior determines that surplus water is

71. Mexican Water Treaty, Feb. 3, 1944, U.S.-Mex., 59 Stat. 1219.

available.⁷² The Treaty made this allocation a “first call” on the Colorado River.

In granting an element of certainty to Colorado River allocation, the Mexican delivery obligation also injected new issues into the relationship between the Upper and Lower Basins, which remain unresolved.⁷³ These issues, along with the growing concern about the condition of the environment in the Delta area, underscore the Upper Basin’s agitation with California’s continued reliance on surplus water in excess of its basic apportionment. If, as a result of the California Plan discussed in Part II of this article, California is able to implement measures to reduce its dependence on surplus water, then the states would improve their ability to take a positive role in resolving some of these new emerging issues. On the other hand, if the allocation framework of the Law of the River is undermined, the states will need to take a much more conservative approach.

VI. THE UPPER COLORADO RIVER COMPACT

As the 1946 Department of the Interior study suggested, the Upper Basin states reached an agreement in 1948 allocating water consumption rights under the Compact.⁷⁴ One problem for the Upper Division states was how to handle the “leftovers” from the Upper Basin supply after it had met its obligation under Article III(d) not to deplete the flow of the Colorado River at Lee Ferry below 75 m.a.f. every ten years.⁷⁵ As a solution, Article III(a)(2) of the Upper Colorado River Compact divided the consumptive use of water allotted to the Upper Basin on a percentage basis: Colorado—51.75%; New Mexico—11.25%; Utah—23.00%; Wyoming—14.00%; and Arizona—50,000 acre-feet.⁷⁶

The Upper Colorado River Compact also created the Upper Colorado River Basin Commission, a compact commission that continues to provide a valuable forum for the Upper Division states. The Upper Colorado River Basin Commission allows states to formulate positions, gather data and information, and advocate positions on federal legislation. Furthermore, this forum allows member states to develop operating strategies relative to federal reservoirs on the Colorado River, Mexican Treaty issues, and water supply and development issues in the Lower Basin.

72. As discussed below, with respect to the 1968 Colorado River Basin Project Act and the *Operating Criteria*, *supra* note 4, this surplus is not the same as a surplus determined under that Act and the Decree in *Arizona v. California*.

73. For a discussion of the major issues surrounding the Compact and the Treaty, see Getches, *supra* note 32, at 421–23.

74. Upper Colorado River Compact, 63 Stat. 31, COLO. REV. STAT. §§ 37-62-101 to -106 (2000) [hereinafter Upper Colorado River Compact].

75. Getches, *supra* note 32, at 420.

76. Upper Colorado River Compact, *supra* note 74, § 37-62-101 (because of the small magnitude of use in Arizona, its share was made definite).

VII. ARIZONA V. CALIFORNIA

During this same period, Arizona pressed Congress for construction of the Central Arizona Project ("Project"). However, Lower Division States had not agreed upon a compact. This, combined with disagreement between Arizona and California as to the meaning and effect of the Boulder Canyon Project Act, made water supplies for the Project uncertain. In 1952, Arizona sued California to obtain a judicial determination providing such certainty.⁷⁷

At stake in the lawsuit was the 1.0 m.a.f. of water referenced in Article III(b) of the Compact. Arizona argued the Project had allocated 7.5 m.a.f. of water from only the mainstem Colorado River, limiting California to 4.4 m.a.f. of this amount. California argued the allocation included Lower Basin tributaries, and therefore, the Court should equitably apportion mainstem waters in excess of 7.5 m.a.f. to California. In 1963, the Court ruled in favor of Arizona, holding Congress had enacted a "complete statutory apportionment" of only mainstem Colorado River water.⁷⁸ The Boulder Canyon Project Act does not explicitly make such an apportionment. However, the Court found an implied apportionment based on congressional intent and the Act's delegation of authority to the Secretary of the Interior to allocate and distribute water through contracts.

The Court emphasized the Secretary's discretion in making an initial contract allocation, further noting that the Lower Basin often refers to the Secretary as the "water master." However, the Court also emphasized the "significant limitations" on the Secretary's discretion once he makes that contractual allocation.⁷⁹ The Court noted that the Act limits the purposes for storing and releasing water.⁸⁰ The Act makes all contracts permanent,⁸¹ and limits the revenues generated from those contracts.⁸² The Secretary, and all permittees, licensees, and contractees, are subject to the Compact,⁸³ "and therefore can do nothing to upset or encroach upon the Compact's allocation of Colorado River water between the Upper and Lower Basins."⁸⁴ Furthermore, the Act requires the Secretary to satisfy present perfected rights.⁸⁵ The only real Secretarial operational discretion recognized by the Court is in the apportionment of shortages.⁸⁶

One year after its decision, the Court entered its Decree.⁸⁷ The

77. See Felix J. Sparks, Article Update, *Synopsis of Major Documents and Events Relating to the Colorado River*, 3 U. DENV. WATER L. REV. 339, 349-54 (2000).

78. *Arizona v. California*, 373 U.S. 546, 560 (1963).

79. *Id.* at 584.

80. 43 U.S.C. § 617e (1994).

81. *Id.* § 617d.

82. *Id.* § 617c(b).

83. *Id.* § 617g(a).

84. *Arizona v. California*, 373 U.S. 546, 584 (1963).

85. 43 U.S.C. § 617e (1994).

86. *Arizona*, 373 U.S. at 592-94.

87. *Arizona v. California*, 376 U.S. 340 (1964).

Decree, as an injunction, enforced the largely non-discretionary nature of the Secretary's operational authority. The Decree characterized all water below Lee Ferry and in the United States, as "Water Controlled by the United States," and enjoined the Secretary to distribute such water strictly in accordance with its terms. The Decree required the Secretary to release water only pursuant to valid contracts with water users,⁸⁸ and only under three circumstances: normal,⁸⁹ surplus,⁹⁰ and shortage.⁹¹ The Decree also required the Secretary to charge any consumptive use of water to the state in which it is used,⁹² and allowed the Secretary the authority to make unused water in one state available for use in another state, on a temporary basis.⁹³

VIII. THE 1956 COLORADO RIVER STORAGE PROJECT ACT

The Compact negotiators understood that comprehensive storage development would be necessary to even out the wild fluctuations in Colorado River flow and assure each Basin the security of water supplies necessary to reach their envisioned potential development. The Boulder Canyon Project Act authorized the Department of the Interior to study development of such a system, which the Department completed in 1946. Following the 1948 Upper Basin Compact, the Upper Basin States looked to the federal government for the development of a comprehensive river management system. Their plan consisted of the federal government paying to construct a series of reservoirs that would create a "bank account" of stored water to assure that the Upper Basin could meet its Article III(d) delivery obligation under the Compact, and thus allow each state to develop its entitlement to water in the Colorado River System.

In response, the federal government enacted the 1956 Colorado River Storage Project Act⁹⁴ ("1956 Act"). The 1956 Act authorized the construction of the Curecanti Unit, Flaming Gorge, Navajo, and Glen

88. *Id.* at 343 (Article II(B)(5)).

89. Under Article II(B)(1) of the Decree, if the Secretary determines sufficient mainstem water is available to satisfy 7.5 m.a.f. of annual consumptive use in the Lower Division States, he shall make available 4.4 m.a.f. to California, 2.8 m.a.f. to Arizona, and 0.3 m.a.f. to Nevada. *Id.* at 342.

90. Under Article II(B)(2) of the Decree, if the Secretary determines sufficient mainstem water is available to satisfy the annual consumptive use in the Lower Division States in excess of 7.5 m.a.f., the surplus consumptive use is apportioned fifty-fifty to Arizona and California, except if the United States contracts with Nevada, in which case the surplus is apportioned 50% to California, 46% to Arizona, and 4% to Nevada. *Id.*

91. Under Article II(B)(3) of the Decree, if the Secretary determines insufficient mainstem water is available to satisfy 7.5 m.a.f. of annual consumptive use in the Lower Division States, he is authorized to apportion such shortage pursuant to the Boulder Canyon Project Act only after satisfying all present perfected rights in order of their priority dates and after consultation with parties to major delivery contracts. *Id.* at 342-43.

92. *Id.* at 343 (Article II(B)(4)).

93. *Arizona v. California*, 376 U.S. 340, 343 (1964) (Article II(B)(6)).

94. Colorado River Storage Project Act, ch. 203, 70 Stat. 105 (codified as amended at 43 U.S.C. §§ 620-620o (1994)).

Canyon Dams, the so-called “holdover reservoirs,” to store and release water to the Lower Basin in satisfaction of the requirements of Article III(d) of the Compact. These reservoirs allow the Upper Division States to develop their Colorado River entitlements fully, without the Lower Division States subjecting them to a “Compact Call.”⁹⁵ The 1956 Act also authorized, subject to subsequent appropriation, several “participating projects,” designed to satisfy more regional consumptive use demands, mostly irrigation. However, the government did not build many of these authorized participating projects because of environmental and financial feasibility problems. The 1956 Act also developed the Upper Colorado River Basin Fund, which credits power revenues generated from the facilities. A portion of this credit goes against costs of project repayment for irrigation components authorized by Congress.⁹⁶

IX. THE 1968 COLORADO RIVER BASIN PROJECT ACT

In 1968, Congress and the states further solidified the coordinated interstate operation of various facilities through the adoption of the Colorado River Basin Project Act⁹⁷ (“1968 Act”). The 1968 Act assumed as a “national obligation” the provision of water to Mexico under the 1944 Mexican Water Treaty.⁹⁸ The 1968 Act also authorized the construction of the Central Arizona Project, but at a heavy price to Arizona. The 1968 Act gave first priority in the Lower Basin to California, requiring the Secretary of the Interior, in administering any shortages among the Lower Division States, to limit diversions from the Colorado River for the Central Arizona Project to assure the availability of a total of 4.4 m.a.f. of mainstream water for use in California.⁹⁹ In exchange for authorization of the Central Arizona Project, the 1968 Act directed the Secretary “to proceed as nearly as practicable with the construction” of certain participating projects authorized under the 1956 Colorado River Storage Project Act,¹⁰⁰ thus the construction would not start later than the date of the first delivery of water from the Central Arizona Project.¹⁰¹ Although the Central Arizona Project is now on line, the government did not build these participating projects.¹⁰²

95. H.R. REP. NO. 84-1087, pt.1, at 3 (1956), *reprinted in* 1956 U.S.C.C.A.N. 2346, 2348; *see also*, Bd. of County Comm’rs v. Crystal Creek Homeowners’ Ass’n, 14 P.3d 325, 334 (Colo. 2000).

96. 43 U.S.C. § 620d(a)–(e) (1994).

97. Colorado River Basin Project Act, 82 Stat. 886 (codified as amended at 43 U.S.C. §§ 1501–1556 (1994)).

98. *Id.* § 1512.

99. *Id.* § 1521(b).

100. *See supra* notes 94–96 and accompanying text.

101. *Id.* § 620a-1; *see also*, Sparks, *supra* note 77, at 354–55.

102. These authorized but unbuilt projects include the West Divide, Fruitland Mesa, Savory Pothook, and San Miguel Projects. The Animas–La Plata Project, a central component of the Ute Indian water rights settlement, may yet be built, albeit in a substantially reduced form.

Finally, the 1968 Act gave several directives to the Secretary for the coordinated operation of several federal reservoirs on the Colorado River. The 1968 Act directs the Secretary to prepare a "consumptive uses and losses report" every five years, which accounts for beneficial consumptive uses on a state-by-state basis.¹⁰³ The 1968 Act also requires the Secretary to propose criteria for the coordinated long-range operation of specified federal reservoirs in both the Upper and Lower Basins (principally Lakes Mead and Powell), to review those criteria every five years, and to report annually on the actual operations under the criteria for the preceding year and the projected operation for the upcoming year.¹⁰⁴ This latter report is known as the "Annual Operating Plan."

With respect to Upper Basin reservoirs, the 1968 Act directs the Secretary, through the criteria, to store water in storage units of the Colorado River Storage Project¹⁰⁵ and release water from Lake Powell in furtherance of the Upper Basin's obligations under the Compact.¹⁰⁶ First, if the deficiency is chargeable to the Upper Basin, the Secretary releases water from Lake Powell to supply one-half of any deficiency in delivery to Mexico under Article III(c) of the Compact.¹⁰⁷ Second, the Secretary releases water from Lake Powell in order to meet the Upper Basin delivery requirement set forth in Article III(d) of the Compact—75 m.a.f. every ten years.¹⁰⁸ Third, the Secretary determines annually if the amount of water in storage units of the Colorado River Storage Project is less than or more than what is necessary to meet the above-referenced delivery obligations, without impairing consumptive uses in the Upper Basin under the Compact—in other words, without potentially subjecting the Upper Basin to a "Compact Call."¹⁰⁹ The government refers to this amount as "602(a) storage."¹¹⁰ The Secretary releases any amount of water in excess of 602(a) storage from Lake Powell for the following purposes: (1) to the extent it can be reasonably applied to beneficial use in the Lower Basin;¹¹¹ (2) to maintain, as nearly as practicable, an equal amount of storage in Lakes Mead and Powell;¹¹² and (3) to avoid spills from Lake Powell.¹¹³

In 1970, pursuant to the 1968 Act, the Secretary promulgated the

103. 43 U.S.C. § 1551(b)(1) (1994).

104. *Id.* § 1552(a)-(b).

105. The Colorado River Project units include the Curecanti Unit, and Flaming Gorge, Navajo, and Glen Canyon Dams.

106. 43 U.S.C. § 1552(a) (1994).

107. *Id.* § 1552(a)(1).

108. *Id.* § 1552(a)(2).

109. *Id.* § 1552(a)(3).

110. *See Operating Criteria, supra* note 4, at 8951, art. II(1).

111. 43 U.S.C. § 1552(a)(3). This clause of the statute implements Article III(e) of the Compact, which requires that "[t]he 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." Compact, *supra* note 1, § 37-61-101, art. III(e).

112. This release is referred to as "equalization."

113. 43 U.S.C. § 1552(a)(3) (1994).

Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs ("Operating Criteria").¹¹⁴ The Operating Criteria address the units of the Colorado River Storage Project in the Upper Basin, and Lake Mead in the Lower Basin. In broad outline, the Operating Criteria require the Secretary to make several determinations in the Annual Operating Plan to guide operations of system reservoirs for the upcoming year. In the Upper Basin, the important determinations relate to the amount of water that the Secretary will store in and release from Lake Powell in that year, under the requirements established in Section 602(a) of the 1968 Act.

For the most part, the Operating Criteria simply repeat the mandates of Section 602(a). In one area, the Operating Criteria expand upon those requirements. The Operating Criteria provide that if the forecasted amount of storage in the Upper Basin is less than 602(a) storage, or if the storage forecast for Lake Powell is less than Lake Mead, the Secretary will maintain an "objective" to release a minimum of 8.23 m.a.f. in the upcoming year.¹¹⁵ The government arrived at this amount ostensibly by taking the average Upper Basin Compact delivery requirement of 7.5 m.a.f., subtracting tributary inflows below Glen Canyon Dam and above Lee Ferry (about 20,000 acre-feet), and adding one-half of the United States' delivery obligations under the 1944 Mexican Treaty (750,000 acre-feet).

This calculation is obviously a matter of convenience, pending greater development in the Upper Basin, is not an interpretation of the Compact, and has no basis in the law, for two reasons. First, the only obligation of the Upper Division States under Article III(d) of the Compact is to assure that they do not deplete the flow of the Colorado River at Lee Ferry below 75 m.a.f. every ten years, on a running average.¹¹⁶ This obligation imposes no burden or limitation on the Upper Basin to make any minimum delivery in any one year (except possibly at the end of a ten-year sequence) and the Operating Criteria cannot override the Compact. Second, the Upper Division States disagree that they have any obligation to contribute half of the Mexican Treaty delivery.¹¹⁷ Therefore, the Upper Division States have objected to any assertion by the Secretary that an actual annual minimum release from Lake Powell may be enforced. They assert that the 8.23 m.a.f. release is, as stated in the Criteria, an "objective" that must be overridden by the terms of the Compact and the ultimate determination of any Upper Basin obligations under the Mexican Treaty.¹¹⁸

114. *Operating Criteria*, *supra* note 4.

115. *Id.* at 8951, art. II(2).

116. Compact, *supra* note 1, § 37-61-101, art. III(d).

117. See Getches, *supra* note 32, at 421-23.

118. Resolution by the Upper Colorado River Comm'n, Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs (Feb. 27, 1971). See also Article II(5) of the Operating Criteria, which states that the Operating Criteria "shall not prejudice the position of either the upper or lower basin interests with respect to required deliveries at Lee Ferry pursuant to the Colorado River Compact." *Operating*

In operating Lake Mead under the Operating Criteria, the Secretary makes determinations based on a number of factors, largely repeated from the Decree in *Arizona v. California*.¹¹⁹ In a "Normal Year," annual pumping and release from Lake Mead will be sufficient to satisfy 7.5 m.a.f. of annual consumptive use in accordance with the Decree.¹²⁰ In a "Surplus Year" (when the Secretary determines that water in quantities greater than "normal" is available), the Secretary apportions 50% of the surplus water to California, 46% to Arizona, and 4% to Nevada, as outlined in the Decree.¹²¹ If the Secretary determines a "Shortage" (water in quantities less than "normal" is available), uses are restricted in accordance with the Decree and the 1968 Act.¹²²

X. SOME MAJOR ISSUES FOR THE UPPER BASIN UNDER THE LAW OF THE RIVER

States, the United States, Indian Tribes, and water user organizations have exerted tremendous effort to establish a legal framework for determining rights to use and develop the waters of the Colorado River and to regulate its operation. Despite this effort, however, significant issues exist that threaten to undermine the security and certainty of supply created by that framework. The balance of Part I of this article will discuss some of these issues, which play into the relationships between the Upper Basin States and California. The first issue regards the basic misunderstanding the Compact negotiators had concerning how much water was actually in the Colorado River System. The second issue relates to fundamental unresolved matters the negotiators left to future generations. The third issue stems from the fact that millions more people live in the Basin, and the regulatory environment and public values of today are considerably different and more complex than in 1922. Finally, some have argued that market mechanisms and water transfers should be allowed on an Upper to Lower Basin basis, to satisfy the increasing

Criteria, *supra* note 4, at 8951; Letter from Gerald R. Zimmerman, Executive Director of the Upper Colorado River Comm'n, to Donald Paul Hodel, Secretary, Dep't of the Interior (Jan. 16, 1986) (on file with author); Comments and Recommendations of Colorado, New Mexico, Utah, and Wyoming on the Secretary of the Interior's December 16, 1969 Proposed Long-Range Operating Criteria for Colorado River Reservoirs (Mar. 26, 1970) (on file with author).

119. See *Operating Criteria*, *supra* note 4, at 8951-52, art. III(3)(a)-(b).

120. See *id.* at 8951, art. III(3)(a).

121. It is important to note that "surplus" as used in the Operating Criteria is not the same as the term "surplus" as used in Article III(c) of the Compact, which refers to United States' obligations to Mexico being supplied from waters surplus to those apportioned under the Compact. See *id.* at 8952, art. IV(1)(b). See also David E. Lindgren, *The Colorado River: Are New Approaches Possible Now that the Reality of Overallocation is Here?*, 38 ROCKY MTN. MIN. L. INST. 25-1, 25-18 to 25-19 (1992).

122. See 43 U.S.C. § 1521(b) (1994). In section 1521(b) of the Colorado River Basin Project Act, Arizona lost what it had gained in *Arizona v. California*. Section 1521(b) provides that in times of shortage, diversions through the Central Arizona Project shall be limited to the extent necessary to supply total uses in California of 4.4 m.a.f.

demands in California and Nevada.

A. THE COMPACT NEGOTIATORS OVER-ESTIMATED WATER SUPPLY

It is impossible to negotiate any agreement, much less an interstate compact making a perpetual allocation of water, and anticipate every contingency. The Compact negotiators affirmatively put off some issues, such as Indian reserved water rights and the obligation to Mexico. However, the biggest variable was water supply, and it was an issue about which the Compact negotiators were simply mistaken.

The negotiators had some idea of the water supply in the Colorado River System, and calculated uses based on the consumptive use of irrigation. However, the negotiators dealt with an extremely limited period of record. Moreover, the years prior to 1922 were actually abundant water years. The negotiators made various estimates of water supply in the mainstream, which ranged from 18 to 21 m.a.f./yr.

The significance of these discussions over water supply is evident from the Upper Basin's obligation not to deplete the Colorado River below a ten-year running average of 75 m.a.f. The Upper Basin negotiators were comfortable that enough water existed in the Colorado River for their states to meet this obligation and still have the ability to develop the 7.5 m.a.f./yr of consumption apportioned to them. In urging the Colorado legislature to ratify the Compact, Carpenter assured them:

It is evident that the States of the Upper Basin may safely guarantee 75,000,000 acre-feet aggregate delivery at Lee Ferry during each ten-year period. This would mean an average annual delivery of 7,500,000 acre-feet as against 15,940,594 acre-feet present net annual average flow (100%) at Lee Ferry or 18,415,842 acre-feet natural average annual flow (100%) on the basis of a "reconstructed" river.¹²³

Arthur Powell Davis, the Commissioner of Reclamation, backed Carpenter's and the other Commissioners' assurances. Davis had prior to and throughout the negotiations stated that plenty of water existed in the Colorado River System to take care of all existing and future anticipated uses.

Unfortunately, history has shown these optimistic assumptions were just that. Since 1922, the undepleted flow of the Colorado River at Lee Ferry has averaged only 14.2 m.a.f./yr. Ten-year periods with a flow of 11.8 m.a.f./yr have occurred twice in this century.¹²⁴ Tree ring studies have estimated the long-term average supply at 13.5 m.a.f./yr, and have put one ten-year period flow at 9.7 m.a.f./yr.¹²⁵

Table II below, and its accompanying notes, provides a comparison

123. *Supplemental Report, supra* note 42, at 892-93.

124. UPPER COLORADO RIVER COMM'N, FORTY-EIGHTH ANNUAL REP., at 26 (1996).

125. David Meko et al., *The Tree-Ring Record of Severe Sustained Drought*, 31 WATER RESOURCES BULL. 789, 799-800 (1995), reprinted in 1 THE POWELL CONSORTIUM 789 (1995).

between the assumptions made in 1922 and what we now know with the benefit of an additional eighty years of history.

TABLE II: COMPARISON OF CONSUMPTIVE USES, LOSSES, AND WATER SUPPLY

(Values in Million Acre-Feet per Year)

	1922	Present
Reconstructed average virgin flow at Lee Ferry	17.5 ^a	15.0 ^b
Long term reconstructed average		13.5 ^d
Lowest reconstructed ten-year period		9.7 ^d
Lowest ten-year period of record		11.8 ^c
Lower Basin tributary inflow	3.0 ^a	1.4 ^c
Total Available Water Supply (Mainstem)	20.5^a	11.1–16.4
Upper Basin Uses	2.5 ^f	4.2 ^g
Upper Basin Reservoir Evaporation	—	0.5 ^g
Total Upper Basin Uses	2.5	4.7
Lower Basin Mainstem Uses	2.6 ^h	8.3 ⁱ
Lower Basin Reservoir Evaporation	—	1.8 ^j
Total Lower Basin Mainstem Uses	2.6	10.1
Delivery to Mexico and Welton-Mohawk bypass		1.6
Total Mainstem Uses	6.1	16.4

Table II Notes

^a For the period 1903–1922. Delph E. Carpenter reported this amount to the House of Representatives. *Historical Memorandum In Re Colorado River and Brief of Law of Interstate Compacts: Hearings on H.R. 6821 Before the House Judiciary Comm., 67th Cong. (1921)* (brief written by Delph E. Carpenter). In his Comments to Congress on the Colorado River Compact, Commissioner of Reclamation, Arthur Powell Davis, estimated the reconstructed flow at 18.1 m.a.f./yr. 64 CONG. REC. 2714 (1923).

^b This is the long-term average for the period 1906–1999. UPPER COLORADO RIVER COMM'N, FIFTY-FIRST ANNUAL REP., at 25 (1999).

^c Critical ten-year averages for the periods 1931–1940 and 1954–1963. For the twelve-year period 1953–1964, the average annual virgin flow at Lee Ferry was only 11.6 m.a.f. *Id.* at 26.

^d David Meko et al., *The Tree-Ring Record of Severe Sustained Drought*, 31 WATER RESOURCES BULL. 789, 799–800 (1995), *reprinted in* 1 THE POWELL CONSORTIUM 789 (1995).

^e Telephone Interview with Wayne E. Cook, Executive Director, Upper Colorado River Commission (Mar. 2001); Telephone Interview with Phil Mutz, New Mexico Commissioner, Upper Colorado River Commission (Mar. 2001).

^f Delph E. Carpenter, *In Re Colorado River Compact*, Report before the Governor of Colorado, Oliver H. Shroup (Dec. 15, 1922), *reprinted in* SENATE JOURNAL, 24th Gen. Assembly, at 78–79 (Colo. 1923)

^g UPPER COLORADO RIVER COMM'N, UPPER COLORADO RIVER STATES DEPLETION SCHEDULE (2000).

^h In his comments to Congress on the Colorado River Compact, Commissioner of Reclamation, Arthur Powell Davis estimated the Lower Basin mainstem uses at 2.6 m.a.f./yr. 64 CONG. REC. 2715 (1923).

ⁱ Memorandum from Jayne Harkins, Manager, River Operations, U.S. Dep't of Interior re: Estimate of 2000 Colorado River Water Use (Dec. 27, 2000) (on file with author). However, 2000 is a year of declared surplus. Under a normal year, Lower Basin mainstem uses are limited to 7.5 m.a.f./yr.

^j The Bureau of Reclamation Consumptive Uses and Losses Report, 1981-1985, shows total Lower Basin reservoir evaporation of about 1.0 m.a.f./yr. Table, LOWER COLORADO RIVER BASIN: COLORADO RIVER MAIN STEM ESTIMATED RESERVOIR EVAPORATION AND CHANNEL LOSS (1981-1985) (on file with author). However, through informal communication, current accounting of the Lower Colorado Region of the Bureau of Reclamation estimates 1.8 m.a.f./yr. Telephone Interview with Wayne E. Cook, Executive Director, Upper Colorado River Commission (Mar. 2001).

Because of the delivery obligation in Article III(d) of the Compact, the burden of the forecasted supply deficiency falls directly on the Upper Division States. If the Upper Basin has a firm obligation to allow a ten-year average of 7.5 m.a.f. to go to the Lower Basin each year, this obligation limits its use to what remains in the Colorado River. The amount left depends upon hydrologic cycles. Based on its hydrologic analysis and interpretation of the Law of the River, the Bureau of Reclamation's official estimate of the water available to the Upper Basin is only 6.0 m.a.f./yr. The Upper Division States disagree with this estimate, but the issue is not yet ripe since Upper Basin depletions remain below this amount. As shown on the chart above, total Upper Basin use and reservoir evaporation is only about 4.7 m.a.f./yr at this time.¹²⁶

Because of the uncertainty about how much water will ultimately be available under the Colorado River Compact, the Upper Colorado River Compact allocated the entitlement to use water under the Colorado River Compact among the Upper Division States on a percentage basis. Therefore, unlike the Lower Division States whose allocations are firm, the allocation of each Upper Division state is uncertain and variable. For example, Article III(a)(2) of the Upper Colorado River Compact entitled Colorado to deplete the Colorado River by 51.75% of the available Upper Basin consumptive use in any year.¹²⁷ Thus, if the total available to the Upper Basin is 6.0 m.a.f./yr, Colorado may deplete the Colorado River by 3.079 m.a.f./yr.¹²⁸ If the Upper Basin entitlement is 7.5 m.a.f./yr, Colorado may deplete the

126. Additional discussion of the problem of the underestimation of supply is found in *Carlson & Boles, supra* note 22, at 21-34.

127. Upper Colorado River Compact, *supra* note 74, § 37-62-101, art. III(a)(2).

128. ENDANGERED FISH FLOW AND COLORADO RIVER COMPACT WATER DEV. WORKGROUP, FINAL REP., COLORADO RIVER COMPACT WATER DEV. PROJECTION, at 12 (1995) (on file with the Colorado Water Conservation Board).

Colorado River by 3.885 m.a.f./yr.¹²⁹ Colorado's current uses are about 2.5 m.a.f./yr.¹³⁰

B. THE COMPACT NEGOTIATORS LEFT UNRESOLVED ISSUES

Because of their water supply estimates, the negotiators thought they left some room in which to work. The negotiators based their discussions on what they felt were the reasonable water supply needs in each basin—7.5 m.a.f./yr—and gave the Lower Basin an additional million acre feet to allow for Lower Basin tributary use. Because they had not allocated all the water in the Colorado River, they felt that extra water remained for some intentionally unresolved issues.

For example, the negotiators provided in Article III(c) that the states would handle any obligation to deliver water to Mexico under a treaty by using water surplus to that allocated under Article III(a) and (b). If no surplus exists, the Upper and Lower Basins are to share equally in meeting any such deficiency. The Lower Basin argues no such surplus exists, and the Upper Basin therefore has a delivery obligation. Thus, in addition to its 75 m.a.f. delivery obligation, the Upper Basin potentially faces the added burden of contributing one-half of the 1.5 m.a.f. Mexican Treaty obligation, and possibly the transit losses between Lee Ferry and the Mexican border.

However, the Upper Basin States assert they are under no obligation to contribute any water to Mexico. They argue that since the total Lower Basin consumptive use has exceeded its total apportionment of 8.5 m.a.f./yr, the Lower Basin is using surplus water, and must reduce its consumptive use to 8.5 m.a.f./yr before the Upper Basin can have any obligation. The chart above shows Lower Basin mainstem consumptive uses of 8.0 m.a.f./yr. If one adds in Lower Basin tributary uses, even deducting for groundwater overdraft, total Lower Basin consumptive use is currently in excess of its 8.5 m.a.f./yr allocation. The Upper Basin States argue this excess use eliminates any burden the Upper Basin might otherwise have toward Mexican Treaty deliveries. Resolution of the question may depend on how the Compact accounts for Lower Basin tributary use.¹³¹

The Compact, in Article VII, does not explicitly resolve the question of Indian reserved rights—how much they are, or their priority.¹³² In *Arizona v. California*, the United States Supreme Court answered that question for five Lower Basin Indian tribes, adjudicating

129. *Id.* at 9.

130. *Id.* at 12.

131. Despite stating that it was not interpreting the Compact, the practical effect of the Court's decision in *Arizona v. California* was to hold that the 7.5 m.a.f. allocation to the Lower Basin in Article III(a) of the Compact was of mainstream water, and the allocation of 1.0 m.a.f. to the Lower Basin in Article III(b) of the Compact was of tributary water. *Arizona v. California*, 373 U.S. 546, 557-58, 565-69 (1963).

132. "Nothing in this compact shall be construed as affecting the obligations of the United States of America to Indian tribes." Compact, *supra* note 1, § 37-61-101, art. VII.

to them reserved rights totaling 900,000 acre-feet.¹³³ The Court's decision also made clear that in the Lower Basin, use of mainstem water is charged against the allocation of the state in which the consumptive use of that water is made.¹³⁴ However, both the Upper and Lower Basins have not quantified Indian reserved rights of potentially enormous magnitude. Thus, the impact of this quantification is still unknown.

C. THE NEGOTIATORS DID NOT FORESEE THE EMERGENCE OF URBAN DEMANDS AND ENVIRONMENTAL AND RECREATIONAL VALUES

The Compact negotiators did predict increasing demands for water in the basin. Much of their predictions were defensive in nature, since a prediction of future demand served as a justification for a higher claim of entitlement in the Compact negotiations. Irrigation demand was the primary consideration in these predictions and calculations of present use. Early in the Compact negotiations, the Commissioners discussed an allocation formula based on irrigable acreage. Claims based on irrigable acreage provided some objective measurement of future demand and avoided pure speculation.

The negotiators could not foresee the influx of population to the western United States, the magnitude of the shift from rural communities to urban cities, or the increase in resort, tourism, and recreational demands such as golf courses, snowmaking, and flat water and instream recreation. In the negotiations, the parties considered Denver's potential transbasin demand. However, the negotiators felt that southern Nevada's potential demands were negligible.¹³⁵ Additionally, areas not discussed included Los Angeles and Phoenix.¹³⁶

In the late 1970's and early 1980's, the Upper Basin States' concerns included the potential water demands of massive oil shale development and whether their Compact allocation would adequately accommodate such demands. Although a push to develop oil shale no longer exists, these changing economic circumstances illustrate that the Commissioners could not foresee future demands on the Colorado River. These changing conditions also underscore the wisdom of Delph Carpenter's desire to preserve a defined share of the Colorado River in perpetuity for the Upper Basin, so that the Upper Basin could meet changing circumstances without interstate conflict or without a rush to premature water development simply to protect against claims in the Lower Basin.

133. *Arizona*, 373 U.S. at 596.

134. *Id.* at 590.

135. For example, in the 1928 Senate debates on the Boulder Canyon Project Act, Senator Pittman of Nevada stated that "Nevada has already admitted that it can use only an insignificant quantity, 300,000 acre-feet." *Id.* at 578.

136. In response to a question from Arizona Congressman, Carl Hayden, Herbert Hoover responded that "[n]o data are at hand in regard to any proposed diversion from the drainage area of the Colorado River in the States of Arizona, California, or Nevada unless the Imperial Valley diversion be so considered." 64 CONG. REC. 2714 (1923).

Along with changing economic circumstances in the West has come a shift in environmental and recreation values. The Endangered Species Act has forced the reoperation of virtually every federal reservoir in the Upper Basin. Each facility, and the rivers above and below it, has generated significant recreation economies. These new demands on the system have led some to question whether the huge reservoirs on the system will ever operate as the Compact negotiators intended—fluctuating from full to empty as drought cycles come and go. Moreover, lawsuits filed by environmental organizations have asserted that the Endangered Species Act creates an overriding obligation and limitation on the operation of federal reservoirs,¹³⁷ and even requires the delivery of additional water to Mexico to avoid jeopardy to listed endangered species in Mexico.¹³⁸

D. INTERBASIN WATER TRANSFERS AND MARKETING WAS NOT
CONTEMPLATED BY THE COMPACT NEGOTIATIONS AND IS ILLEGAL UNDER
THE LAW OF THE RIVER

Increasing demands in California and southern Nevada, combined with the continued underutilization in the Upper Basin of its consumptive use allocation, have encouraged proposals to sell or lease water between the Basins. Proponents of water marketing argue the Upper Division States should be able to sell or lease to Lower Basin entities their unused entitlements to the use of water from the Colorado River System, or private parties should be able to sell or lease water rights created under state law. Although proponents have made many proposals, the three most notorious proposals are the "Galloway Proposal," the "RCG (Resource Conservation Group) Proposal," and the "Roan Creek Proposal."

In 1984, the Galloway Group, Ltd. entered into an option with the San Diego County Water Authority (a member agency of the Metropolitan Water District of Southern California), to lease 300,000 to 500,000 acre-feet per year of water released from future planned reservoirs on the White or Yampa Rivers in Colorado. According to the proposal, the Upper Basin under the Compact, and Colorado under the Upper Colorado River Compact, would debit the water released for use in San Diego to their respective allocations.

The 1989 RCG Proposal sought to create three types of "water" for sale or lease from the Upper Basin to the Lower Basin. The first type of water ("Type 1") was undeveloped, unused water in the Upper Basin, currently flowing to and used in the Lower Basin. Type 1 water would include water the Upper Basin could, in the future, develop and consumptively use. The second type of water ("Type 2") was water stored in Upper Basin Reservoirs, for which there were contracts but no present use. This type of water was the same as Type 1 water,

137. *S.W. Ctr. for Biological Diversity v. U.S. Bureau of Reclamation*, 143 F.3d 515 (9th Cir. 1998).

138. *Defenders of Wildlife v. Babbitt*, No. 1700CV01544 (D.C. Cir. filed June 28, 2000).

except that Type 2 water was subject to contracts of potential users who had not yet developed their uses. An example of Type 2 water was water stored in Fontenelle Reservoir in Wyoming under contract to industrial users who had no current demand. The third type of water ("Type 3") was water presently consumed by irrigated agriculture in the Upper Basin. Thus, creating Type 3 water under the RCG Proposal required Upper Basin water users to dry up irrigated acreage, temporarily or on a rotating basis, and to forego present consumptive use for sale or lease in the Lower Basin. RCG proposed to create "pools" of Type 1, Type 2, and Type 3 water for sale or lease in the Lower Basin.

The Roan Creek Proposal, developed by Chevron Oil Shale Company, was substantively identical to the Galloway Proposal. Chevron proposed to construct a reservoir on Roan Creek near Grand Junction in Colorado and to lease water to Nevada pending ultimate development and use of the water for oil shale development in Colorado.

The Galloway, RCG, and Roan Creek promoters sought to involve the Colorado River Basin states and to convince the states that an arrangement with private enterprise as a "facilitator" was necessary for their project to take place. The groups tried to sell the concept on an affirmation of the entitlements to use water in the Upper Basin and on the development of a stream of revenue to use in the Upper Basin for new water project development or other state needs.

The states resisted these proposals for a variety of reasons. Among other things, the states' concerns included that the concepts were legally impossible, would open an unregulated "water market" on the Colorado River, and that such an arrangement would destroy interstate comity.¹³⁹

There are many reasons why an interbasin "water market" is simply illegal under the Law of the River, some of which are discussed below. More fundamentally, however, it is also clear the very idea of a "water market" is directly contrary to the basis and foundation of the Law of the River.

The reciprocal, historical needs of the Upper and Lower Basins, which remain valid today, are premised on the allocations embedded in the Law of the River. The Lower Basin was in need of major regulatory structures to alleviate the threat of flooding and to achieve water development opportunities. The Upper Basin sought to avoid the interstate imposition of the prior appropriation doctrine, and to protect future development rights in the Upper Basin. The

139. More recently, the state of Utah has "broken ranks" with its fellow Upper Division States. Utah's Governor Leavitt suggested his state should investigate the idea of leasing its unused apportionment to states in the Lower Division, arguing that the Endangered Species Act and other environmental laws, and a lack of demand, may prevent Utah from ever using its full entitlement. Governor Leavitt proposed that money raised from the lease could be used to meet infrastructure needs in Utah. The proposal was met with opposition by the Upper Division States, and with lukewarm enthusiasm from the Lower Division States.

operational and regulatory system of the Law of the River meets these needs. The very basis of the bargain in the Compact is the Lower Basin's agreement that the Upper Basin has a perpetual allocation of the right to consume a given amount of water.¹⁴⁰ In exchange, the Upper Basin agreed to let pass to the Lower Basin, without charge, any water for which it lacked a reasonably anticipated consumptive need.¹⁴¹ Creating a water market in which the Upper Basin charges the Lower Basin for this water, would undermine this fundamental agreement between the Basins.

Additionally, an interbasin water market violates the Compact's premise that the prior appropriation doctrine does not apply interstate on the Colorado River. Water markets, changes of water rights, and transfers are hallmarks of the prior appropriation doctrine. Therefore, an interbasin water market brings about the very result the Upper Basin negotiators of the Compact sought to avoid—making water and/or water rights an article of interstate commerce and layering the Law of the River with an interstate prior appropriation doctrine. This result allows the economic and political muscle of the Lower Division States to override the future of the Upper Division States. The result also allows the Lower Basin to continue economic development at the expense of the Upper Basin.

Therefore, it is not surprising that the concept of an interbasin water market has no basis under the Law of the River. This is true for any of the "types" of water contemplated under recently proposed marketing schemes: (1) unused apportionments of the Upper Division States; (2) water stored in the Upper Basin for later release and use in the Lower Basin; or (3) water presently consumed in the Upper Basin, the use of which would be foregone so as to allow an equivalent amount of use in the Lower Basin.

A summary of three of the many ways an interbasin water market is illegal under the Law of the River follows.

1. Interbasin Water Sales or Transfers Would Violate the Colorado River Compact

Article I of the Colorado River Compact specifies that the basis of the Compact is the apportionment not of water itself, but of the *use* of water.¹⁴² Article III(a) makes an apportionment, "in perpetuity,"

140. Compact, *supra* note 1, § 37-61-101, art. III(a).

141. *Id.*, art. III(e).

142. Article I reads in its entirety as follows:

The major purposes of this compact are to provide for the equitable division and apportionment of the *use* of the waters of the Colorado River System; to establish the relative importance of different beneficial uses of water; to promote interstate comity; to remove causes of present and future controversies; and to secure the expeditious agricultural and industrial development of the Colorado River Basin, the storage of its waters and the protection of life and property from floods. To these ends the Colorado River Basin is divided into two Basins, and an apportionment of the *use* of part of the water of the Colorado River System is made to each of them with the provision that further equitable apportionments may be made.

between Upper and Lower Basins, not of water, but of the right to “exclusive beneficial consumptive use.”¹⁴³ To reinforce this concept, Article III(d) prevents the Upper Division States from “depleting” the flow of the Colorado River at Lee Ferry below 75 m.a.f. in any ten-year running average.¹⁴⁴ Moreover, Article III(e) provides the Upper Basin cannot withhold unneeded water for use in the Upper Basin, if a need exists for the water in the Lower Basin.¹⁴⁵

Once water passes Lee Ferry, and a use occurs in the Lower Basin, that use is chargeable as a Lower Basin use. The Compact does not provide an allocation of the “ownership” of water. It guarantees to each Basin a right of use up to a specified maximum. This view is consistent with the nature of water rights as usufructuary rights, and expresses the intent of the Compact negotiators.¹⁴⁶ As a result, the place of use, not the location of the water, determines to which Basin that use is charged.

For a sale or transfer of an Upper Basin use to the Lower Basin to occur, the Lower Basin must credit its uses and the Upper Basin debit its uses. This debit/credit system would allow the Lower Basin to consumptively use the amount of the water sale in excess of 75 m.a.f. every ten years and require the Upper Basin to deliver the same

Id. § 37-61-101, art. I (emphasis added).

143. Article III(a) reads in its entirety as follows:

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.

Id. § 37-61-101, art. III(a) (emphasis added).

144. Article III(d) reads in its entirety as follows:

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.

Id. § 37-61-101, art. III(d) (emphasis added).

145. Article III(e) states in its entirety: “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.” *Id.* § 37-61-101, art. III(e).

146. At the compact negotiation, the following discussion occurred which reinforces the notion that the intent of the negotiators was to apportion the use of water, not the water itself.

CHAIRMAN HOOVER: I have doubts as to the ability of the Commission to divide the water. You can divide the use of the water, but I don't believe you can divide the water itself. That is the assumption of an ownership in the body of the water, not the use of water and I think there are essentially different legal principles if I understand anything about it. I will ask Mr. Hamele what he thinks about that.

MR. HAMELE: That is true, Mr. Chairman. There is no property right in running water and there couldn't be any division in a compact of this kind of the actual water, because it is only the use that is in question. It passes on, goes down and the very water that is used in the upper division is used again in the lower division.

Minutes, Twenty-fifth meeting of the Colorado River Comm'n, Bishop's Lodge, Santa Fe, N.M. (Nov. 23, 1922).

amount in excess of its ten-year delivery obligation. However, the Compact does not include a provision for any such debit/credit system. In fact, such accounting would violate the entire purpose of the Compact in apportioning the right of use between the two Basins in perpetuity, and thus, preserving a right of development in each of the Basins.

An Upper Basin user could not capture water in a reservoir for delivery to a use in a Lower Division state for the following reasons. Article III(e) does not allow holding water in the Upper Basin if needed in the Lower Basin. Furthermore, Article III(a) charges the use of water in the Lower Basin against the Lower Basin use, and Article III(d) counts the use as part of the Upper Basin delivery obligation. Similarly, an Upper Basin user could not forego his use of water and sell it to a Lower Basin user, since under the Compact, the use and accounting of the delivery is the same. Moreover, the Compact expressly forbids any Lower Basin water user from making a claim on Upper Basin water. Article VIII provides that after the Hoover Dam construction, only water stored in the Lower Basin "not in conflict with Article III" could satisfy a claim of an appropriator in the Lower Basin.¹⁴⁷ All other rights are satisfied "*solely* from the water apportioned *to that Basin in which they are situate.*"¹⁴⁸

The Compact, ratified by each of the state legislatures and consented to by Congress, effectuates a legislative equitable apportionment and is federal law.¹⁴⁹ As such, it removes water as an article of interstate commerce,¹⁵⁰ and thereby not only limits the authority of each state to confer rights in excess of its limitations, but also authorizes each state to enforce its terms.¹⁵¹ Therefore, the limitations of the Compact constrain the authority of each state to create water rights. No Upper Division state could confer upon any appropriator the right to sell, lease, or transfer the right to use water for use in a Lower Division state and have that right charged as a use in the Upper Basin, because such a right cannot exist under the terms of the Compact. Any other state signatory to the Compact could sue the state attempting to create such a right, or could sue the United States if the United States attempted to effectuate such a right by accounting or delivery through federal reservoirs.¹⁵² Similarly, the states could not agree to such a fundamental change in Compact accounting without amending the Compact and obtaining congressional consent.

147. Compact, *supra* note 1, § 37-61-101, art. VIII.

148. *Id.* (emphasis added).

149. *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92, 104-05 (1938).

150. *Intake Water Co. v. Yellowstone River Compact Comm'n*, 769 F.2d. 568, 569-70 (9th Cir. 1985), *cert. denied*, 476 U.S. 1163 (1986).

151. *Hinderlider*, 304 U.S. at 102.

152. Under federal law, the United States consents to suits by states in the event any officer or agency of the United States does not comply with the compacts, Mexican Treaty, the Decree in *Arizona v. California*, or the Colorado River Storage Project Act. See 43 U.S.C. § 620m (1994).

2. Interbasin Sales and Transfers Would Also Violate the Upper Colorado River Compact

The Upper Colorado River Compact apportions among the Upper Division States the consumptive use apportioned to the Upper Basin by the Colorado River Compact. As a result, one can make a parallel analysis of the Upper Colorado River Compact to the Colorado River Compact. Article I states the purposes of the Upper Colorado River Compact include “the equitable division and apportionment of the *use* of the waters of the Colorado river system, the *use* of which was apportioned *in perpetuity* to the upper basin by the Colorado [R]iver [C]ompact.”¹⁵³ Article III(a)(2) then makes the actual apportionment, which is of “consumptive use per annum of the quantities resulting from the application of . . . percentages to the total quantity of consumptive use per annum appropriated in perpetuity to and available for use each year by upper basin under the Colorado [R]iver [C]ompact.”¹⁵⁴

If an Upper Basin state attempted to create a water right for use in the Lower Basin, it could not argue that it was consumptively using its apportionment, since the use would not occur in that state, or even in the Upper Basin. Article III(b)(1) and (2) state that the apportionment is of “man-made depletions” and that “[b]eneficial use is the basis, the measure and the limit of the right to use.”¹⁵⁵ Under Article VI, depletions are determined by the “inflow-outflow method” measured at Lee Ferry. Therefore, a state could not create a legal fiction of a use in that state if consumption did not occur in such state.¹⁵⁶ Nor could a state forego the use of water under its apportionment, but have the actual use occur in the Lower Basin, since the state would not make such use consumptively in the Upper Basin, and the inflow-outflow method could not account for the use at Lee Ferry.

Article IX of the Upper Colorado River Compact accounts for the use of water in the state of actual use by providing that the construction of a reservoir for the storage and delivery of water to a consumptive use in a lower Upper Basin state is specifically contemplated, but that such use must be accounted as “within the apportionment to such lower state made by [the Colorado River Compact].”¹⁵⁷ Article IX goes on to provide that any such reservoir is subject to the rights of water users within that upper state to put the full amount of that state’s Upper Basin allocation to use.

The clear intent of the Upper Colorado River Compact is to put as

153. Upper Colorado River Compact, *supra* note 74, § 37-62-101, art. I (emphasis added).

154. *Id.* § 37-62-101, art. III(a)(2).

155. *Id.* § 37-62-101, art. III(b)(1), (2).

156. *Id.* § 37-62-101, art. VI.

157. *Id.* § 37-62-101, art. IX. Although nonconsumptive uses such as instream flows and power production are recognized under state law, such uses are not accounted for under either the Colorado River Compact or the Upper Colorado River Compact.

much of the Upper Basin water to use in the Upper Basin as possible, before meeting the delivery obligation to the Lower Basin under the Colorado River Compact. To this end, Article III(b)(3) allows a state to exceed its apportionment, if such use will not deprive another state of the use if its apportionment. Therefore, no one state in the Upper Basin has authority to shepherd water through, or prevent the use of such water by, another Upper Basin state. Article XV(b) specifically reserves to each of the states the authority to regulate the "appropriation, use and control of water, the consumptive use of which is apportioned and available to such state by this compact."¹⁵⁸ As a result, no way exists for a water user in one Upper Basin state to either store and release water, or forego the consumptive use of water, and guarantee to a Lower Basin purchaser that the water will be deliverable to Lee Ferry or that another Upper Basin state will not consume the water.

3. Interbasin Sales and Transfers Would Violate the Terms of the Decree of the United States Supreme Court in *Arizona v. California*

For any interbasin water market to operate, the Upper Basin needs to generate water, account for it, and transport it through the Upper Basin to the Lower Basin, and then account and deliver it from Lake Mead to the ultimate state of use and to the ultimate user in the Lower Basin. An Upper Basin-to-Lower Basin marketing plan could not accomplish this necessary accounting and delivery in the Lower Basin under the Decree in *Arizona v. California*.

In *Arizona v. California*, the Supreme Court based its reasoning not upon the 1922 Colorado River Compact or the Doctrine of Equitable Apportionment, but upon the power of Congress in the enactment of the Boulder Canyon Project Act ("Act"). The Decree makes clear that once water passes Lee Ferry, it loses any legal characterization it may have otherwise had, and becomes "mainstream water," "controlled by the United States."¹⁵⁹ Moreover, the Court held that the Act precludes *any* use of water from the mainstream *except* pursuant to contract with the United States and subject *only* to the allocations in the Act.¹⁶⁰ The

158. Upper Colorado River Compact, *supra* note 74, § 37-62-101, art. XV(b).

159. Article I(B) of the Decree defines "[m]ainstream" as "the mainstream of the Colorado River downstream from Lee Ferry within the United States, including the reservoirs thereon." *Arizona v. California*, 376 U.S. 340, 340 (1964). Article I(E) of the Decree defines "[w]ater controlled by the United States" as "water in Lake Mead, Lake Mohave, Lake Havasu and all other water in the mainstream below Lee Ferry and within the United States." *Id.*

160. The Court stated:

Having undertaken this beneficial project, Congress, in several provisions of the Act, made it clear that no one should use mainstream waters save in strict compliance with the scheme set up by the Act. . . . To emphasize that water could be obtained from the Secretary alone, § 5 further declared, "No person shall have or be entitled to have the use for any purpose of the water stored . . . except by contract made as herein stated." . . . Moreover, contrary to the Master's conclusion, we hold that the Secretary in choosing between users within each State and in settling the terms of his contracts is not bound by these sections to follow state law.

Decree strictly enjoins both the Secretary of the Interior and each of the Lower Division States from acting otherwise.

Therefore, an Upper Basin water user cannot possibly enter into a contract for the delivery of water to a Lower Basin water user, since the Lower Basin user can contract only with the United States. Additionally, water use in each of the Lower Division States would still be subject to the overall apportionments set forth in the Decree. Thus, for example, total California mainstream consumptive water uses in a "normal" year could not exceed 4.4 m.a.f., unless authorized and determined by the Secretary of Interior.¹⁶¹ As a result, no utility exists in a Lower Basin user seeking to purchase Upper Basin water, because the total allowable water use from the mainstream in the Lower Basin is only pursuant to federal contract and within the limitation of use established by the federal government for that state.

A similar analysis exists as to every aspect of the Law of the River. For example, the operational constraints established in the Colorado River Basin Project Act provide strict limitations on the purposes for which the Secretary may release water from Lake Powell. Additionally, export statutes in the Upper Basin, for example, in the case of Colorado, provide that Colorado and the Upper Basin credit delivery of water to the Lower Basin against its delivery requirement.

Simply stated, an interbasin "water market" is an anathema to the letter of and the historical and political basis for the Law of the River. Such a market would undermine, if not destroy, the certainty of supply and allocation negotiated in the Law of the River and the basis upon which the states and the federal government have developed to work toward the resolution of the issues before us today. This strong opposition to an interbasin water market, and the resulting "water raids" that the Lower Basin could perpetrate on the Upper Basin, is one of the reasons Colorado has insisted California resolve its dependence on water surplus in excess of its basic allocation in the Lower Basin, preferably within its own state, and not by interbasin water marketing.

XI. CONCLUSION

This article, Part I of a two part series, provides an overview of the history of the development of the Law of the River from an Upper Basin perspective. Through his desire to promote greater certainty and security of water supply allocation, Colorado's negotiator, Delph Carpenter, had several goals in mind in the drafting of the Colorado River Compact. He sought the assurance that Colorado could develop a defined share of the Colorado River in perpetuity, as needs and economic conditions dictate. He sought to eliminate the operation of

Arizona v. California, 373 U.S. 546, 579, 580, 586 (1963).

161. The Secretary of the Interior authorized the use of water by California in 1991 and 1992, in excess of California's basic apportionment and despite a "normal" declaration, but on the basis that California water users would be required to repay in a subsequent year any water so used.

the prior appropriation doctrine applied on an interstate basis. He sought to preserve state autonomy and sovereignty over intrastate water appropriation and administration. He sought to avoid the threat of interstate litigation among the states and between the states and the federal government. Finally, he sought to create a foundation for the comprehensive development and regulation of the Colorado River.

At its core, the Colorado River Compact provides the fundamental allocation and assurances sought by Carpenter. Federal laws, the Upper Basin Compact, the Mexican Treaty, and the *Arizona v. California* decision and Decree followed the Compact. These elements of the Law of the River built upon the foundation laid by that initial allocation.

In fact, it was the assurance of a secure interstate allocation that allowed the states and the federal government to move forward with the development of the great public works on the Colorado River, and the operational mechanisms that run those works. Although uncertainties remain, some not understood by the original Compact negotiators and others left intentionally for future resolution, the Compact and laws that followed it provide a framework for the resolution of those issues. Operational changes made to system reservoirs in response to the Endangered Species Act and the Grand Canyon Protection Act illustrate the flexibility within the fundamental allocation.

Today, one of the most important issues on the Colorado River remains California's continued reliance on surplus water in excess of its basic apportionment. Part II of this article will discuss the chronology of the negotiations between the states, federal government, and Indian tribes concerning the potential resolution of this problem. In these negotiations, the Upper Basin States have attempted to maintain the foundation of security of perpetual allocation of supply and the protection of their ability to use and develop water under the Law of the River. The most important Upper Basin principle is that the resolution of the California issue should take place in the Lower Basin, in a manner consistent with the Law of the River, and without impairing the Upper Basin's ability to exercise its right to consume water in the Upper Basin as economic need dictates.