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Arizona v. California Revisited

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Arizona v. California Revisited

ABSTRACT

The U.S. Supreme Court's 1963 decision in Arizona v. California profoundly influenced uses of Colorado River basin water in those two states and throughout the basin. This article takes an in-depth look at this litigation, the decision, and its consequences. It argues the decision should be limited to the issues directly decided as the basin states and Mexico now consider ways to deal with a diminished water supply.

"I am morally certain that neither in my lifetime, nor in your lifetime, nor the lifetime of your children and great-grandchildren will there be an inadequate supply of water for the Metropolitan project."
Simon H. Rifkind, Special Master¹

I. INTRODUCTION

The 10-year period from 1999-2008 was the driest period in the more than 100-year record for the Colorado River basin.² Existing consumptive uses of basin water now probably exceed the reliable supply.³

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1. Quoted in Motion to Reopen the Trial for the Taking of Evidence re Depletion of the Colorado River at Lee Ferry by the Upper Basin and Statement in Support of Motion, State of Arizona v. State of California, October Term 1959, No. 9 Original (August 31, 1960) [hereinafter *Motion to Reopen*] (copy of file with author); Simon H. Rifkind, Special Master Report, Arizona v. California, 1960 [hereinafter *Master's Report*] available at http://www.colorado.edu/colorado_river/docs/AZvCA-special_masters_report1.pdf.

2. TERRY FULP, COLORADO RIVER INTERIM GUIDELINES FOR LAKE POWELL AND LAKE MEAD 10 (2009), available at <http://www.watereducation.org/userfiles/09BorderGovernorsFulp.pdf>. According to the Upper Colorado River Commission, "the average natural flow since the year 2000 (2000-2009, inclusive) is 11.982 maf (million acre-feet), the lowest ten-year average in over 100 years of record keeping on the Colorado River." SIXTY-FIRST ANNUAL REPORT OF THE UPPER COLORADO RIVER COMMISSION 73 (2009); See also RETHINKING THE FUTURE OF THE COLORADO RIVER (2010) available at <http://www.rlch.org/archive/wp-content/uploads/2010/12/CRGI-Interim-Report.pdf>.

3. BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY SR-3 (2011). In the year 2000, the most recent year for which this system-wide information is available, Reclamation estimated total water consumption of about 16.2 million acre-feet (maf) of Colorado River System water in the Upper and Lower Basins. Of this total, approximately 3.7 maf were consumed in the Upper Basin and 12.5 maf in the Lower Basin. With the series of dry years since 1999, consumption of water in the basin declined, but uses continue to outstrip supply. BUREAU OF RECLAMATION, COLORADO RIVER SYSTEM CONSUMPTIVE USES AND LOSSES REPORT IV (2004) [hereinafter *1996-2000 Consumptive Uses and Losses Report*], available at <http://www.usbr.gov/uc/library/envdocs/reports/crs/pdfs/crs962000.pdf>.

Yet there are ambitious plans for additional consumptive uses of basin water.⁴ The Secretary of the Interior has developed guidelines for allocating shortages to states in the lower region (Arizona, California, and Nevada) of the Colorado River if there is insufficient water.⁵ States in the upper region of the basin (Colorado, New Mexico, Utah, and Wyoming) are considering possible responses if their existing uses of basin water have to be curtailed to meet legal obligations under the Colorado River Compact—the 1922 agreement allocating the basin’s water.⁶ The seven basin states decided to postpone more detailed consideration of how to deal with shortages until 2027. Yet recent studies of basin hydrology suggest the shortages are likely to continue and perhaps worsen.⁷

Uses of basin water are guided by a complex legal framework—tellingly referred to as the “Law of the River.”⁸ This Law contains a com-

4. See *Groundwater Development Project*, SOUTHERN NEVADA WATER AUTHORITY, available at http://www.snwa.com/ws/future_gdp.html (last visited June 6, 2012) (providing Southern Nevada Water Authority plan to expand the water supply for the Las Vegas area); See also *Project Updates*, LAKE POWELL PIPELINE, available at <http://www.water.utah.gov/lakepowellpipeline/projectupdates/default.asp> (last visited June 6, 2012) (providing Utah’s plan to build a pipeline carrying water from Lake Powell to St. George); See also *Regional Watershed Supply Project Environmental Impact Statement*, US ARMY CORPS OF ENGINEERS, available at <http://www.nwo.usace.army.mil/html/od-tl/eis/RWSP-EIS.html> (last visited June 6, 2012) (providing a proposal to build a pipeline that would carry up to 250,000 acre-feet of water from Flaming Gorge Reservoir and the Green River in Wyoming to the Colorado Front Range).

5. BUREAU OF RECLAMATION, COLORADO RIVER INTERIM GUIDELINES FOR THE OPERATION OF LOWER BASIN SHORTAGES AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD 73 FR 19873-01 (2008) [hereinafter *Interim Shortage Guidelines*].

6. For example, in 2008 the Colorado General Assembly directed the Colorado Water Conservation Board to study issues associated with possible compact curtailment. H.R. 08-1346, § 10, 68th Gen. Assemb., 2d Reg. Sess. (Colo. 2012). The general process for implementing such a curtailment is outlined in the 1948 Upper Colorado River Compact, Section 4: “—In the event curtailment of use. . .shall become necessary in order that the flow at Lee Ferry shall not be depleted below that required by Article III of the Colorado River Compact, the extent of curtailment by each State shall be in such quantities and at such times as shall be determined by the Commission.” RAY L. WILBUR & NORTHCUTT ELY, *THE HOOVER DAM DOCUMENTS* (H.R. DOC. NO. 717, 80th Cong., 2d Sess. A17 (1948) [hereinafter *HOOVER DAM DOCUMENTS*]).

7. See generally WESTERN WATER ASSESSMENT, *THE CHALLENGE OF SUPPLY AND DEMAND*, available at http://wwa.colorado.edu/colorado_river/ (last visited Aug. 2, 2012) (listing many of the studies for the Western Water Assessment). See generally COLORADO CLIMATE CHANGE: A SYNTHESIS TO SUPPORT WATER RESOURCE MANAGEMENT AND ADAPTATION, <http://cwcb.state.co.us/environment/climate-change/documents/coclimatereportonepager.pdf>. See generally ERIC KUHN, *THE COLORADO RIVER: THE STORY OF A QUEST FOR CERTAINTY ON A DIMINISHING RIVER* (2007) (combining a look at basin history, law, and hydrology).

8. See generally LAWRENCE J. MACDONNELL, *COLORADO RIVER BASIN, WATERS AND WATER RIGHTS* (3d. ed., Part VIII)(providing a summary of this extensive body of law); see

plex set of compacts, Congressional statutes, U.S. Supreme Court decisions, a treaty, contracts, secretarial decisions, and other materials primarily concerned with apportioning uses of water among the seven states and the Republic of Mexico.⁹ This article revisits one critical piece of this “Law,” the 1963 decision of the U.S. Supreme Court in *Arizona v. California*.¹⁰

Arizona v. California was a 12-year epic battle including three years of trial in front of a special master appointed by the U.S. Supreme Court. The trial involved 106 witnesses and hundreds of volumes of exhibits, ultimately producing a 433-page final report from the Master in December of 1960. Proceedings at the U.S. Supreme Court required two oral arguments, producing a 5-3 decision in 1963 with two dissenting opinions, with the majority opinion implemented by a decree in 1964.¹¹ The case was an original action in the U.S. Supreme Court, with Arizona seeking to clarify its rights to the use of Colorado River basin water. It was filed 30 years after the seven basin states drafted the Colorado River Compact, which apportioned the waters of the basin roughly equally between the states of the Upper and Lower Divisions, but did not apportion shares to individual states.¹² In addition to Arizona and California, Nevada, New Mexico, and Utah were party to the case because they had lands located within the Lower Basin. The United States was also party

also HOOVER DAM DOCUMENTS, *supra* note 6; *see also* MILTON NATHANSON, UPDATING THE HOOVER DAM DOCUMENTS, (1978) available at <http://www.onthecolorado.com/Resources/LawOfTheRiver/HooverDamDocumentsUpdated.pdf>; *see also* David H. Getches, *Competing Demands for the Colorado River*, 56 U. COLO. L. REV. 413 (1985).

9. *These materials can be found in the sources cited in the preceding paragraph.*

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

11. *See Arizona v. California*, 376 U.S. 340 (1964); *see also Arizona v. California*, 373 U.S. 546, 551 (1963) (providing information about the number of witnesses and exhibits before the Special Master). *See also* Charles J. Meyers, *The Colorado River*, 19 STAN. L. REV. 1, 43 (1966); *see also Master's Report available at* http://www.colorado.edu/colorado_river/docs/AZvCA-special_masters_report1.pdf.

12. The Colorado River Compact divides the basin into upper and lower portions, separated at Lee Ferry in Arizona just south of the Utah border. Lee Ferry is located in a canyon 15 miles downstream from Glen Canyon Dam at a point where all tributaries to the north flow into the main Colorado River above and all tributaries to the south flow into the main Colorado below. Hydrographically, the two areas are effectively separate sub-basins, joined only by the mainstream. The Compact refers to these two areas as the Upper Basin and the Lower Basin. Geographically, all or portions of five states (Arizona, California, Nevada, New Mexico, and Utah) occur in the Lower Basin while there are four states (Colorado, New Mexico, Utah, and Wyoming) partially or completely located in the Upper Basin. The states located in the Upper Basin are referred to as the Upper Division states, and the states in the Lower Basin are the Lower Division states. Colorado River Compact, 42 Stat. 171 (1921) [hereinafter *1922 Compact*] available at <http://www.usbr.gov/lc/region/pao/pdfiles/crcompact.pdf>; *see also* The Boulder Canyon Project Act, H.R. 5773, 70th Cong. (1928) available at <http://www.usbr.gov/lc/region/pao/pdfiles/bcpact.pdf>.

to the case because of the federal water projects and lands located within the Lower Basin. It was perhaps the most high profile water case ever to be decided by the U.S. Supreme Court and produced considerable commentary.¹³ At the time, the two aspects of the opinion that received the most attention were: (i) the Court's declaration that Congress had apportioned the river's water, and; (ii) the Court's apparent sweeping grant of power to the Secretary of the Interior over water matters in the Lower Colorado River basin. Unrecognized at the time, but highly relevant today, was the important effect the *Arizona v. California* decision would have on the expansion of Lower Basin water uses, and the consequent increased depletion of allocated water.¹⁴

This article provides a brief summary in Part II of the essential background necessary to understand the issues presented in *Arizona v. California*.¹⁵ Part III turns to a summary of the arguments presented to the Special Master by Arizona, California, and the United States. The article takes a close look in Part IV at the report of the Special Master because of its important influence on the U.S. Supreme Court's decision. Particular attention is paid to the Master's treatment of the 1922 Compact, the Boulder Canyon Project Act, and the Secretary's water service contracts. In Part V, the article discusses the decision of the U.S. Supreme Court, noting ways in which the majority altered the Master's recommendations. The article focuses on a consideration of the contemporary relevance of *Arizona v. California* in Part VI, identifying how this decision facilitated increased water uses that now appear unsustainable. The article argues the decision in *Arizona v. California* fostered unsustainable increases in consumption of basin water and created uncertainties in the meaning of the 1922 Compact that are now at issue.

13. See Meyers, *supra* note 11; see also Frank J. Trelease, *Arizona v. California: Allocation of Water to People, States, and Nation*, 1963 SUP. CT. REV. 158; Edward W. Clyde, *The Colorado River Decision—1963*, 8 UTAH L. REV. 299 (1964); David Haber, *Arizona v. California—A Brief Review*, 4 NAT. RESOURCES J. 17 (1964); Mark Wilmer, *Arizona v. California, A Statutory Construction Case*, 6 ARIZ. L. REV. 40 (1964); Norris Hundley, Jr., *Clio Nods: Arizona v. California and the Boulder Canyon Project Act—A Reassessment*, THE W. HISTORICAL QUARTERLY 17 (1972).

14. The expansion resulted from determining that Arizona, California, and Nevada shared the consumptive use of 7.5 maf from the main Colorado River while not limiting uses of water from the tributaries. See discussion *infra* notes 236-239.

15. See generally NORRIS HUNDLEY, *WATER AND THE WEST: THE COLORADO RIVER COMPACT AND THE POLITICS OF WATER IN THE AMERICAN WEST* (2d. ed. 2009) (providing a more comprehensive treatment of the history); see also PHILLIP FRADKIN, *A RIVER NO MORE: THE COLORADO RIVER AND THE WEST* (1984) (providing another, more journalistic summary); see also MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* (1986) (providing another perspective on many of the key event in the basin).

II. THE CONTEXT OF ARIZONA V. CALIFORNIA

Contention between Arizona and California began shortly after completion of the Compact deliberations in 1922. A new Arizona governor, George Hunt, aggressively opposed ratification of the Compact, and the State followed his lead. Arizona's uncompromising resistance ultimately yielded significant benefits for the state.¹⁶

California's rapid development and use of water from the Colorado River early in the twentieth century caused Colorado water leaders to fear that much of the basin's water would be fully appropriated before Colorado would require its use.¹⁷ This fear peaked with the 1922 U.S. Supreme Court decision in *Wyoming v. Colorado*.¹⁸ The Court in this decision concluded the rule of priority (first in time, first in right) should be applied to resolve interstate river disputes between states that follow this water allocation principle.¹⁹ The Compact²⁰ negotiated by representatives of the seven basin states, under the chairmanship of Herbert Hoover, divided the basin into two parts and apportioned 7.5 million acre-feet (maf)²¹ of annual beneficial consumptive use to each sub-basin.²² The Compact authorized the Lower Basin to increase its annual consumptive use by another 1.0 maf if demand warranted such an increase, pending further apportionment actions that might be taken by a subsequent commission sometime after 1963.²³ Additional assurance was given to the Lower Basin by requiring that 75 maf of water pass into the Lower Basin,

16. HUNDLEY, *supra* note 15, at 232-243. Despite years of effort to undermine the 1922 Compact and the Boulder Canyon Project Act, in 1944 Arizona obtained a contract from the U.S. for 2.8 maf/year of consumptive use from the Colorado River—the same amount it had been offered originally.

17. See generally DANIEL TYLER, *SILVER FOX OF THE ROCKIES: DELPHUS E. CARPENTER AND WESTERN WATER COMPACTS* 115-122 (2003) (providing background).

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

19. *Id.* at 470.

20. U.S. CONST. art. I, § 10 (authorizing compacts between states). The 1922 Colorado River Compact was the first such compact used to apportion the waters of an interstate river. See *1922 Compact*, *supra* note 12.

21. An acre-foot is the amount of water that would cover an acre of land to a depth of one foot. It is approximately 325,000 gallons of water.

22. By apportioning uses on the basis of "consumptive" use, the Compact focused on the depletion of water resulting from use. Apportionments more often are made based on the amount of water diverted from a source without regard for how much of the diverted water is consumed in use. *1922 Compact*, *supra* note 12, Art. III (a).

23. *Id.* at art. III (f) ("Further equitable apportionment of the beneficial uses of the waters of the Colorado River System unapportioned by paragraphs (a), (b), and (c) may be made in the manner provided in paragraph (g) at any time after October first, 1963, if and when either Basin shall have reached its total beneficial consumptive use as set out in paragraphs (a) and (b).") The additional apportionment provided in subsection (b) was added to the compact late in the proceedings). See *infra* text accompanying note 64.

measured at the Lee Ferry dividing point in northern Arizona, on a running ten-year average—simply put, a total of 75 maf must flow past Lee Ferry during each consecutive ten-year period.²⁴

Expectations of rapid Compact endorsement faded when Arizona's legislature failed to ratify it in 1923.²⁵ Without a compact, leaders in the Upper Basin were unwilling to support federal funding for construction of a new canal.²⁶ This new canal was fervently desired by developers in California's Imperial Valley; it would deliver water from the Colorado River following an alignment located totally within the United States (the All American Canal).²⁷ Nor were Upper Basin states willing to support a proposal from the Reclamation Service—also strongly desired by California leaders—to construct a dam in the Boulder Canyon portion of the Colorado River that would provide control of the river necessary to its full use.²⁸

Finally, in 1928 Congress passed the Boulder Canyon Project Act (BCPA).²⁹ This legislation authorized construction of the All American Canal and what became Hoover Dam.³⁰ Moreover, it authorized approval of a six-state compact under condition that California agree to limit its use of Colorado River water to consumption of no more than 4.4

24. 1922 Compact, *supra* note 12, art. III (d). Consumptive uses in the Upper Basin may not reduce flows below this amount. Agreement on this commitment emerged only after considerable discussion and negotiation. See *infra* notes 163-177.

25. See HUNDLEY, *supra* note 15, at 232-57.

26. *Id.* at 266-270.

27. The governors of the four states in the upper region of the basin issued a joint statement on August 29, 1925 specifically opposing any development in the lower region without ratification of the 1922 Compact. *Id.* at 266-270.

28. Massive floods were relatively common in the lower Colorado River basin, making diversion and use of its water problematic. A prominent example was the flood-caused destruction of the head gate of the Alamo Canal in 1905, causing the flow of the river to shift into this old channel that funneled all of the river's water into the Imperial Valley, flooding large areas of land and restoring the ancient Salton Sea in its closed basin. MICHAEL HILTZIK, *COLOSSUS: HOOVER DAM AND THE MAKING OF THE AMERICAN CENTURY* 37-51 (2010) [hereinafter *COLOSSUS*]. Reclamation Commissioner Arthur Davis was convinced that effective diversion and use of Colorado River water would not be reliably possible until a dam existed that could regulate these flood flows. HUNDLEY, *supra* note 15, at 27-28 & 45-51.

29. Boulder Canyon Project Act, 43 U.S.C. § 617 (2012).

30. *Id.* at § 1.; see also Pub. L. No. 43-80, ch. 46, 61 Stat. 56 (1947) (changing the name of Boulder Dam to Hoover Dam).

maf/year.³¹ The BCPA directed the Secretary of the Interior to issue contracts governing the delivery of water from Lake Mead.³²

Arizona, bitterly opposed to the implementation of the Compact and the BCPA, filed three original actions with the U.S. Supreme Court under different legal theories.³³ Perhaps the clearest window into Arizona's thinking during this period is provided by the pleadings and briefs it filed in its 1930 action before the U.S. Supreme Court that sought to enjoin construction of Hoover Dam.³⁴ In these documents, Arizona rejected the Compact because it feared the Compact would prevent additional use of water in the critical Gila River basin, the last major tributary of the Colorado River and the basin containing most of the state's population and agriculture. Arizona clearly understood the Gila River to be included within the Compact; to sign the Compact would be to place unacceptable limits on additional water uses, at least until additional water might be apportioned to the Lower Basin as provided by the Compact.³⁵

Nevertheless the process of implementing the BCPA moved forward. The Secretary entered into contracts with California users providing for the delivery of up to 5.362 maf/year from Lake Mead.³⁶ Construction of Hoover Dam finished in 1935.³⁷ The Metropolitan Water District of Southern California funded construction of Parker Dam (Lake

31. The condition that California agree to this limitation came from the Upper Basin and reflected concerns that some firm control needed to be placed on the total amount of water California could consume out of the basic Lower Basin apportionment of 7.5 maf. HUNDLEY, *supra* note 15, at 268. In the event the seven implicated states—Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming and California—failed to ratify the Compact within six months of the Act, then six of the states could ratify, as long as California was a ratifying state and limited its aggregate annual consumptive use from the Colorado River to no more than 4.4 maf/year. Boulder Canyon Project Act, 43 U.S.C. § 617c(a)(2) (2012).

32. Boulder Canyon Patrol Act, 43 U.S.C. § 617d (2012).

33. *Arizona v. California*, 283 U.S. 423 (1931) (seeking to enjoin construction of Hoover Dam and the All American Canal, to declare the BCPA unconstitutional, and to invalidate the 1922 Compact); *Arizona v. California*, 292 U.S. 341 (1934) (involving a request to perpetuate the testimony of the negotiators to the 1922 Compact that would, Arizona asserted, show their intent to apportion the water included in Article III (b) to Arizona); *Arizona v. California*, 298 U.S. 558 (1936) (seeking to join the other six basin states in an equitable apportionment action).

34. See *Arizona v. California*, 283 U.S. 423 (1931). This information comes from Statement of Northcutt Ely, Special Counsel, Colorado River Board of California Before the House Judiciary Committee, H.R. Res. 3, 81st Cong. (copy on file with author).

35. Additional water would not be apportioned until at least 1963. *1922 Compact*, *supra* note 12, at art. III(f).

36. See *HOOVER DAM DOCUMENTS*, *supra* note 6. The California contracts are with individual water supply organizations, not the state. The Secretary offered Arizona a contract for delivery of up to 2.8 maf of water from Lake Mead storage.

37. See generally MICHAEL HILTZIK, *supra* note 28 (accounting the construction process).

Havasu), located 155 miles below Hoover and completed in 1938. The Metropolitan Water District also built the Colorado River Aqueduct (completed in 1941) to carry water 242 miles from the Colorado to the rapidly growing Los Angeles area.³⁸ In 1940, the Bureau of Reclamation completed construction of the All American Canal in the Imperial Valley with a new diversion structure on the Colorado called the Imperial Dam.³⁹ By 1946, California users were consuming about 3.3 maf of Colorado River water, an amount that increased to 4.5 maf by 1952.⁴⁰

In 1944 the United States entered into a treaty with Mexico settling the two nations' claims to the use of water from the Rio Grande and Colorado River basins.⁴¹ By this treaty the United States committed to deliver at least 1.5 maf/year of Colorado River water to Mexico, except under circumstances of extraordinary drought.⁴²

New leadership in Arizona finally managed to gain state ratification of the Compact in 1944.⁴³ Shortly thereafter, Arizona and United States entered into a contract for delivery from Lake Mead of enough water for consumptive use of up to 2.8 maf per year in Arizona.⁴⁴ Arizona wanted to increase its use of water from the Colorado River mainstream and knew that the necessary facilities would require federal funding. First it pursued and obtained Congressional approval of funding for the Gila Project to bring mainstream Colorado River water to lands near Yuma located just above the Mexican border.⁴⁵ Next it set its

38. Construction of this project reflected the ambition of William J. Mulholland to ensure a water supply for the rapidly growing Los Angeles area. HUNDLEY, *supra* note 15, at 116.

39. Construction of the canal began in 1934. Construction of the dam started in 1936 and ended in 1938. The Coachella Canal was not completed until 1948. U.S. DEPARTMENT OF THE INTERIOR, WATER AND POWER RESOURCE SERVICE 70 (1981).

40. Very likely, this use did not represent full beneficial use of all of the water. California was preparing for litigation with Arizona and likely ramped up its diversions, especially to the Imperial Valley, to strengthen the case for its need of water. Answer of Defendants to Bill of Complaint at 78, *State of Arizona v. State of California*, October Term 1952, No. 10 Original (May 19, 1953) [hereinafter *California Answer*] (copy on file with author).

41. The Mexican Water Treaty: Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, U.S.-Mex., Feb. 3-Nov. 14, 1944, T.S. No. 994 [hereinafter *Mexico Treaty*].

42. Article 10 recognizes the possibility of reduced delivery to Mexico under conditions of extraordinary drought. Negotiations have begun with Mexico to determine the meaning of this term. *Id.*

43. HUNDLEY, *supra* note 15, at 299.

44. UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION, BOULDER CANYON PROJECT, ARIZONA-CALIFORNIA-NEVADA CONTRACT FOR DELIVERY OF WATER (Feb. 11, 1944)[hereinafter *Arizona Contract*], in HOOVER DAM DOCUMENTS, *supra* note 6.

45. Gila Project Reauthorization Act, 61 Stat. 628 (1947); see also 43 U.S.C. § 613 (2006).

sights on the big prize—the Central Arizona Project (CAP)—a project that would bring water hundreds of miles from the main Colorado River (Arizona’s western border) to the more populated central part of the State.⁴⁶

The Bureau of Reclamation had worked closely with Arizona water leaders to develop plans for the proposed CAP. The Upper Basin states, intent on getting congressional funding for water storage projects that would enable additional use of basin water, supported the CAP in return for Arizona’s support for its proposed water projects.⁴⁷ California, however, opposed federal funding for the CAP. California argued the water supply available for use in the Lower Basin under the 1922 Compact was insufficient for the CAP.⁴⁸ Now that Arizona had signed the Colorado River Compact, California attempted to convince Congress that its existing and expected uses under already constructed projects, together with Arizona’s existing uses on the Gila and the Colorado, would consume all legally available water.⁴⁹ The CAP should not be constructed, California argued, because there was no legally assured supply of water for the project.⁵⁰ Congress finally agreed to shelve consideration of the CAP until the U.S. Supreme Court resolved the respective rights of these two bitter rivals to water apportioned to the Lower Basin under the Compact.⁵¹

46. Since at least the 1920s state water developers had imagined a great project that would capture Colorado River water and move it to the central portion of the state in the vicinity of Phoenix to allow expanded irrigation in this productive agricultural area. Promoters of this concept were among the most bitter opponents of the 1922 Compact because they feared its terms would deny Arizona the legal right to appropriate this amount of Colorado River water. RICH JOHNSON, *THE CENTRAL ARIZONA PROJECT: 1918–1968* 13–14, 16–17 (1977).

47. *Colorado River Basin Project Hearings Before the Subcomm. on Irrigation*, 90th Cong. 90–5 (1967).

48. See, e.g., *Central Arizona Project: Hearings Before the Subcommittee on Water and Power Resources, Committee on Interior and Insular Affairs* on S. 1004, S. 1013, S. 861, S. 1242, and S. 1409, 90th Cong., 1st Sess. 258 (1967) (providing statement of Northcutt Ely, Special Assistant Attorney General and Special Counsel to the Colorado River Board of California). “The dependable water supply of the Colorado is insufficient to meet the combined demands of the Mexican Treaty burden, existing uses, authorized projects, and the proposed central Arizona project. This is so even with California limited to 4.4 million acre-feet per annum, and I might add, it is so even if uses of the Upper Basin are substantially less than the 7½ million acre-feet apportioned to that Basin by the Colorado River compact.” *Id.*

49. See *infra* text accompanying notes 86–89.

50. *Id.*

51. 97 Cong. Rec. 4142–4144 (Apr. 23, 1951).

III. ARIZONA V. CALIFORNIA: THE MAJOR ARGUMENTS

Arizona initiated the action by filing suit in the U.S. Supreme Court in 1952. The Court appointed a Special Master to hear the action and provide recommendations.⁵² The United States voluntarily joined the case. New Mexico and Utah also entered the case to ensure consideration of their interests in Lower Basin water. This section summarizes the legal arguments presented to the Special Master by Arizona and California as well as the United States.⁵³

A. Arizona's Original Arguments

In 1952, Arizona filed a quiet title action with the U.S. Supreme Court, seeking affirmation of its rights to consume 3.8 maf of water annually (2.8 maf out of the 7.5 maf apportioned to the Lower Division states under Article III (a) of the Colorado River Compact, plus the 1.0 maf apportioned under Article III (b)).⁵⁴ The state was ambivalent about whether to frame its action as an equitable apportionment proceeding, as had been the custom in such interstate disputes, or to press for relief on purely legal grounds.⁵⁵ Much of Arizona's early argument to the Master related to its growing concerns about the long-term adequacy of its water supply for the populous central part of the state. Surface water in the Gila basin that was developed by Reclamation under the Salt River Project had long been fully used, to the extent that water that used to reach users in the lower part of the Gila near Yuma and flow into the Colorado River was no longer available.⁵⁶ Supplemental supplies had been developed from the area's substantial groundwater aquifers, but water tables had declined dramatically making this water increasingly

52. *Arizona v. California*, 347 U.S. 986, 986 (1954).

53. Nevada also was a party, as were New Mexico and Utah in their capacities as states with small areas of land within the Lower Basin. *Arizona v. California*, 347 U.S. 985 (1954) (allowing entry of Nevada); *Arizona v. California*, 350 U.S. 114 (1955) (allowing entry of New Mexico and Utah). While they each filed numerous pleadings, their arguments are not considered in this article.

54. Motion for Leave to File Bill of Complaint and Bill of Complaint, *State of Arizona v. State of California*, October Term 1952 (January 19, 1953) *State of Arizona v. State of California*, October Term 1952 (January 19, 1953)[hereinafter *Arizona Complaint*] (copy on file with author).

55. See JACK L. AUGUST, JR., *DIVIDING WESTERN WATERS: MARK WILMER AND ARIZONA V. CALIFORNIA* (2007).

56. See, e.g., *Reauthorizing Gila Project: Hearings on H.R. 5434, a Bill Reauthorizing the Gila Federal Reclamation Project, and for Other Purposes, Part 1 Before the H. Committee on Irrigation and Reclamation*, 79th Cong., 2d Sess. 21-22 (1946).

costly to pump and use.⁵⁷ Yet this area was the economic heart of the state, boasting a successful agricultural economy upon which the state depended.⁵⁸ Much of Arizona's argument sounded in equity, based on its perceived need for the CAP to keep the state's agricultural economy intact.⁵⁹

Arizona primarily based its legal argument on the fact that California had voluntarily limited itself to consumptive use of 4.4 maf of the compact-apportioned 7.5 maf under the BCPA and the California Limitation Act.⁶⁰ Arizona also argued that the Secretary of the Interior had issued a contract to Arizona for water from Lake Mead necessary to enable 2.8 maf/year of consumptive use and that Congress in the BCPA had proposed a division of the Lower Basin's basic apportionment giving Arizona 2.8 of the 7.5 maf.⁶¹ Its right to the additional water made available under Article III (b) of the 1922 Compact resulted because California had limited itself to only the 4.4 maf and one half of any surplus water unapportioned by the Compact. Arizona argued this 1.0 maf had in fact been permanently apportioned to the Lower Basin and was not surplus water.⁶² It further argued this 1.0 maf had been added to allow Arizona to make additional use of Gila basin water.⁶³

57. *Arizona Complaint*, *supra* note 54, at 22. ("Arizona has no substantial source of water except the Colorado River System. There are in Arizona in excess of 725,000 acres of land presently irrigated with surface and underground water which need additional and supplemental water in order to sustain their productivity. Such additional and supplemental water can be obtained only from the main stream of the Colorado River. The underground water supply, tapped by wells for irrigation of a substantial portion of said acreage, is grievously depleted because the draft thereof is greatly in excess of the recharge"). See also *California Answer*, *supra* note 40, at 68 (noting these depletions might better be understood to be the result of Arizona's failure "to regulate the reckless and speculative expansion of acreage, waste of water and overdraft of ground water basins").

58. *Arizona Complaint*, *supra* note 54, at 22.

59. *Id.*

60. Act of March 4, 1929; Ch. 16, 48th Session; Statutes and Amendments to the Codes, 1929, pp. 38–39 [hereinafter *Limitation Act*].

61. *Arizona Complaint*, *supra* note 54, at 21.

62. Article III (b) was added relatively late in the negotiation process. Its language is noticeably different from the language used in Article III (a), suggesting ambivalence among the commissioners respecting whether this was intended to serve as a perpetual apportionment or simply a temporary grant of right, pending further negotiations. Surplus water refers to basin water in excess of the amounts apportioned under the 1922 Compact. *1922 Compact*, *supra* note 12.

63. The negotiators' intent with respect to the Gila remains unclear. Upper Basin negotiators insisted the compact should include the waters of the entire Colorado River system, and the Compact makes this intention clear. Yet the essential negotiations respecting the apportionment of water to each basin muddle the matter considerably. In part, this confusion may have resulted because the figures respecting basin water supply used in the negotiation were primarily drawn from the so-called Fall-Davis Report, which had focused on a

Arizona defended its uses of Gila River basin water to avoid their inclusion in the Compact apportionment by arguing that these uses resulted from the “salvage” of water that would never reach the mainstream of the Colorado River.⁶⁴ It defined “beneficial consumptive use” in the Compact as depletions of *mainstream* water from the activities of man.⁶⁵ The Gila naturally loses large quantities of water before it reaches the Colorado.⁶⁶ Arizona argued that because it was consumptively using water that would be lost to the mainstream anyway, it should not be charged under the Compact for such use.⁶⁷

Arizona proposed allocating losses from evaporation in the Lower Basin mainstream storage reservoirs among users “in the same propor-

water supply for the Imperial Valley that would be diverted from the Colorado River above the point at which it is joined by the Gila. Senate Document 142, 67th Congress, 2nd Session, “Problems of Imperial Valley and Vicinity” [hereinafter *Fall-Davis Report*]. Yet there was considerable discussion of the Gila and existing water uses. When Carpenter initiated discussions about dividing basin waters he was basing his proposal on figures that considered basin water supply at Yuma, thus including flows from the Gila into the Colorado but as diminished by the already substantial upstream consumption of Gila basin native flows. Norviel, Arizona’s commissioner, apparently had assumed the agreement to split 15 million acre-feet of basin water did not include the Gila. HUNDLEY, *supra* note 15, at 197. To keep Norviel from opposing this agreement, it appears the commissioners added the extra 1.0 million acre-feet in III(b) to the Lower Basin’s share, though it was not stated as a firm apportionment but merely a right to increase consumption. This last minute deal to salvage the negotiations succeeded in getting Norviel’s signature, but Arizona leaders quickly rejected the provision as inadequate because Arizona was in fact already consuming far more than this amount in the Gila and the provision only made this water available to the Lower Basin, not to Arizona. Hundley explains Norviel’s acquiescence as based on his view the Lower Basin would be able to use the 7.5 million acre-feet per year that must pass Lee Ferry anyway. *Id.*

64. Arizona argued that, even before human development of the basin’s water, most of the water in the Gila River never reached the Colorado. Thus, it suggested the capture and use of basin water through the Salt River Project could be viewed as “salvage,” making available for use water that otherwise would go to “waste.” At the time of Compact negotiations, Gila flows reaching the Colorado were estimated to average approximately 1.0 maf/year. HUNDLEY, *supra* note 15, at 193.

65. *Arizona Complaint*, *supra* note 54, at 26. (“The Compact contains no definition of beneficial consumptive use and does not establish any method of measuring beneficial consumptive use. Arizona says that beneficial consumptive use is measured in terms of main stream depletion, that is, the quantity of water which constitutes the depletion of the stream by the activities of man”). As Kuhn noted, “Arizona took the position that although it was consuming 2.3 maf/year of Gila River water, it was only depleting 1.1 maf of Colorado River water because uses of the Gila should be measured as depletions at the mouth of the Gila.” KUHN, *supra* note 7, at 39.

66. *Arizona Complaint*, *supra* note 54, at 26.

67. JOHNSON, *supra* note 46, at 33–34. (providing legislative history from 1947 that summarizes the differences between the Arizona and California positions).

tion as the consumptive use of each is to the total consumptive use of such storage water in the Lower Basin.”⁶⁸

The U.S. contract with Arizona provided for the delivery of water from Lake Mead necessary for 2.8 maf of annual consumptive use.⁶⁹ Unlike the California contracts with the Secretary of the Interior,⁷⁰ Arizona’s contracts were with the State rather than with specific users. Thus there was some question about the legal status of the contract.⁷¹ The contract was also different from the contracts issued to California because it provided for the subtraction of water lost by evaporation or lost in transit from Lake Mead.⁷² Also, it stated that any water diverted and used in Arizona from above Lake Mead would be subtracted from Arizona’s rights to water from Lake Mead.⁷³

B. California’s Initial Answer

California’s answer started with its claimed right to the beneficial consumptive use of 5.362 maf per year under the Compact, the BCPA, and contracts with the Secretary.⁷⁴ It further asserted its contract rights were senior “in time and right” to other contracts.⁷⁵ It noted the litigation had been prompted by Arizona’s desire to obtain a water right for the CAP, a project not yet authorized for construction by Congress. Moreover, California stressed the existing reliance of four million inhabitants of its state on the use of Colorado River water for irrigation, urban, and industrial uses. California emphasized its present reliance on this water

68. *Id.* at 26.

69. *Arizona Contract*, *supra* note 44, at ¶ 7(a). The delivery of this amount of water is made subject to the availability of use in Arizona under the Colorado River Compact and the Boulder Canyon Project Act. *Id.* The contract also authorizes delivery of up to one-half of any excess or surplus water “unapportioned by the Colorado River Compact to the extent such water is available for use in Arizona under said compact and said act, less such excess or surplus water unapportioned by said compact as may be used in Nevada, New Mexico, and Utah in accordance with the rights of said states as stated in subdivisions (f) and (g) of this Article.” *Id.* at ¶ 7(b).

70. The Secretary entered into contracts with the Palo Verde Irrigation District, the Imperial Irrigation District (and Coachella), and the Metropolitan Water District in the early 1930s. *HOOVER DAM DOCUMENTS*, *supra* note 6, at 109.

71. California attempted to weaken the contract’s authority as establishing a water right by noting that such rights depend on actual beneficial use of water by actual users. As such, the contract did not establish such a right, only an intent to further contract with actual users for up to this amount of water. *Master’s Report*, *supra* note 11, at 202–03.

72. *Arizona Contract*, *supra* note 44, at ¶ 7(d).

73. *Id.*

74. *California Answer*, *supra* note 40, at 1.

75. *Id.* at 38. The Secretary of the Interior issued the California contracts in the early 1930s; he signed the Arizona contract in 1944. *HOOVER DAM DOCUMENTS*, *supra* note 6, at 112.

in contrast to Arizona's more modest uses. It asserted the water needed for the proposed CAP would require taking water from existing California projects.⁷⁶ Thus, California sought to position itself as an existing senior user of Colorado River water whose uses had been established without harm to Arizona, but whose uses would need to be curtailed or left unmet if Arizona's demands were to be satisfied. In short, it was using equitable apportionment principles established by the U.S. Supreme Court in previous cases that involved disputes to the use of interstate rivers in the western states.⁷⁷

California attempted to characterize the limitation provision in the BCPA as the offer of a "statutory compact" that California accepted with the Limitation Act.⁷⁸ California emphasized that it had accepted this limitation only because Arizona did not ratify the 1922 Compact.⁷⁹ It suggested that Arizona's ultimate ratification of the Compact had altered the bargain and that Arizona could not now claim the limitation as the basis of its legal position to California's serious detriment. California urged that Arizona be precluded from asserting that the limitation provides a benefit to Arizona.

California further argued its rights to 5.362 maf of water were based on valid existing rights established under principles of prior appropriation senior to Arizona's claims. Indeed, California relied primarily on its rights as a prior appropriator, emphasizing that it was already using more than 4.4 maf and had already-constructed projects capable of using all of its contracted 5.362 maf.

California emphasized the 1922 Compact intended to include all basin water. In its view, the Gila was as much a part of the basin's water supply as were other important tributaries in the Upper Basin such as the Green or the San Juan. Referring back to Arizona's own views as expressed to the U.S. Supreme Court in 1930, California pressed the need to account under the Compact for Arizona's existing consumptive uses in the Gila basin.⁸⁰ It noted the difference between the language used in Article III (b) authorizing additional consumptive use in the Lower Basin of 1.0 maf and in III (a) specifically apportioning consumptive use of 7.5

76. *California Answer*, *supra* note 40, at 2 ("[Arizona] seeks to obtain water for that project by taking it from the existing and operating California projects").

77. Meyers, *supra* note 11, at 49-50 (providing a summary of the views the U.S. Supreme Court previously had expressed in interstate river actions).

78. *Limitation Act*, *supra* note 60. (Suggesting that California voluntarily agreed to an "offer" to limit its consumptive use rather than complying with a requirement to do so).

79. *California Answer*, *supra* note 40, at 39.

80. Arizona had asserted uses of approximately 3 maf in the Gila Basin in 1930. Now California estimated such uses as about 2 maf. *California Answer*, *supra* note 40, at 7, 12-13.

maf in each basin.⁸¹ California argued that III (b) water should be treated as excess or surplus, thus entitling California to one half or 500,000 acre-feet as provided in the BCPA.⁸²

California vigorously pressed its view of the case as one of equitable apportionment. California emphasized that under equitable apportionment the U.S. Supreme Court had held that the rule of interstate priority applies to disputes between states following the prior appropriation doctrine.⁸³ Under the rule of interstate priority, the first to put water to beneficial use enjoys a priority as against all subsequent users in either state. The rule should be applied to protect existing uses in California, it argued, as well as uses that can be made under projects already constructed.⁸⁴

As the case evolved, California increasingly emphasized the issue of water supply to highlight the potential vulnerability of the Metropolitan Water District (MWD)—the major water supplier to urban users in heavily populated south coast area.⁸⁵ MWD's Colorado River Aqueduct holds the junior priority under that state's Seven Party Agreement out of California's basic apportionment of 4.4 maf/year.⁸⁶ California urged rec-

81. *Id.* at 13, 27.

82. *Id.* Article III (a) of the 1922 Compact states: "There is hereby apportioned from the Colorado River System in perpetuity. . .the exclusive beneficial consumptive use of. . .water." Article III (b) states: "In addition to the apportionment in paragraph (a), the Lower Basin is hereby given the right to increase its beneficial consumptive use of such waters." In discussions leading to enactment of the BCPA, Senator King had asked California's Senator Johnson whether he wished to clarify in the legislation the status of Article III (b) waters as part of surplus. Senator Johnson declined. The Special Master used this exchange to bolster his view that surplus referred only to main stream water. *Master's Report*, *supra* note 11, at 199–200.

83. *See, e.g.*, *Wyoming v. Colorado*, 259 U.S. 419, 470 (1922); *see also Nebraska v. Wyoming*, 325 U.S. 589, 622 (1945).

84. At the time of the litigation, the Metropolitan Water District was not fully diverting the water through the California Aqueduct to which it held contract rights. Additional capacity also existed in the All American Canal. *California Answer*, *supra* note 40 at 48, 51–52.

85. *See, e.g.*, Motion to Reopen the Trial for the Taking of Evidence re Depletion of the Colorado River at Lee Ferry by the Upper Basin and Statement in Support of Motion, *State of Arizona v. State of California*, October Term 1959, No. 9 Original (August 31, 1960) [hereinafter *Motion to Reopen*] (copy of file with author).

86. Boulder Canyon Project Agreement Aug. 18, 1931 [hereinafter *Seven Party Agreement*], available at <http://www.usbr.gov/lc/region/g1000/pdfiles/ca7pty.pdf>. The Seven Party Agreement apportioned California's claims to water from the Colorado River among four existing agricultural water users (Palo Verde Irrigation District, the federal Yuma Project, the Imperial Irrigation District, and the Coachella Valley County Water District) and three urban water suppliers with plans to use Colorado River water (Metropolitan Water District, Los Angeles, and San Diego). The four irrigation entities obtained 3.85 maf of the 4.4 maf assured to California in the BCPA, MWD got the remaining 0.55 maf. MWD con-

ognition that the reliable water supply to the Lower Basin at Lake Mead is only about 9.2 maf/year.⁸⁷ California argued that evaporation and channel losses of about 1.0 maf between Lake Mead and Mexico, unavoidable regulatory waste, and required deliveries to Mexico of 1.5 maf should be subtracted from the 9.2 maf/year, which left insufficient water in the mainstream to enable 7.5 maf of consumptive uses.⁸⁸

C. U.S. Motion to Intervene

The United States affirmatively moved to intervene as a party in this action.⁸⁹ It based its motion on its interests in interpretation of the Compact and BCPA, its responsibilities related to administration of Hoover Dam including delivery of water under contracts, and its responsibilities related to the treaty with Mexico, with Indian tribes in the Lower Basin, and with other federal projects in the basin. In its subsequent Petition of Intervention, the United States emphasized its own claims for water were “jeopardized because the aggregate of the claims of the present parties to this cause far exceeds the quantity of water apportioned to the Lower Basin. . . .”⁹⁰ In general, the United States concentrated on

structed the aqueduct with a capacity of 1,600 cubic feet per second, making possible the diversion of up to one billion gallons of water/day. MWD holds two priorities under California’s Seven Party Agreement, placing it 4th and 5th in line under the Seven Party Agreement. The first priority, for 550,000 acre-feet/year, is within California’s limitation to 4.4 maf/year. The remainder of its right (662,000 acre-feet) falls outside this limitation, making it subject to curtailment any time California is limited to no more than 4.4 maf/year. In 1956 MWD was diverting about 481,000 acre-feet through the aqueduct. *Master’s Report*, *supra* note 11, at 69.

87. This amount is based on assuming only the minimum Compact-obligated flow of 75 maf every ten years, or 7.5 maf annually, passes Lee Ferry, together with the 750,000 acre-feet annually for the Mexico Treaty obligation. Another 950,000 acre-feet on average comes into the river between Lee Ferry and Lake Mead, California noted, so reliable inflows on average to Lake Mead can be taken as something over 9.0 maf/year. *Motion to Reopen*, *supra* note 85, at 8.

88. *Id.*

89. Motion on Behalf of the United States of America For Leave to Intervene and Brief in Support of Motion, *State of Arizona v. State of California*, October Term 1952, No. 10, Original (December 31, 1952) (copy on file with author). The U.S. Supreme Court had previously determined the United States to be an indispensable party to a determination of the respective rights of Arizona and California (and Nevada) to the water of the Colorado River system. *Arizona v. California*, 298 U.S. 558, 571 (1936).

90. Petition of Intervention on Behalf of the United States of America at 25–26, *State of Arizona v. State of California*, October Term 1953, No. 10, Original (December 1953) (copy on file with the author).

pressing its claims for reserved water rights for tribal reservations in the Lower Basin.⁹¹

D. Arizona's Evolution in Position

As the proceedings before the Special Master slowly moved ahead, Arizona's attorneys and advisors grew increasingly uneasy.⁹² They recognized their position was weak under traditional principles of equitable apportionment law and developed a new strategy emphasizing decisions made by Congress and the Secretary that had already determined Arizona's rights as a matter of law. In its 1957 "Amended and Supplemental Statement of Position,"⁹³ Arizona outlined the following arguments,

1. Article III(a) of the Compact apportioned to the Lower Basin in perpetuity 7,500,000 acre-feet per annum of water from the mainstream of the Colorado River.

Arizona now pressed the view that the 1922 Compact only apportioned mainstream water, leaving the Lower Basin tributaries (especially the Gila) to Arizona for its use. It based its argument on the Compact's required flow of 75 maf over 10 years to Lee Ferry, and suggested the 7.5 maf average annual flow from the Upper Basin was intended to supply the Lower Basin's apportioned use of 7.5 maf/year.⁹⁴ According to Ari-

91. Reserved rights refer to water considered to have been "reserved" from appropriation under state law for the future needs of the Indian reservation. See *Master's Report*, *supra* note 11; see also *infra* text accompanying notes 190-204.

92. AUGUST, *supra* note 55, at 70-74.

93. As August points out, this statement declared Arizona's previous legal arguments were "unsound and not supported in the law." *Id.* at 78. See also JOHNSON, *supra* note 46, at 113-16.

94. "It is thus indubitable that the Colorado River Commissioners, in deliberately selecting Lee Ferry as the dividing point between the Upper and Lower Basins and as the delivery point of water to be let down from the Upper Lower Basin, intentionally excluded Lower Basin tributary water from the inter-basin apportionment made by Article III of the Compact." Interestingly, Arizona conceded that Article III (b) granted no firm allocation to the Lower Basin, only a right to increase its consumptive uses beyond 7.5 maf. As a result, "it is not until the Lower Basin has put to use all of the 7,500,000 acre-feet apportioned to it by Article III (a) that it can proceed to perfect rights in the water apportioned to it by Article III (b). Only then may the Lower Basin require the Upper Basin to deliver water to satisfy the rights thus perfected, subject however to the paramount right of the Upper Basin to the 7,500,000 acre-feet per annum apportioned to it by Article III (a). Since the right to Article III (b) water was not a firm right there was no reason to guarantee its delivery by Article III (d)." Opening Brief for Arizona at 27, *State of Arizona v. State of California*, October Term 1958, No. 9 Original (April 1, 1959)[hereinafter *1958 Brief*] (copy on file with author).

zona, the Upper Basin commissioners were concerned only with the amount of water that would have to reach the Lower Basin—thus, not available for consumptive use in their states. While under this view the commissioners did not intend to include Lower Basin tributary water in the Compact apportionment, Arizona conceded the Upper Basin commissioners may have considered the tributaries in deciding how much water the Lower Basin would require from the Upper Basin to meet its needs.⁹⁵

2. The water dealt with in Article III (b) is mainstream water apportioned by the Compact.

Arizona attempted to use the same reasoning to support its claim to the water authorized for additional consumptive use under Article III (b) of the Compact—that the Compact did not include Lower Basin tributaries.⁹⁶ It repeated its earlier assertion that this water should be regarded as permanently allocated to the Lower Basin and not regarded as authorized until another apportionment.

3. By enacting the BCPA, Congress construed Article III (a) of the Compact as apportioning mainstream water of the Colorado River at Lee Ferry.

Arizona attempted to ground its case on the basis of decisions already made, especially in the BCPA and the Secretarial contract. To explain Congressional intent in the BCPA, Arizona relied heavily on discussions during several meetings held in Denver in 1927 and 1928 that attempted to broker an agreement between California and Arizona so Arizona would ratify the 1922 Compact.⁹⁷ These discussions focused heavily on ways to reach agreement about dividing the Lower Basin's 7.5 maf apportionment among Arizona, California, and Nevada. By thus excluding consideration of Utah and New Mexico and considering only the states with direct access to the mainstream of the Colorado River, these discussions assumed the Lower Basin dispute related only to mainstream water—not water in the Lower Basin tributaries. Arizona suggested key members of Congress continued to see the dispute as only

95. "True, the amount of water available to the Lower Basin from its tributaries may well have been taken into account by the Commissioners in appraising the extent of Lower Basin needs for additional water from the main stream of the Colorado." *Id.* at 24.

96. "Physically then, the only water which the Upper Basin states could control or in which they could acquire rights was water originating in the Upper Basin above this canyon [in which Lee Ferry is located]. Accordingly, the only water available to both Basins and to which therefore both could lay claim was water rising in the Upper Basin." *Id.* at 21.

97. HUNDLEY, *supra* note 15, at 261–66.

concerning mainstream water.⁹⁸ Arizona's brief included examples from the legislative history supporting this contention. Arizona's argument concluded: "the Congressional Record overwhelmingly supports the conclusion that in the enactment of Section 4 (a) of the Project Act Congress construed and understood Article III (a) of the Compact as apportioning to the Lower Basin 7,500,000 of water per annum in the main stream of the Colorado River at Lee Ferry."⁹⁹

4. By the Limitation Act, California irrevocably and unconditionally (1) limited itself in perpetuity not to exceed the consumptive use of 4.4 maf of the water apportioned to the Lower Basin by Article III (a) of the Compact; (2) limited itself to no more than one-half of any excess or surplus water unapportioned by the Compact; and (3) excluded itself from any share in the water apportioned to the Lower Basin by Article III (b) of the Compact.

This assertion reiterated earlier arguments emphasizing the importance of California's limitation to consume no more than 4.4 maf, thus leaving the additional 1.0 maf for Arizona (and Nevada).¹⁰⁰ The Project Act established a formula for division of water from the Colorado River System that the Secretary of the Interior was required to follow in making contracts with the Lower Basin States for delivery of water from Lake Mead.¹⁰¹

Here Arizona introduced an entirely new legal basis for its position: that Congress in Section 4 (a) of the BCPA (which provided for six-state ratification of the 1922 Compact conditioned on California's limitation to 4.4 maf and which authorized a three-state compact allocating to Arizona 2.8 maf and to Nevada 0.3 maf) had established a "formula" for dividing the Compact III (a) water (apportioning to the Lower Basin consumptive use of 7.5 maf) that the Secretary was *required* to implement when issuing contracts under Section 5 of the Act.¹⁰² Arizona supported this argument with language of Section 5 of the BCPA that states, "Contracts respecting water for irrigation and domestic uses shall be for per-

98. Senator Pittman, for example, had been an active participant in the Denver conferences. He played a key role in developing the apportionment formula included in Section 4 of the BCPA. *Id.* at 269–70.

99. *1958 Brief, supra* note 94, at 43. The brief goes on to assert that any contrary understanding of the intent of negotiators of Article III (a) must yield to this congressional intent.

100. *See Limitation Act, supra* note 60.

101. *1958 Brief, supra* note 94, at 46.

102. "In Section 4 (a) [Congress] established a formula for the division of water among the Lower Basin states which, by virtue of Section 5, the Secretary of the Interior was required to follow in contracting with those states as provided by Section 8 (b)." *1958 Brief, supra* note 94, at 47. This refers to the BCPA, 43 U.S.C. § 617c (a)(2006).

manent service and shall conform to paragraph (a) of section 4 of this Act.”¹⁰³

5. *Water supply contracts that do not conform to the formula established by Section 4 (a) of the Project Act were without legal effect.*

This, too, was a new legal argument, and followed substantially from its previous point that the BCPA already established an allocation formula, but also provided a basis to resist the additional 962,000 acre-feet under contract to California users¹⁰⁴ as well as several provisions in the contract it had entered into with the Secretary in 1944.¹⁰⁵

6. *The questions presented were not raised nor decided in Arizona v. California, 292 U.S. 341 (1934).*

This new argument apparently reflected Arizona counsel Mark Wilmer’s fear the Master would feel compelled to follow Justice Brandeis’ statements in the 1934 *Arizona v. California* decision that Congress had not divided the Lower Basin’s apportionment in the BCPA.¹⁰⁶

103. BCPA, Section 5, 43 U.S.C. § 617d (2006). The brief goes on to assert that this view is necessary to avoid the problem of an unconstitutional delegation of Congressional authority to an administrative officer. *1958 Brief, supra* note 94, at 49.

104. The total quantity of water included in the contracts with California users is 5.362 maf. Arizona, of course, was arguing California was only authorized to use 4.4 maf under the BCPA and the California Limitation Act. *California Answer, supra* note 40.

105. In particular, Arizona wanted the Special Master to eliminate the provision stating that any deliveries of unapportioned surplus water to Arizona users would be subject to amounts “used in Nevada, New Mexico, and Utah in accordance with the rights of such states as stated in subdivisions (f) and (g) of this Article.” HOOVER DAM DOCUMENTS, *supra* note 6 at Section 7(b). In 7(f) Arizona had agreed to recognize the rights of the U.S. and Nevada to contract for use in Nevada of 1/25 of any surplus water. In 7(g), Arizona had recognized the rights of New Mexico and Utah to some portion of the Lower Basin apportionment and surplus water. Arizona also objected to Article 7(d) in which it had agreed to subtract from its delivery amount any future consumptive uses it made of Colorado River water above Lake Mead.

106. Mark Wilmer later stated he felt the biggest hurdle for Arizona was Brandeis’ pronouncement that the BCPA did not divide up the Lower Basin’s compact apportionment of water. Wilmer, *supra* note 13, at 54. The Court had stated: “Nor does Arizona show that article III (b) of the compact is relevant to an interpretation of section 4 (a) of the Boulder Canyon Project Act upon which she bases her claim of right. It may be true that the Boulder Canyon Project Act leaves in doubt the apportionment among the states of the lower basin of the waters to which the lower is entitled under article III (b). But the act does not purport to apportion among the states of the lower basin the waters to which the lower basin is entitled under the compact. The act merely places limits on California’s use of waters under article III (a) and of surplus waters; and it is ‘such’ uses which are ‘subject to the terms of said compact.’” *Arizona v. California, 292 U.S. 341, 357 (1934)*. Arizona’s brief

E. Final Positions of the United States Before the Special Master

Perhaps most important for purposes of this article, the United States agreed with Arizona that Congress in Section 4 (a) of the BCPA had only intended to address mainstream water.¹⁰⁷ The United States' brief utilized essentially the same legislative history cited by Arizona. The United States concluded that Congress only intended that California have the right to use up to one-half of any water available beyond the Lower Basin's 7.5 maf—Article III(b) water.¹⁰⁸ The United States argued that there was no need to decide whether such water should be regarded as apportioned or simply available for use. Moreover, in its view Congress did not intend to include waters of the Gila River basin in determining the existence of surplus water that would be available for California's use.¹⁰⁹ According to the United States, this conclusion followed from the previous determination that Congress was focused only on mainstream water when enacting Section 4 (a) of the BCPA. This view is bolstered, the United States asserted, by inclusion of language in the proposed three-state compact allowing Arizona exclusive use of the Gila within that state.¹¹⁰ Finally, the United States gave partial support to another Arizona argument by asserting that Secretarial actions in the 1933 regulations and the 1944 contract with Arizona indicated that the Gila waters were not included in the water apportioned to the Lower Basin by Section 4 (a) of the BCPA as it relates to the meaning of III (a) Compact water.¹¹¹ The United States resisted, however, Arizona's assertion

does not quote this language but emphasizes that it was not central to the Court's holding in that case.

107. BRIEF IN SUPPORT OF FINDINGS OF FACT AND CONCLUSIONS OF LAW PROPOSED BY THE UNITED STATES, 76–82 (October Term, 1959)[hereinafter U.S. BRIEF IN SUPPORT](copy on file with author).

108. "In other words, we think the Senate, having provided in effect for division between the Lower Basin States of the first 7,500,000 acre-feet of water available in the main stream for use in that Basin, contemplated that California might use up to one-half of any additional water there available without regard to the question whether or not water used under Article III (b) of the Compact is 'apportioned' water." *Id.* at 83.

109. This was the long-standing position of the Bureau of Reclamation, probably tracing to its development of the Salt River Project in the Gila River basin.

110. BCPA, 43 U.S.C. § 617c(a) providing advance approval of a three-state compact, includes the following two provisions: "(3) that the State of Arizona shall have the exclusive beneficial consumptive use of the Gila River and its tributaries within the boundaries of said State, and (4) that the waters of the Gila River and its tributaries, except return flow after the same enters the Colorado River, shall never be subject to any diminution whatever by any allowance of water which may be made by treaty or otherwise to the United States of Mexico"

111. "We submit that by issuance of the 1933 regulations and by execution of the 1944 contract, the Secretary of the Interior has evidenced his interpretation of Section 4 (a) of the

that, by the second paragraph of Section 4 (a) of the BCPA, Congress required the Secretary to deliver the mentioned quantities of water to the three mainstream Lower Division states. It pointed to a very specific exchange between Senators Pittman and Johnson in which Johnson insisted this provision must not be interpreted as the “will or the demand or the request” of Congress.¹¹² Nevertheless, the United States concluded the only surplus water available for California’s use must come from the Upper Basin: “. . .there is no surplus water unapportioned by the Compact within the main stream water to be delivered under Article III (d) of the Compact or within the Gila River system which can be taken into account in determining the quantity of such unapportioned water which may be consumptively used for use in California under the limitation of use in that State.”¹¹³ We turn next to the decision of the Special Master.

IV. DECISION OF THE SPECIAL MASTER

Simon H. Rifkind, the Special Master (hereafter “Master”), issued his final report in December of 1960.¹¹⁴ The following summary of the Master’s major findings and conclusions is divided into three parts: (i) his treatment of justiciability, (ii) his determination that Congress and the Secretary had already allocated mainstream Colorado River water among Arizona, California, and Nevada, and (iii) his decision that these allocations included tribal and federal reserved water rights, but not losses associated with making consumptive uses. Special attention is given to those aspects of his report that enable increased use of basin water.

A. Justiciability

The Master had to address the threshold question whether an Article III case or controversy existed that enabled the U.S. Supreme Court to exercise its constitutionally-based original jurisdiction in disputes be-

Project Act as not providing for the inclusion of the Gila River system waters in determining the quantities of either apportioned or unapportioned main stream waters which may be used in the State of California, Arizona, and Nevada.” U.S. BRIEF IN SUPPORT, *supra* note 107, at 89.

112. *Id.* at 87.

113. *Id.* at 90. Note the U.S. did not mention water from the Little Colorado or the Bill Williams that enters the mainstream at points above California diversions.

114. *Master’s Report*, *supra* note 11. (The Report is divided into three parts and consists of 343 pages. Part One provides an extensive summary of the factual background. Part Two concerns the legal issues. Part Three presents a recommended decree. In addition, there are eight appendices.)

tween states.¹¹⁵ Applying the standard requiring there be a “threatened invasion of rights. . .of serious magnitude” established by clear and convincing evidence,¹¹⁶ the Master determined the case was justiciable. The U.S. Supreme Court had expressed reluctance to decide controversies between states unless absolutely necessary.¹¹⁷ In disputes respecting uses of interstate rivers, the Court developed the doctrine of equitable apportionment.¹¹⁸ Ever since its initial formulation in *Kansas v. Colorado*,¹¹⁹ the doctrine had been applied as a means of remedying an existing or foreseeable harm, not for addressing potential future conflicts.¹²⁰ Here, however, Arizona wanted the Court to establish its title to water that arguably was still available for its beneficial use.¹²¹ Charles Meyers, who served as clerk to the Master and then went on to a very distinguished academic career, pointed out the dilemma Arizona faced:

As noted earlier, an equitable apportionment suit between states is not justiciable unless the stream is overappropriated. If Arizona’s claims depended upon valid appropriations the stream was far from being overappropriated. . . . Thus Arizona’s complaint should have been dismissed, since she was seeking a judicial declaration of rights to the use of water in the future, and such a decree has regularly been denied by the Court. The result of a denial would have been to continue the impasse. Arizona could not obtain federal consent and federal financing for the one-billion-dollar, one-million acre-foot Central Arizona Project until her water rights were judicially determined; she could not obtain a judicial determination of her water rights until her project was built and the stream became overappropriated.¹²²

How then to frame this case? What was Arizona’s “right” that was threatened with invasion?

115. U.S. CONST. art. III, § 2. No party questioned the justiciability of this case.

116. See, e.g., *New York v. New Jersey*, 256 U.S. 296, 309 (1921); *Washington v. Oregon*, 297 U.S. 517, 522 (1936).

117. Compare the Master’s recitation of this doctrine in rejecting consideration of disputes respecting uses of tributary water. *Master’s Report*, *supra* note 11, at 319–20, 323.

118. A. Dan Tarlock, *Law of Equitable Apportionment Revisited, Updated, and Restated*, 56 U. COLO. L. REV. 381 (1985). Under this doctrine the U.S. Supreme Court attempts to resolve conflicts between upstream and downstream states regarding use of a shared supply of water.

119. *Kansas v. Colorado*, 206 U.S. 46 (1907).

120. See Meyers, *supra* note 11, at 50.

121. At issue was the availability to Arizona of at least 1.2 maf necessary to justify construction of the Central Arizona Project. While California argued the supply within Arizona’s Lower Basin share was not legally available, physically there was sufficient water.

122. Meyers, *supra* note 11, at 57 (footnotes omitted).

The Master approached his answer indirectly. He focused on the “compelling reasons” requiring resolution of this controversy. The most compelling, he argued, was the need to build the Central Arizona Project: “It is apparent from these circumstances that Arizona will not be able to develop the Central Arizona Project without an adjudication by the Supreme Court as to the rights of the several parties to the water in the mainstream of the Colorado River.”¹²³ In the Master’s view, “[t]his is reason enough for the Supreme Court to exercise its original jurisdiction.”¹²⁴ The CAP was necessary to achieve “full utilization” of the Colorado River in the Lower Basin.¹²⁵ The Master meant full utilization in Arizona and not in California where there were projects already constructed capable of diverting and using the remaining water.¹²⁶ As he stated, “refusal of the Supreme Court to adjudicate Arizona’s rights in the mainstream will, as a practical matter, have the effect of a decision in favor of California. . . .”¹²⁷ In short, the Master suggested that the remaining mainstream water should be allocated to Arizona. The problem was finding a legal basis to accomplish this allocation.

B. The United States has already allocated 7.5 million acre-feet of mainstream water, including 2.8 million acre-feet to Arizona.

The Master decided the United States had already allocated the water stored in Lake Mead in the BCPA and the Secretarial contracts.¹²⁸ The BCPA was the basis for the construction of Hoover Dam as well as the approval of the Colorado River Compact.¹²⁹ It authorized the Secretary of the Interior to enter into contracts for the storage of water and its delivery for use.¹³⁰ Moreover, the BCPA stated no one could use this storage water except by contract.¹³¹ These two entirely unremarkable facts, the Master concluded, demonstrated Congressional intent to allocate “all of the available water in Lake Mead and in the mainstream of the Colo-

123. *Master’s Report*, *supra* note 11, at 131.

124. *Id.*

125. *Id.*

126. *Id.* at 133–34. “There are a number of existing projects in the Lower Basin for which plans have been developed calling for the increased use of mainstream water. These projects are already constructed, have irrigable but presently unirrigated lands within their service areas, and, at least some of them, already have delivery contracts with the Secretary of the Interior which provide for enough water to satisfy increased uses if such water is legally available under the interstate apportionment.”

127. *Id.* at 132.

128. *Id.* at 151, 201.

129. *See* text accompanying notes 24–26.

130. BCPA, 43 U.S.C. § 617d (2006).

131. *Id.*

rado River downstream from Lake Mead among Arizona, California and Nevada.”¹³² “Custody” of the water by the United States (except, apparently, that water entering the mainstream below Hoover Dam) implied the power to determine its use.¹³³ Guided by the BCPA, the Secretary’s contracts served to allocate mainstream water—except water already applied to beneficial use prior to the date the BCPA became effective.¹³⁴ In 1944, the Secretary had entered into a contract with the State of Arizona by which water would be made available as necessary to enable consumptive use in the State of up to 2.8 maf.¹³⁵ To confirm that Arizona had a *right* to consumptive use of 2.8 maf of mainstream water would ensure that the 1.2 maf to be taken through the CAP would be legally available.¹³⁶

It is not the purpose of this paper to critique the Master’s legal reasoning but to note that his decision had much more to do with desired outcomes than with law. The 1950s was arguably the apogee of federal water development in the West.¹³⁷ By this time, not only had the Bureau of Reclamation constructed the Hoover Dam, it had also built the Parker, Davis, and Imperial dams in the Lower Basin and was completing construction of Glen Canyon Dam in the Upper Basin. The ideal of integrated river basin management, a dream of progressives since the early 1900s,¹³⁸ had taken root with many academics and found support in the federal water development establishment.¹³⁹ Congress was moving slowly but steadily in this direction, culminating in the 1965 Water Resources Planning Act that provided a comprehensive federal role in river basin planning and development.¹⁴⁰ No doubt the Master was fully

132. *Master’s Report*, *supra* note 11, at 152. Note the allocation would extend to water entering the Colorado River downstream from Hoover Dam and thus not regulated by it.

133. *Id.*

134. *Id.* at 152. The BCPA acknowledged the existence of present perfected rights. BCPA, 43 U.S.C. § 617e (2006). The effective date of the BCPA was June 25, 1929.

135. HOOVER DAM DOCUMENTS, *supra* note 6.

136. Note that Arizona’s contract specifically cautioned it was not to be read as having made any final determination of Arizona’s entitlement to water under the 1922 Compact. *See Arizona v. California*, 373 U.S. 551, 567 (1963).

137. Henry P. Caulfield, Jr., *North American Water Supply Problems and their Solution*, 1966 A.B.A. SEC. MINERAL & NAT. RES. L. PROC. 15 (1966).

138. An early example was provided by the Inland Waterways Commission, discussed in Samuel P. Hays, *CONSERVATION AND THE GOSPEL OF EFFICIENCY* 105–08 (1959, 1999).

139. *See e.g.*, Caulfield, *supra* note 137.

140. Useful background is provided in “History of the Implementation of the Recommendations of the Senate Select Committee on National Water Resources,” Committee on Interior and Insular Affairs, United States Senate, 1969. Water Resources Planning Act, Public Law 89-80 (1965). Earlier bills had been introduced in 1961 and 1963. This period represents the apogee of federal involvement in development of water resources. By the 1970s, the political consensus for this central federal role had unraveled. *See, e.g.*, Stephen S.

aware of this trend and was apparently persuaded that the water in the Lower Basin should be controlled and managed by the Bureau of Reclamation. He was likely encouraged by the utter inability of Arizona and California to agree on anything.

It is still worth noting the lengths to which the Master went to find a legal basis for his decision. First, he totally disregarded the 1922 Compact, claiming it applied only to matters between the Upper and Lower Basins and thus had no bearing on apportioning uses within the Lower Basin.¹⁴¹ He was forced to take this position because of his decision to base Arizona's rights on the BCPA. The Compact is crystal clear in its intention to apportion the waters of the entire basin.¹⁴² The Master struggled to explain why, when Congress in the BCPA said it too was dealing with all the water apportioned to the Lower Basin in Articles III (a) and (b) of the Compact, it really was only concerned with the water of Colorado mainstream.¹⁴³ Indeed, it seems fair to say that some members

Light & John R. Wodraska, *Forging a New State-Federal Alliance in Water Management*, 30 NAT. RESOURCES J. 477 (1990); Henry P. Caulfield, Jr., *Let's Dismantle (Largely but Not Fully) the Federal Water Resource Development Establishment, or the Apostasy of a Longstanding Water Development Federalist*, 6 DENV. J. INT'L L. & POL'Y 395 (1976-1977).

141. "[T]he provisions of the Compact are addressed solely to the relations of basin to basin and not of state to state. . . ." *Master's Report*, *supra* note 1, at 139.

142. 1922 Compact, *supra* note 12. Article I states: "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" Article II (a) defines the Colorado River "system" as "that portion of the Colorado River and its tributaries within the United States of America." Article III (a) apportions 7.5 maf of consumptive use to each basin from the Colorado River System.

143. Having decided the 1922 Compact is not germane to this matter, the Master was faced with the dilemma of how to account for Congress's reference in § 4 (a) of the Project Act to California having to limit itself to 4.4 maf of the "water apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact, . . ." Congress used the same reference to Article III (a) of the Compact when authorizing Arizona, California, and Nevada to enter into an agreement allocating this 7.5 maf of water. As mentioned, the Master rejected a "literal" reading of this language, arguing it would exclude New Mexico and Utah from sharing this water. *Master's Report*, *supra* note 1, at 171. "Thus, a literal reading of Section 4(a) would authorize Arizona, California and Nevada to enter into a compact for the division among themselves of all of the Lower Basin system water, including the water being used by New Mexico and Utah. The unlikelihood of such a congressional intention indicates that Section 4 (a) should not be given its literal meaning." He did not consider the possibility of satisfying these states from the Article III (b) apportionment. He went on to suggest the language allowing use of excess or surplus water would, if read literally, preclude the Upper Basin states from ever using such water. *Id.* The California limitation language provided that California could use "not more than one-half of any excess or surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact." BCPA, 43 U.S.C. § 617c(a) (2006). The next paragraph authorizing a three-state compact also provided: "Arizona may annually use one-half of the excess or surplus waters unapportioned by the Colorado River compact . . ." The Master failed to

of Congress most involved in this debate were confused themselves. Discussions at the 1927 Denver Governors' conference had centered on attempting to reach agreement among Arizona, California, and Nevada respecting rights to 7.5 maf/year, understood as the guaranteed water that would be available from the Upper Basin at Lee Ferry each year.¹⁴⁴ As Arizona had argued, the discussions in Congress sometimes also seemed to follow this mistaken view.¹⁴⁵

As the Master noted, members of the Senate picked up the notion that the only dispute concerned how much Arizona, California, and Nevada got to consume out of 7.5 maf/year of Colorado River water.¹⁴⁶ The Senate amendment to the BCPA limiting California to no more than 4.4 maf/year as part of authorizing a six-state ratification of the 1922 Compact¹⁴⁷ inadvertently linked that limitation to the water apportioned

take account of the language in the limitation provision stating that such uses of unapportioned and surplus water were would be "always to be subject to the terms of said compact." 1922 Compact, *supra* note 12, at art. III(f). The Compact, of course, makes clear that unapportioned waters are to be allocated by agreement of the states at a subsequent time. *Id.* His final basis for revising Congress's language in the Project Act was his assertion that otherwise California would be precluded from using more than 4.4 maf/year until total basin uses reached 16 maf/year. *Master's Report, supra* note 11, at 172. His explanation was that since California can only use surplus "unapportioned" water and the Compact apportions 16 maf (7.5 to Upper Basin and 8.5 maf to Lower Basin) this result would follow. The Report states: "Surplus waters unapportioned by the Compact, if taken literally, means water in excess of the "apportioned" in Article III (a) and (b), which means water in excess of 16,000,000 acre-feet of consumptive use in the Colorado River Basin." *Id.* He neglected to consider the more logical intent to enable use of unused water but without establishing legal rights to continue that use in the event of a subsequent apportionment of unallocated water. All parties were agreed there was no bar preventing any state from making beneficial use of unused water until and unless such time as initial basin apportionments were being fully consumed. *Id.*

144. *Id.* (Senator Pittman shared this view: "In other words, those State governors [in the Upper Basin] believed that there was only 7,500,000 acre-feet of water to divide, and they proposed to divide it, as I have said 4,200,000 to California, 3,000,000 to Arizona, and 300,000 acre-feet to Nevada.")(quoting from 69 Cong. Rec. 10259 (1928)). The three mainstream states in the Lower Basin began meeting in 1925 in an attempt to reach agreement. In 1927, the Upper Basin governors attempted to mediate the differences without success. All of these sessions apparently assumed there was 7.5 maf of consumptive use from the Colorado River to be divided by these three states. JACK L. AUGUST, JR., VISION IN THE DESERT: CARL HAYDEN AND HYDROLOGICS IN THE AMERICAN SOUTHWEST 122 (1999).

145. The Master noted this problem in his comments on Senator Pittman's report on the Governor's Conference. *Master's Report, supra* note 11, at 189.

146. *Id.* at 190-91.

147. Hundley, *supra* note 13, at 32. According to Hundley: "The upper states could not force Arizona to acknowledge their claims but, with the cooperation of California, they could minimize the threat. California was important because she was the fastest developing of all the lower basin states. Left uncontrolled, she might establish uses to nearly all the lower basin's share. If this happened, Arizona would be compelled to look elsewhere for

under the Compact by Article III (a)—a provision that makes clear this apportionment comes from system water, not just mainstream water.¹⁴⁸ There is little doubt the drafters of this provision understood full well that it applied to all apportioned water, but it is entirely possible Senator Pittman from Nevada, who was very actively involved in the development of what became Section 4 (a) of the BCPA, did not.¹⁴⁹ The Master concluded the reference to Article III (a) simply became “shorthand” in most senators’ minds for 7.5 maf/year.¹⁵⁰

i. BCPA negotiations.

Perhaps the best-informed senator in the BCPA process respecting Section 4 was Senator Carl Hayden from Arizona. It was in his interest to get Congress to earmark mainstream water for Arizona to keep California from taking too much. He introduced language that, with one modification, became the second paragraph of Section 4 of the BCPA. His version would have *required* Arizona, California, and Nevada to enter into a compact apportioning the 7.5 maf so that Arizona received 2.8, California 4.4, and Nevada 0.3.¹⁵¹ He characterized his amendment as simply using language previously drafted for Senator Pittman.¹⁵²

Senator Pittman of Nevada acknowledged that only later did he learn there was another 1.0 maf to be apportioned, from Article III (b) of

water and would undoubtedly encroach on the upper basin’s share, establishing uses which the courts might recognize as rights. But the upper states believed there was a way of reducing the threat from Arizona. If they could induce California to limit here uses so that Arizona could be satisfied from the lower basin’s share, then they could breathe more easily.”

148. BCPA, Section 4 (a) 43 U.S.C. § 617c(a)(2006) states: “. . .the State of California, by act of its legislature, shall agree irrevocably and unconditionally. . .that the aggregate annual consumptive use (diversions less returns to the river) of water of and from the Colorado River for use in the State of California, including all uses under contracts made under the provisions of this Act and all water necessary for the supply of any rights which may now exist, shall not exceed four million four hundred thousand acre-feet of the waters apportioned to the lower basin States by paragraph (a) of Article III of the Colorado River compact, plus not more than one-half of any excess of surplus waters unapportioned by said compact, such uses always to be subject to the terms of said compact.”

149. Senator Pittman had been actively involved in the Denver discussions. *Masters Report*, *supra* note 11.

150. *Id.* at 190.

151. Senator Pittman amended this language to make the compact voluntary, the version finally approved by Congress. For a thorough discussion of the final maneuvering in the Senate concerning Section 4. Hundley, *supra* note 13, at 32–42.

152. Senator Hayden’s remarks are presented in *Master’s Report*, *supra* note 1, at 192; see also 70 CONG. REC. 161–162 (1928).

the Compact.¹⁵³ Senator Pittman then brought this matter to the attention of his colleagues, suggesting an equal division of this water between Arizona and California.¹⁵⁴ While the governors only might have been thinking about 7.5 maf at Lee Ferry, at least some members of the Senate had moved to 8.5 maf by 1928.

Another critical consequence of the Master's determination to avoid consideration of the 1922 Compact is his unsupported assertion that water in Lower Basin tributaries was not considered a source of supply for the apportionment of consumptive use to the Lower Basin.¹⁵⁵ The tributaries were well understood to be an essential source of supply to the mainstream. In the Upper Basin they contributed a major share of the total water supply. In the Lower Basin their discharge helped offset losses in the main channel, losses that would increase because of evaporation from the large storage project planned in Boulder Canyon.¹⁵⁶ The tributaries also added water in low-flow periods important for meeting mainstream diversions in the United States and Mexico.¹⁵⁷ A.P. Davis, head of the Reclamation Service, told compact commissioners that average Lower Basin tributary inflows were roughly equivalent to losses of

153. *Masters Report*, *supra* note 11, at 191. This information came from Senator Hayden's remarks, reprinted in the *Master's Report*: "The Senator then stated that subsequently it was discovered that there was an additional million acre-feet of water apportioned to the lower basin which could be divided. The idea of dividing that additional apportionment of water did not occur to the governors and the representatives of the lower basin States at the time of the Denver conference."

154. *Id.* at 192.

155. *Id.* at 149. "There are, of course, other sources of supply, for example, Lower Basin tributary inflow, but these are not dealt with as supply items in the Compact." As discussed next, that statement is not supported by the minutes of the compact negotiations.

156. *See infra* discussion accompanying note 159.

157. Norviel of Arizona worked actively to detach the Arizona tributaries from inclusion in the apportionment discussions. Initially he based this separation on the "flashiness" of the Gila and the Bill Williams—that their supply was relatively small and unpredictable. *See, e.g.*, Minutes of 11th Meeting, Colorado River Commission, 59 (Nov. 11, 1922), available at http://www.colorado.edu/colorado_river/docs/compact/meeting11.pdf: "As you suggested, in dealing out one-half of the requirements of the Mexican lands, - but having deducted from the fifty percent the amount of water carried by the Gila and the Williams River, and these are very flashy streams and only run occasionally and not places where the water could be held, and in the past years they have been of but little value and they have done no one very much good, not even California, because they go down in floods, and as a rule California can only take a small portion of the floods, which means they will continue to go on to the sea until they can be controlled." *Id.* The negotiators relied substantially on information contained in Reclamation's *Fall-Davis Report*, *supra* note 63; (a report focused primarily on water for the Imperial Valley that essentially ignored existing water uses in the Gila.)

water between Lee Ferry and Yuma.¹⁵⁸ Delph Carpenter, Compact Commissioner from Colorado, formulated his proposed division of water based on consideration of flows at Yuma, the point at which the last tributary to the Colorado (the Gila) entered the river.¹⁵⁹ His proposal assumed inflows of Lower Basin tributaries contributed approximately 14% of the flows at Yuma.¹⁶⁰ To ensure an “equitable” division of basin water (giving the Lower Basin 50% of the average flow at Yuma), Carpenter proposed an assured average flow at Lee Ferry over consecutive 10-year periods of about 6.2 maf—an amount equivalent to 36% of the measured flow at Yuma.¹⁶¹ Thus he suggested the waters of the basin be roughly equally divided.

Attention then shifted to Lee Ferry flows. When the commissioners got back to the matter of fixing the annual flows, they attempted to reconstruct virgin flows—flows unaffected by human uses. They began with measured flows at Laguna (the diversion dam for the Yuma Project

158. Minutes of the 12th Meeting, Colorado River Commission, 15-16 (Nov. 12, 1922), available at http://www.colorado.edu/colorado_river/docs/compact/meeting12.pdf. Davis estimated losses at about 1 maf between Boulder Canyon and Yuma, slightly more than estimated inflows in this reach. He provided estimates of average inflows from tributaries beginning with the Paria (60,000 acre-feet), Kanab Creek (30,000 acre-feet), Little Colorado River (200,000 acre-feet), Virgin River (233,000), and Williams River (75,000 acre-feet). He reiterated his conclusion that inflows balances depletions in the 16th Meeting. Here he used Laguna Dam as the lower end, thus excluding the Gila. He stated the measured flows at Laguna would serve as a surrogate for the flows at Lee’s Ferry, especially if 0.5 maf were added in the low flow years and subtracted in the high flow years. Minutes of the 16th Meeting, Colorado River Commission, 17-18 (Nov. 14, 1922), available at http://www.colorado.edu/colorado_river/docs/compact/meeting16.pdf.

159. Minutes of 12th Meeting, *supra* note 158, at 2-3: “The fifty-fifty division plan proceeds as it appears in the tentative draft offered by me, upon the basis of the twenty-year record at Yuma. Working out from that twenty-year record, the object has been and is to ascertain how much more water must flow past Lee’s Ferry in order that the amount *when added to what comes in below*, will give the lower division fifty percent of the Yuma flow (emphasis added).” Carpenter included tributary flows in the Lower Basin of about 2,436,000 acre-feet and, even though less reached the mainstream because of irrigation uses and evaporation, “Carpenter wanted to have the lower states charged for all the water of their tributaries in order to reduce the obligation of the upper basin.” HUNDLEY, *supra* note 15, at 185.

160. Minutes of 11th Meeting, *supra* note 157. His assumption that 14% of the Yuma flows were from Lower Basin tributaries came from the *Fall-Davis Report*, *supra* note 63. Reclamation Commissioner Davis later questioned this figure, in part because he wanted to exclude inflows from the Gila. Minutes of the 12th Meeting, *supra* note 158, at 91-92.

161. In summarizing the Carpenter proposal, Hoover stated the intent that the Lower Division be apportioned 36% of the average 10 year flow at Lee’s Ferry. Carpenter quickly clarified: “An amount equivalent to 36% of the Yuma flow. Not 36% of Lee’s Ferry flow. An amount equivalent to 36% of the established flow at Yuma.” Minutes of 11th Meeting, *supra* note 157, at 21. The proposal also offered flows at Lee Ferry equivalent to one-half the Mexican delivery obligation.

located upstream from the mouth of the Gila River and from Yuma) where the United States had maintained measuring gauges since 1899. Annual flows at that location had averaged 16.4 maf between 1899 and 1920.¹⁶² The commissioners agreed that gains and losses between Lee Ferry and Laguna roughly offset each other.¹⁶³ They subtracted estimated flows from the Gila (over and above existing consumptive uses)¹⁶⁴ entering the Colorado (estimated to be 1.07 maf/year) from estimated Upper Basin consumption (2.4 maf/year), giving a rough estimated reconstructed flow at Lee Ferry of 17 maf/year.¹⁶⁵ Chairman Hoover then suggested 16 maf would be a “least mean” and suggested that a 50–50 division of basin water (meaning half of the water would be consumed in the Upper Basin) would leave at least 8.2 maf/year at Lee Ferry rather than the 6.2 originally proposed by Carpenter.¹⁶⁶ He suggested this quantity would also account for providing half the Mexican obligation.

At the next meeting the, Upper Division state commissioners expressed unwillingness to commit to delivering 82 maf over consecutive 10-year periods. They pointed out the shortness of the hydrographic record upon which they were depending and countered with an offer of 65 maf.¹⁶⁷ While Commissioner McClure of California expressed a willingness to consider this offer,¹⁶⁸ Commissioner Norviel of Arizona objected strenuously—asserting this would mean the Upper Basin would be able to use 10 maf/year while leaving only 6.5 maf to the Lower Basin states.¹⁶⁹ Carpenter countered by pointing out the ability of the Lower Basin to use all the water in its tributaries.¹⁷⁰ Commissioner Davis of New Mexico also pointed out the guaranty the Upper Basin was making and the understandable reluctance to make a commitment that would be impossible to meet during low flow periods.¹⁷¹ Here Hoover interjected his view that the 6.5 maf commitment would not cover the identified

162. Minutes of 16th Meeting, *supra* note 158, at 24.

163. *Id.* at 18.

164. Statement of Mr. Hoover: “You would have to add to the consumptive use [of the Upper Basin] the flow of the Gila over and above its consumptive use.” Minutes of 16th Meeting, *supra* note 158, at 24.

165. *Id.* at 25.

166. *Id.*

167. Minutes of the 17th Meeting, Colorado River Commission, 4 (Nov. 15, 1922), *available at* http://www.colorado.edu/colorado_river/docs/compact/meeting17.pdf.

168. *Id.* at 6–7.

169. *Id.* at 7.

170. *Id.* at 8–9.

171. *Id.* at 9–11. *See also* the statement by Hoover: “When you go to guaranteeing something, you want to be sure you can comply with the guaranty.” *Id.* at 14.

uses in the Lower Basin, including Mexico.¹⁷² He sought to split the difference between 82 and 65, suggesting 75 maf over consecutive 10-year periods.¹⁷³

When the parties reconvened on the record the following day they had agreed to an apportionment of 7.5 maf/year to each basin,¹⁷⁴ though Norviel expressed some reservations.¹⁷⁵ Hoover stated the basis of the agreement as being a “preliminary division” of water, not an attempt to equally divide all basin water.¹⁷⁶ Remaining unallocated water would be distributed at a later time.

At the next meeting, Norviel—who had apparently agreed to the 7.5 maf each split in an off-the-record discussion the previous evening—now stated his agreement had been based on the mistaken understanding that use of water in the tributaries in the Lower Basin was not to be included in the apportionment of water.¹⁷⁷ He remained opposed to their inclusion. When discussion returned to this matter the following day, Reclamation director Davis offered a revised estimate of the present and foreseeable requirements in the Lower Basin of 7.682 maf/year.¹⁷⁸ This figure included existing and expected uses in the Gila and Little Colorado.

At this point, Hoover introduced proposals developed by Commissioner Scrugham of Nevada suggesting the 7.5 maf to each basin be supplemented by authorizing consumptive use of an additional one maf in the Lower Basin until such time as another commission would be established.¹⁷⁹ These ideas were referred to the drafting committee which, at the next meeting, brought back language very close to that now found in Article III (b): “The lower basin is given the right to increase its benefi-

172. *Id.* at 18. Apparently Hoover discounted the availability of water from the tributaries.

173. *Id.* at 22.

174. Minutes of the 18th Meeting, Colorado River Commission, 23 (Nov. 16, 1922), *available at* http://wwa.colorado.edu/colorado_river/docs/compact/meeting18.pdf.

175. *Id.* at 31.

176. “In our discussion yesterday we got away from the point of view of a fifty-fifty division of the water. We set up an entirely new hypothesis. That was that we make, in effect, a preliminary division pending the revision of this compact. The seven and a half million annual flow of rights are credited to the South, and seven and a half million will be credited to the North, and at some future day a revision of the distribution of the remaining water will be made or determined.” Minutes of the 18th Meeting, *supra* note 174, at 32.

177. Minutes of the 19th Meeting, Colorado River Commission, 9.

178. Minutes of the 21st Meeting, Colorado River Commission, 129 (Nov. 20, 1922), *available at* http://wwa.colorado.edu/colorado_river/docs/compact/meeting21.pdf. It is not clear from the minutes whether this figure included uses in Mexico, nor is it clear whether this figure is for diversion or for consumptive use.

179. *Id.* at 129–30. This proposal apparently responded to Norviel’s concern that development in the Lower Basin states might be hindered by the restriction to 7.5 maf/year.

cial consumptive use by the further quantity of one million acre feet per annum.”¹⁸⁰ Aside from some wordsmithing, there was little discussion—suggesting that everyone had already agreed to this provision in off-the-record discussions. The only additional change was to eliminate language in the draft Article III (d) provision requiring a minimum flow at Lee Ferry of at least four maf/year.¹⁸¹

ii. The Master’s Approach

Thus the Master’s reliance on the BCPA led him to make three critical decisions that go beyond the 1922 Compact: (i) that the states of Arizona, California, and Nevada share the legal right to consume 7.5 maf of Colorado River mainstream water annually, not including the tributaries; (ii) that since California limited herself to 4.4 maf/year to get Upper Basin support for Hoover Dam and the All American Canal, her users can only consume that amount out of the 7.5 maf of mainstream water; and (iii) that uses on Lower Basin tributaries are not to be limited to protect inflows into the main Colorado for purposes of helping provide the 7.5 maf of annual consumptive use. Further, he decided the evaporative and other losses associated with making these uses were not included in the state allocations (although tribal and federal reserved water rights were).

Based on testimony presented to the Special Master by witnesses provided by Arizona and California, Lower Basin tributary inflows averaged approximately 1.025 maf annually.¹⁸² Reservoir evaporation averaged between 950,000 and 1 maf annually. Channel losses were estimated to be between 300,000 and 600,000 acre-feet. Thus there was a net loss between Lee Ferry and the Mexican border of somewhere between 225,000 acre-feet and 575,000 acre-feet. That amount needed to be increased by 75,000 to 200,000 acre feet to account for water passing into Mexico in excess of the obligated 1.5 maf due to “regulatory waste”—

180. *Id.* at 137.

181. McClure of California suggested eliminating this provision. Minutes of the 23rd Meeting, Colorado River Commission, 176 (Nov. 22, 1922) available at http://www.colorado.edu/colorado_river/docs/compact/meeting23.pdf. Agreement was reached the following day. Minutes of the 24th Meeting, Colorado River Commission, 209 (Nov. 23, 1922), available at http://www.colorado.edu/colorado_river/docs/compact/meeting24.pdf.

182. *Motion to Reopen*, *supra* note 85, at 8. In support of its arguments related to water supply, California noted information it had introduced into the record to the effect the “dependable or permanent” water supply available for consumptive use from the main Colorado was about 6 million acre-feet annually. Under the Master’s Proposed Decree, California argued it would only receive 3.8 million acre-feet—less than the 4.4 limitation and only enough to meet most senior agricultural rights, leaving the burgeoning population of southern California served by MWD with no water supply from the Colorado. *Master’s Report*, *supra* note 1, at 103.

that is, carriage water needed to supply mainstream diversions in the Lower Basin but not consumed.¹⁸³ Thus, even assuming no increased consumption in the tributaries, it would be necessary for at least 8.8 maf and perhaps as much as 9.775 maf to come from the Upper Basin each year to enable 9 maf of consumption from the mainstream in the three states and Mexico.¹⁸⁴ Since the Compact only ensure 75 maf over 10 years, it is evident the Master was assuming the Upper Basin would never use its 7.5 maf/year apportionment so this unused water would always be available to the Lower Basin.

California moved to reopen the trial following the issuance of the Master's decision on the basis that he had assumed there was a surplus of water available in the basin that would not be seriously diminished by any foreseeable developments in the Upper Basin. The Master rejected California's request for reconsideration of the reliability of the water supply, emphasizing the uncertainties inherent in hydrological projections. In his final report the Master stated: "The evidence in this case simply does not permit a prediction of future Lower Basin supply with that refined degree of accuracy necessary to show whether existing California uses can be satisfied from the percentage of future supply apportioned to California. On the contrary, the mass of evidence which has been presented shows only that the science of hydrology is not capable of sustaining a prediction accurate enough to shed light on this question."¹⁸⁵ Nevertheless the Master had stated during oral argument in 1960: "I am morally certain that neither in my lifetime, nor in your lifetime, nor the lifetime of your children and great-grandchildren will there be an inadequate supply of water for the Metropolitan project."¹⁸⁶

Awarding to Arizona 2.8 maf of consumptive use from the mainstream was, as mentioned, apparently viewed as necessary to get Congress to fund the CAP. It had the effect, however, of awarding Arizona total consumptive use of virtually all of the water in its tributaries (including groundwater) as well. Arizona's use of water in the Gila was the very concern that kept Arizona from ratifying the 1922 Compact for more than 20 years. California had insisted the Master needed to take these uses into account when determining individual state shares out of

183. Most of this "waste" was water reaching Imperial Dam but not diverted by the Imperial Irrigation District and the Coachella Valley Water District.

184. Assuming the addition of about 1maf from Lower Basin tributaries as indicated in California's Motion to Reopen. California argued that more than 11 maf would have to pass Lee Ferry annually to supply all downstream requirements. *Motion to Reopen, supra* note 85, at 8-9.

185. *Master's Report, supra* note 11, at 103.

186. *Motion to Reopen, supra* note 85, at 5-6. In fact, that event occurred about 42 years later.

the Lower Basin apportionment. By its reckoning, Arizona was already consuming 2.0 maf of basin water in its portion of the Gila so the effect was to award Arizona consumptive use of more than 4.8 maf of basin water.¹⁸⁷ Recall that Arizona had only originally requested confirmation of its title to 3.8 maf from the Colorado River System.¹⁸⁸ One possible explanation for this generous award to Arizona was the Master's intention to establish substantial reserved water rights for Indian tribes, most of which lived in Arizona.

C. Reserved water rights exist in the main Colorado River for tribal and federal land reservations that must be satisfied from State allocations.

The United States had focused its arguments almost exclusively on its claims to water associated with water rights for tribal and federal reservations. In his recitation of the factual background, the Master noted the presence of three Indian reservations within the Little Colorado watershed, nine Indian reservations on or near the Colorado River, 10 reservations in the central Arizona area, and one reservation in the Coachella Valley of California.¹⁸⁹ In addition he took note of three national wildlife refuges, 21 national parks and monuments, and 11 national forests within the geographic area of the Lower Basin.¹⁹⁰ Because he focused on the mainstream, he only specifically addressed water claims associated with the six tribes with reservations in or near the main Colorado River and the federal land reservations along the mainstream.¹⁹¹

California had denied generally the existence of tribal reserved water rights for irrigation of Indian reservations, while Arizona had argued the extent of such rights should be limited to the amount necessary to directly supply the needs of Indians living on a reservation.¹⁹² Instead the Master determined not only the existence of these reserved water

187. *California Answer*, *supra* note 40, at 12.

188. See text accompanying *Arizona Complaint*, *supra* note 54, at 21. This amount included 2.8 maf of Compact Article III (a) water and 1.0 maf of Article III (b) water.

189. *Master's Report*, *supra* note 11, at 80–94.

190. *Id.* at 95–96.

191. The Master decided the Gila River Indian Reservation and the San Carlos Indian Reservation had rights based on previous litigation. *Id.* at 333, available at http://www.colorado.edu/colorado_river/docs/AZvCA-special_masters_report2.pdf. He rejected claims for the Gila Bend Indian Reservation as against New Mexico and held that other tribal reserved rights should be determined in the context of Arizona's own resolution of water rights. *Id.* at 333–34. The only federal reservation determined to hold reserved rights for purposes of this litigation was the Gila National Forest. *Id.* at 334.

192. *Id.* at 255.

rights, but also that their purpose was to support the development of an agricultural economy.¹⁹³ In his view, this implied reservation included “enough water. . .to satisfy the future expanding agricultural and related water needs of each Indian Reservation.”¹⁹⁴ The measure of water was to be the quantity necessary to irrigate all of the “practicably irrigable acreage” on the reservations.¹⁹⁵ In the interest of clarity the Master decided to quantify the reserved water rights in his report.¹⁹⁶ Based on the number of irrigable acres and the quantity of water reasonably necessary to irrigate each acre, he determined the total diversion of water authorized to each reservation, collectively, was 905,496 acre-feet.¹⁹⁷ He also noted that while the rights were quantified on the basis of irrigation use they are not necessarily restricted to this use.¹⁹⁸ Furthermore, he determined rights for reservations established prior to June 25, 1929 qualified as present perfected rights under the BCPA and the 1922 Compact.¹⁹⁹ They are vested independent of state law and irrespective of actual use.

The Master determined the same reasoning implied the United States’ intent to reserve water from the Colorado mainstream for federal land reservations.²⁰⁰ Thus he held reserved rights existed for the Lake Mead National Recreation Area, Havasu Lake National Wildlife Refuge,

193. “As to each [reservation] it is apparent that it was intended that the Indians would settle on the Reservation land and develop an agricultural economy. The land, however, is too arid to support such an economy without irrigation from the Colorado River. It would be unconscionable for the United States to have coerced or induced Indians onto a Reservation without providing the water necessary to make the lands habitable.” *Id.* at 260.

194. “Certainly the possibility of expanding populations, expanding agricultural development, and hence expanding water needs must have been apparent at the time each Reservation was created.” *Id.*

195. *Id.* at 262. He based this conclusion on his view the U.S. contemplated a gradually expanding use of reservation lands that would then require water. He found support in this view in the land area included within the reservations that was much larger than required by the initial numbers of Indians who settled there.

196. *Id.* at 264.

197. *Id.* at 267–283.

198. “This does not necessarily mean, however, that water reserved for Indian Reservations may not be used for purposes other than agricultural and related uses. The question of change in the character of use is not before me. I hold only that the amount of water reserved, and hence the magnitude of the water rights created, is determined by agricultural and related requirements, since when the water was reserved that was the purpose of the reservation.” *Id.* at 265. Moreover, the Master noted “. . .the decree establishes a property right which the United States may utilize or dispose of for the benefit of the Indians as the relevant law may allow.” *Id.* at 266 (citing *United States v. Powers*, 305 U.S. 527 (1939)).

199. *Id.* at 309, 311.

200. *Id.* at 292–93.

and the Imperial National Wildlife Refuge, with priority dates as of the date the reservations were established.²⁰¹

Importantly, the Master determined the water associated with both Tribal and Federal reserved rights was chargeable to the allocation of the state in which the lands were located.²⁰² Water available to meet these rights was to be administered within the water rights priority system for each state.²⁰³ He attempted to read the Secretarial contracts with each state as consistent with this finding, but more to the point, made it clear each state would only be able to consume the amount of water authorized under the contracts, whether or not the consumptive was attributable to a contractee.²⁰⁴

D. Water losses associated with delivery of water are not included in State consumptive use allocations; tributary inflows are not protected to offset these losses.

In his summary of how the mainstream would operate, the Master stated the Secretary—in his “reasoned discretion”—would make releases from Lake Mead and other Federal reservoirs on the mainstream in the Lower Basin to meet treaty obligations to Mexico and to supply 7.5 maf of consumptive uses in Arizona, California, and Nevada.²⁰⁵ While these consumptive use allocations were to include uses under present perfected rights and reserved water rights, they did not include losses of water associated with reservoir evaporation or channel losses.²⁰⁶ Rather such losses were to be considered a diminution of the supply available to meet consumptive uses.²⁰⁷

California had argued for inclusion of tributary waters as a source of supply of the amounts to be allocated among the Lower Division states. The Master rejected this argument by determining that the BCPA—as controlling law—did not apply to the tributaries. The Master

201. *Id.* at 294–300. Because of insufficient information the Master declined to quantify the rights to the Lake Mead National Recreation Area. *Id.* at 295. For the Havasu Refuge he determined a diversion quantity of 41,839 acre-feet and a maximum consumptive use requirement of 37,339 acre-feet. *Id.* at 297, 299. For Imperial Refuge he found a diversion right of 28,000 acre-feet and consumptive use of 23,000 acre-feet. *Id.* at 300.

202. *Id.* at 247–48, 300.

203. *Id.* at 301.

204. “The Secretary, having apportioned total consumptive use of mainstream water among the three states, has safeguarded himself by this contract provision, which says in substance: the contract apportionment is the maximum that can be consumed in Arizona, whoever the user may be, whether or not a contractee.” *Id.* at 302.

205. *Id.* at 305.

206. *Id.* at 313.

207. *Id.*

further excluded consideration of whether subsequent uses of tributary water that would diminish discharges to the mainstream should be regulated.²⁰⁸ He rested this position on the absence of evidence that such future uses jeopardized the ability of mainstream states to get the water to which they were entitled from the main Colorado River.²⁰⁹

V. THE DECISION OF THE U.S. SUPREME COURT

The Court heard 22 hours of oral argument over two terms, in addition to having the Master's 433-page report.²¹⁰ The majority, through Justice Black, rendered a 55-page opinion. There were three dissenters, Justices Douglas, Harlan, and Stewart, with two separate written dissents totaling another 43 pages. Chief Justice Warren, former California governor, did not participate in the case.

The Court followed the recommendation of the Special Master by basing its decision on the BCPA.²¹¹ It prefaced its analysis by proposing the BCPA must be understood in the following context:

The gravity of the Southwest's water problems; the inability of local groups or individual States to deal with these enormous problems; the continued failure of the States to agree on how to conserve and divide the waters; and the ultimate action by Congress at the request of the States creating a great system of dams and public works nationally built, controlled, and operated for the purpose of conserving and distributing the water.²¹²

While it is doubtful the BCPA itself emerged from such circumstances, there is little doubt the Court's opinion did.²¹³ The opinion reflected the enormous expansion of federal control of rivers and their management and the belief that this role would only grow through time.²¹⁴

208. *Id.* at 318.

209. The Master suggested that such need may never arise. *Id.* at 320.

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

211. *Id.* at 551. "As we see this case, the question of each State's share of the waters of the Colorado and its tributaries turns on the meaning and the scope of the Boulder Canyon Project Act."

212. *Id.* at 552.

213. No doubt construction of Hoover Dam was not a project any individual state would have undertaken, but it is probably more accurate to attribute its construction to the ambition of the relatively new Reclamation Service than to a failure of the states. By 1963, however, there had been 40 years of squabbling among the states, especially between Arizona and California, and the U.S. had developed a major role in the basin's water development.

214. *See supra* text accompanying notes 138-140.

The Court framed the controversy as interpretation of the BCPA and whether Congress had, in fact, apportioned water of the Colorado River in this legislation.²¹⁵ It further expressed its intention to determine the powers of the Secretary of the Interior as established under the BCPA.²¹⁶ The Court's conclusion was clear: "We have concluded, for reasons to be stated, that Congress in passing the Project Act intended to and did create its own comprehensive scheme for the apportionment among California, Arizona, and Nevada of the Lower Basin's share of the mainstream waters of the Colorado River, leaving each State its tributaries."²¹⁷ The Court went further than the Master by holding the BCPA itself effected the allocations, not the Secretary through his contracts.²¹⁸ The Court explained its holding largely on the basis of its selective reading of the legislative history of the BCPA, using some of the same examples relied on by the Master and adding others.²¹⁹ Despite noting the BCPA specifically subjected its provisions to the 1922 Compact, the Court dismissed the Compact as irrelevant to the issues in the case.²²⁰ Equitable apportionment principles were not applicable because Congress had itself made the apportionment.²²¹ As mentioned, the Court followed the Master in determining the allocations applied only to Colorado mainstream water.²²² The Court concluded the water in Lower Basin tributaries were "left" to the states.²²³

According to the Court, the Lower Basin's right to the first 7.5 maf of mainstream water is found in the BCPA. No such right was estab-

215. *Arizona v. California*, 373 U.S. 546, 564 (1963). ("Resolution of this dispute requires a determination of what apportionment, if any, is made by the Project Act. . . .").

216. *Id.*

217. *Id.* at 564–65; Hundley makes clear his view the Court "misconstrue[d]" Section 4 of the BCPA. HUNDLEY, *supra* note 15, at 270.

218. *Arizona v. California*, 373 U.S. 551, 575 ("Congress intended to provide its own method for a complete apportionment of the mainstream water among Arizona, California and Nevada.").

219. *Id.* at 573. As mentioned, Professor Hundley provides a detailed critique of the Court's use of the legislative history. Hundley, *supra* note 13. The Court, like the Master, drew support for its conclusions from the exclusion of Utah and New Mexico from the allocations.

220. *Id.* at 566–67. According to the Court, despite the fact the BCPA specifically subjects dam operations and contracts for water to the Compact, the references to the Compact "were not intended to make the Compact and its provisions control or affect the Act's allocation among and distribution of water within the States of the Lower Basin." *Id.* at 567. Therefore, for purposes of this case the Court only looked to the Compact for the meaning of terms. Nevertheless the BCPA was "in no way to upset, alter, or affect the Compact's congressionally approved division of water between the basins." *Id.*

221. *Id.* at 565.

222. *Id.* at 567–68.

223. *Id.* at 565.

lished under the 1922 Compact since Article III (a) apportioned 7.5 maf from system water, not mainstream water.²²⁴ Yet, the Court stated: “Congress has provided its own method for allocating among the Lower Basin States the mainstream water to which they are entitled under the Compact.”²²⁵ Of course, only the riparian states of Arizona, California, and Nevada could directly use mainstream water.²²⁶ Congress hadn’t included these two states in its proposed Lower Basin compact, a fact the Court used to support its view Congress had only intended to apportion the water of the mainstream.²²⁷ Confusingly, the Court stated: “What Congress was doing in the Project Act was providing for an apportionment among the Lower Basin States of the water allocated to that basin by the Colorado River Compact.”²²⁸

Does the Court’s decision imply that Congress effectively amended the Compact? Certainly there was no suggestion in the Congressional debates of such intent. The Upper Division state representatives would have been deeply concerned about such an amendment, as would the California representatives. In fact, the BCPA ratified the 1922 Compact with no suggestion of any intent amend its terms.²²⁹ To the contrary, it directed the Secretary to act in compliance with the Compact in making his contracting decisions.²³⁰ Every water delivery contract contains specific language subjecting the delivery obligation to the 1922 Compact.²³¹ And the Court itself noted that Congress in the BCPA made

224. 1922 Compact, *supra* note 12, Art. III(a).

225. *Arizona v. California*, 373 U.S. 546, 565 (1963).

226. The other states with land in the Lower Basin, Utah and New Mexico, do not have land adjacent to the Colorado River in that basin.

227. *Arizona v. California*, 373 U.S. 546, 573 (1963). (“But Utah and New Mexico, as Congress knew, had interests in Lower Basin tributaries which Congress surely would have protected in some way had it meant for the tributaries of those two States to be included in the water to be divided among Arizona, Nevada, and California. We cannot believe that Congress would have permitted three States to divide among themselves water belonging to five States.”).

228. *Id.* at 591.

229. Boulder Canyon Project Act, § 13(a), 43 U.S.C. § 617l (2006).

230. §§ 8(a), 13(c).

231. *See, e.g., Arizona Contract, supra* note 44. Article 10 of the contract states: “Neither Article 7, nor any other provision of this contract, shall impair the right of Arizona and other states and the users of water therein to maintain, prosecute or defend any action respecting, and is without prejudice to, any of the respective contentions of said states and water users as to (1) the intent, effect, meaning, and interpretation of the said compact and said act; (2) what part, if any, of the water used or contracted for by any of them falls within Article III (a) of the Colorado River Compact; (3) what part, if any, is within Article III (b) thereof; (4) what part, if any is excess or surplus waters unapportioned by said Compact; and (5) what limitations on use, rights of use, and relative priorities exist as to the waters of the Colorado River system; provided, however, that by these reservations there is

clear its intent not to “upset, alter, or affect the Compact’s congressionally approved division of water between the basins.”²³² The Court made clear that “whatever waters the Compact apportioned the Project Act itself dealt only with the water of the mainstream.”²³³

The Court’s decision to allow unconstrained use of tributary water and not to account for evaporative and other losses in the Lower Basin further increased the burden on the mainstream. Use of the water in the Gila basin had been a subject of bitter contention going back to negotiation of the 1922 Compact. As discussed, the Upper Basin wanted to apportion all the waters of the basin.²³⁴ In the view of Delph Carpenter and other Upper Basin representatives, the Gila was no different than the Green River, the San Juan, or any other Upper Basin tributary and must be considered part of the water supply to be divided between the two basins. Arizona’s representative, on the other hand, together with Reclamation Commissioner Davis, wanted the use of the Gila to be kept entirely out of the Compact, leaving to Arizona its full use independent of the Compact’s division of water.²³⁵ The commissioners believed they had

no intended to disturb the apportionment made by Article III (a) of the Colorado River Compact between the Upper Basin and the Lower Basin.”

232. *Arizona v. California*, 373 U.S. 546, 567 (1963).

233. *Id.* at 568.

234. Commission chair, Herbert Hoover, also seemed quite clear this was the commission’s intent. In responses to questions from Congressman Hayden from Arizona not long after completion of compact negotiations respecting “[w]hy was the term ‘Colorado River system’ used in paragraph (a) of Article III, wherein 7,500,000 acre-feet of water is apportioned to the upper and lower basins, respectively,” Hoover stated: “This term is defined in Article II as covering the entire river and its tributaries in the United States. No other term could be used, as the duty of the commission was to divide all the water of the river. It serves to make it clear that this was what the commission intended to do and prevents any State from contending that, since a certain tributary rises and empties within its boundaries and is therefore not an interstate stream, it may use its waters without reference to the terms of the compact. The plan covers all the waters of the river and all its tributaries, and the term referred to leaves that situation beyond doubt.” *The Colorado River Compact: Analysis by Hon. Herbert Hoover, Appendix 205*, HOOVER DAM DOCUMENTS, *supra* note 6, at A33.

235. The Gila flows became important in the 16th meeting during which the commissioners wanted to get clarity on the total flow of the Colorado River at Yuma. Reclamation Commissioner Davis had focused on the gauged flows at Laguna Dam, just upstream from the mouth of the Gila. Hoover asked Davis to provide information taking into account the Gila, including existing consumptive uses plus remaining flow. Hoover stated: “You would have to add to the consumptive use the flow of the Gila over and above its consumptive use. Davis responded: “Did you want the flow of the Gila included also? Hoover said: “It is a part of the drainage basin.” Minutes of the 16th Meeting, *supra* note 158. Davis had already made known his views that waters of the Gila basin should be used on lands within the basin: “The best use of the Gila, as I said yesterday, is in its own valley and that probably will be accomplished someday.” *Id.* at 80. Later, when the commissioners had decided to apportion less than the assumed full water supply of the basin, Davis added uses in the

found a satisfactory compromise: leaving the Gila in the Compact but allowing the Lower Basin the right to increase its consumptive use by an additional 1.0 maf.²³⁶ The Arizona governor and legislature rejected this compromise, however, and refused to ratify the Compact because they believed it would limit uses of water in the Gila Basin.²³⁷ The Supreme Court appeared to give Arizona not only rights to the consumptive use of 2.8 maf from the mainstream but full use of its tributaries as well, including the Gila—perhaps in place of the 1.0 maf allowed to the Lower Basin under Article III (b) of the Compact.²³⁸ More precisely, the decision should be understood as not giving California any claim to use of tributary water: “. . . we are persuaded by the legislative history as a whole that the Act was not intended to give California any claim to share in the tributary waters of the other Lower Basin States.”²³⁹

But California never claimed the right to use tributary water. As Justice Douglas pointed out in his dissent: “Tributary uses in Arizona diminish California’s right under Article III (c) to require the Upper Basin States to supply water to satisfy Mexico. . . . That is, California is presumed to enjoy the waters from the Lower Basin tributaries for purposes of Article III(c) of the Compact.”²⁴⁰ California was seeking to have the Court include Arizona’s consumptive uses in its tributaries with its mainstream uses as it believed was intended under the Compact. By excluding consideration of tributary uses, the Court not only significantly increased Arizona’s consumptive use rights; it diminished the ability for tributary water to help offset water losses in the Lower Basin and to provide water that would help meet the Lower Basin’s share of the Mexico Treaty obligation.

The Treaty requires delivery to Mexico of 1.5 maf/year under “normal” conditions.²⁴¹ In the Senate hearings held in conjunction with

Gila to provide an estimate that the Lower Basin would ultimately require the use of 7.68 maf. Minutes of the 21st Meeting, *supra* note 178.

236. Justice Douglas in his dissent makes this point, quoting from a previous Arizona v. California decision: “The additional 1,000,000 acre-feet described in Article III(b) was added to the Compact ‘to compensate for the waters of the Gila River and its tributaries being included within the definition of the Colorado River System.’” Arizona v. California, 373 U.S. 551, 638–39.

237. See *supra* text accompanying note 33.

238. Again the Court seemed to rely on discussions at the Denver Governors’ Conference in which Arizona pleaded for free use of the Gila and its reading of the BCPA’s legislative history in which it found evidence of an intent to exclude the Gila from its consideration. Arizona v. California, 373 U.S. 551, 573–74.

239. *Id.* at 574–75.

240. *Id.* at 637.

241. Mexico Treaty, *supra* note 41, at art. 10 (b). In particular, art. 15(D) refers to non-normal conditions to the extent that in time of surplus or deficit, the United States and

ratification of the Treaty, the question of the source of water to meet this obligation received extensive discussion.²⁴² The clear assumption of those supporting the Treaty was that 0.9 – 1.0 maf of return flows from irrigation along the Gila River and desilting water from Imperial Dam would be available, leaving only 0.5 – 0.6 maf to come from the mainstream above Imperial.²⁴³ The only uncertainty concerned how much Colorado River mainstream water Arizona would use to expand irrigation in the lower Gila basin near Yuma and how much would go to support existing irrigation in the central portion of Arizona near Phoenix.²⁴⁴ As finally approved by Congress, the Gila Project anticipated diversions of 1.341 maf/year of Colorado mainstream water at Imperial Dam, with an esti-

Mexico acknowledge a reciprocal intention to “cooperate” in supplying the additional waters, or curtailing their supply, so long as the total amount of scheduled water deliveries to Mexico remains unaffected.

242. See, e.g., *Water Treaty with Mexico, Hearings Before Committee on Foreign Relations, United States Senate, 79th Congress, First Session, on Treaty with Mexico Relating to Utilization of the Waters of Certain Rivers, Part 2, January 29, 30, 31, February 1, 2, 3, 1945* at 335 (Testimony of R. J. Tipton, Consulting Engineer, Representing the Six-States Committee, Denver, Colorado) [hereinafter *Mexico Treaty Hearings*].

243. See, e.g., Statement on Behalf of Arizona in Support of Ratification of the Treaty with Mexico: “Our engineers estimate that when we in the lower basin, the deserts of Arizona and the deserts of southeastern California, have reached our ultimate development and utilized every drop of Colorado River water which we can under the law and the Colorado River compact lawfully use, that there will enter the boundary reach of the river of the river, below Imperial Dam, return flow and desilting water in excess of 1,000,000 acre-feet per year. Some estimates run as high as 1,375,000 acre-feet.” *Mexico Treaty Hearings*, *supra* note 242, at 303. The engineer for the Six-States Committee, Royce Tipton, broke the sources down as follows: Gila Project: 400,000 acre-feet, seepage from All American Canal: 65,000 acre-feet, Central Arizona Project: 330,000 acre-feet, unused Gila River flows: 100,000 acre-feet, and desilting water at Imperial: 100,000 acre-feet. *Id.* at 335. A Statement by the Six States Committee, Arizona, Colorado, New Mexico, Texas Utah, and Wyoming, Supporting Ratification of the Proposed Treaty Between the United States and Mexico, With Respect to the Waters of the Colorado River, Tijuana River, and the Rio Grande, August 29, 1944, included in the hearings record at 1423–1426 suggested returns flows of 900,000 acre-feet. *Id.* at 1424. See also *Water Supply Below Boulder Dam, Data Submitted by Hon. Harry W. Bashore, Commissioner of Reclamation, in Response to Inquiries from Hon. Pat McCarran, A United States Senator from Nevada, Relative to Water Supply Below Boulder Dam, S. Doc. No. 89, 79th Cong., 1st Sess. (1945)* (return flow from Gila estimated as 930,000 acre-feet plus estimated 100,000 acre-feet of unused Gila River water available to help supply the 1.5 maf/year obligated to Mexico).

244. Tipton noted there were 500,000 acres of irrigable land within the Gila Project but their irrigation would require pumping of water. *Mexico Treaty Hearings*, *supra* note 242, at 314. There would be a substantial return flow to the Gila from such irrigation. Use of water in the Phoenix area would result in little, if any, such return flow that would reach Mexico. He remarked: “We are dealing the same block of water and we are asking ourselves, Will it be used on the Gila project or will it be used in central Arizona?” *Id.* at 317. Tipton had previously estimated Arizona groundwater pumping to be three maf/year compared to a recharge of about 100,000 acre-feet. JOHNSON, *supra* note 46, at 99.

mated return flow of 420,000 acre-feet.²⁴⁵ The need for this mainstream water derived, in part, from the cessation of flows in the lower Gila River, attributed largely to the upstream impoundment of basin water under the Salt River Project and the essentially 100% consumption of this water in irrigation on Project lands.²⁴⁶

Highly saline water from return flows from the new Gila Project, beginning about 1961, prompted negotiation with Mexico leading to adoption of a Minute to the Treaty in 1972 by which the United States. Promised to ensure that the salinity content of water delivered to Mexico would be close to the salinity of the water at Imperial Dam.²⁴⁷ Congress then enacted the Colorado River Basin Salinity Control Act in 1974 that, among other things, authorized the construction of a desalting facility to treat the drainage waters from the Gila Project.²⁴⁸ Also authorized was construction of a bypass drain to carry “the reject stream from the desalting plant and other drainage waters to the Santa Clara Slough in

245. *Reauthorizing Gila Project, Hearings before the Committee on Irrigation and Reclamation, House of Representatives, 79th Cong., Second Session, on H.R. 5434, a Bill Reauthorizing the Gila Federal Reclamation Project and for Other Purposes, Part 1, June 13–July 6, 1956, at 70, Table 2 [hereinafter Gila Hearings].* Total acreage to be irrigated was 141,000 acres. Estimates of diversion requirements ranged from 11 acre-feet per acre for the Yuma Mesa lands to 9.2 acre-feet per acre for Wellton-Mohawk lands to 6 acre-feet per acre for the North and South Gila Valleys. *Id.*

246. Not only did these upstream water uses result in cessation of surface flows in the Gila, they also eliminated the “subflow” that had been tapped by wells in the lower Gila area for irrigation use. According to an Arizona spokesman: “By the first of the year 1931, five storage dams had been completed on the Gila River and its tributaries, at places, many miles above the project lands, and such dams, . . . cut off the fresh-water supply which normally fed the underground waters beneath the project lands. Within 3 years thereafter the water in many of the district wells became highly impregnated with soluble salts, and since that time. . . the water in the district wells has become increasingly salt [sic]. . . . This brought about the abandonment of many formerly prosperous farms. . . .” *Id.* at 22.

247. Agreement on Colorado River Salinity Confirming Minute No. 242, Aug. 30, 1973, U.S.-Mex., Aug. 30, 1973, 24 U.S.T. 1968. The salinity content must be within 115 parts per million on average. See Joseph F. Friedkin, “The International Problem with Mexico Over the Salinity of the Lower Colorado River,” in *WATER AND THE AMERICAN WEST: ESSAYS IN HONOR OF RAPHAEL J. MOSES*, David H. Getches, ed., Natural Resources Law Center, University of Colorado School of Law, Boulder, Colorado, 1988. See also, TAYLOR O. MILLER, GARY D. WEATHERFORD, & JOHN E. THORSON, *THE SALTY COLORADO* (1986). Drainage water from the Wellton-Mohawk Division of the Gila Project containing 6,000 parts per million started entering the Colorado River from the Gila following the irrigation of project lands in 1952. The initiation of the filling of Lake Powell in 1962 caused mainstream flows to drop sharply, greatly reducing the dilution that had kept the drainage waters from becoming unusable for irrigation in Mexico. The saline drainage waters come from pumping necessary to keep the water table below the root zones of the plants grown in the Wellton-Mohawk Division.

248. 43 U.S.C. § 1571 (b) (2012).

Mexico. . . .”²⁴⁹ Such bypass water necessarily reduced deliveries of Treaty water to Mexico that were required to be made in the channel of the Colorado River.²⁵⁰ While the desalting plant was constructed near Yuma, it has only occasionally been used because of its high operating costs.²⁵¹ Thus return flows from the Gila Project, expected to provide most of the water needed to satisfy the Mexican Treaty obligation, now pass primarily to the Ciénega de Santa Clara.²⁵²

Just as flows from the tributaries were important to California for meeting the Mexico Treaty obligation, so too were they important to the Upper Basin. Indeed, the Supreme Court explicitly acknowledged that fact: “Inclusion of the tributaries in the Compact was natural in view of the upper States’ strong feeling that the Lower Basin tributaries should be made to share the burden of any obligation to deliver water to Mexico which a future treaty might impose.”²⁵³ If, as suggested by the Special Master, the driving consideration for the Court’s decision was to give Arizona rights to enough mainstream water to justify construction of the CAP, the Court must be seen as shifting consumptive use apportioned under the 1922 Compact from Lower Basin tributaries to the mainstream. Otherwise, the burden of providing the water necessary to meet delivery obligations to Mexico would be shifted largely or entirely to the Upper Basin.

The aspect of the Court’s decision that drew the most commentary concerned the extent to which the Court appeared to be giving the United States essentially full control of the Colorado River in the Lower Basin, including the power to control and allocate water independent of

249. § 1571 (b) (1) (3).

250. The Salinity Control Act states: “Replacement of the reject stream from the desalting plant, Colorado River waters used for the mitigation of fish and wildlife habitat losses, and of any Wellton-Mohawk drainage water bypassed to the Santa Clara Slough to accomplish essential operation. . . is recognized as a national obligation as provided in section 1512 of this title.” 43 U.S.C. § 1571 (c).

251. Information about the desalting plant is available on the Bureau of Reclamation web site. *Yuma Desalting Plant*, BUREAU OF RECLAMATION, http://www.usbr.gov/lc/yuma/facilities/ydp/yao_ydp.html (last visited May 13, 2012).

252. The Ciénega now provides a valuable wetlands habitat in the Mexican Delta. See Jennifer Pitt, Chris W. Fitzer & Lisa Force, *New Water for the Colorado River: Economic and Environmental Considerations for Replacing the Bypass Flow*, 6 U. DENV. WATER L. REV. 68 (2002); see also Jennifer Pitt, *Yuma Desalination Plant and the Ciénega de Santa Clara*, SONORAN JOINT VENTURE BINATIONAL BIRD CONSERVATION, http://www.sonoranjv.org/news/action_items/YDP_whitepaper.pdf (last visited May 13, 2012).

253. *Arizona v. California*, 373 U.S. 551, 568–69. The Court went on to add, however: “But when it came to an apportionment among the Lower Basin States, the Gila, by far the most important Lower Basin tributary, would not logically be included, since Arizona alone of the States could effectively use that river.” *Id.* at 569.

state water law.²⁵⁴ The Court's perspective came through clearly when it stated: "Where the [Federal] Government, as here has exercised this power [to regulate and develop the river] and undertaken a comprehensive project for the improvement of a great river and for the orderly and beneficial distribution of water, there is no room for inconsistent state laws."²⁵⁵ The Court was obviously impressed by the extent to which Lower Basin uses of mainstream water depended on federal, not state, efforts: "It was only natural that the United States, which was to make the benefits available and which had accepted the responsibility for the project's operation, would want to make certain that the waters were effectively used."²⁵⁶ Not only was the Court strongly influenced by the dominant federal role in developing the river's usable water supply,²⁵⁷ it also appeared frustrated by the Lower Basin states' obvious inability to cooperate or reach agreement.²⁵⁸

In keeping with this ascendant view of the national role in water resources management, the Court also fully endorsed the Master's con-

254. *Id.* at 584–91 (pertaining to the Court's discussion of §§ 8(a), 14, and 18 of the Boulder Canyon Project Act). Justice Harlan in his dissent was clearly most upset about the extent of authority given the Secretary. *Id.* at 625–26. Frank Trelease expressed dismay that the Court "[n]ow, after sixty years. . . ." would read § 8 of the 1902 Reclamation Act "out of the reclamation law. . . ." Trelease, *supra* note 13, at 192–93. Edward Clyde expressed disbelief that "Congress would intend to provide for legislative apportionment but leave this intent to implication." Clyde, *supra* note 13, at 309. Charles Meyers, on the other hand, was less concerned about Congressional intent in 1928 and more concerned about contemporary matters, similar to those expressed by Justice Black. Meyers, *supra* note 11, at 59: "The Special Master's construction of the statute set forth a workable system for operating the dam and works that confided to the Secretary of the Interior sufficient power for him to achieve the federal objective and yet gave enough power to the states to allow them to accomplish local aims." Meyers had been clerk to the Special Master. He suggested "congressional interstate stream apportionment is an institutional arrangement to be preferred to Supreme Court divisions. . . ." *Id.* at 48. He found support for the result in California's limitation to 4.4 maf: "When Congress required a limit on California of 4.4 million acre-feet the apportionment was complete for practical purposes." *Id.* at 53. He found support as well in the contracts: "Considering this combination of physical circumstances and statutory provision, together with the fact that the Secretary executed contracts for the full amount of the statutory 7.5 million acre-feet plus some surplus, it seems somewhat blind to deny any effect at all to the water delivery contracts." *Id.* at 56.

255. *Arizona v. California*, 373 U.S. 546, 587 (1963).

256. *Id.* at 589. The Court went on: "All this vast, interlocking machinery—a dozen major works delivering water according to congressionally fixed priorities for home, agricultural, and industrial uses to people spread over thousands of square miles—could function efficiently only under unitary management, able to formulate and supervise a coordinated plan that could take account of the diverse, often conflicting interests of the people and communities of the Lower Basin State." *Id.*

257. See *supra* text accompanying notes 138–140.

258. *Arizona v. California*, 373 U.S. 546, 588 (1963)("[T]he States, despite repeated efforts at a settlement, were unable to agree on how much water each State should get.").

clusions respecting the existence of reserved water rights for the tribes with mainstream reservations and for other reservations of federal lands.²⁵⁹ The Court also upheld the Master's view that tribal rights should be quantified on the basis of total irrigable acreage on each reservation.²⁶⁰ The Court noted this determination apportioned about one maf/year of water to the five tribes.²⁶¹

The Court departed from the Master's recommendations only respecting two points. The first was to uphold the provision in the contracts allowing the Secretary to deduct any depletions of water by Arizona and Nevada from the mainstream above Lake Mead, making it clear that Secretarial control of the mainstream extended at least up to Lee Ferry.²⁶² Second, the Court decided to simply give the Secretary authority to apportion water in times of shortage as he saw fit rather than utilizing the formula the Master proposed.²⁶³

Three justices dissented, producing two extensive written statements.²⁶⁴ Their primary concern was the majority's assertion that Congress had made a statutory apportionment of the water and its decision to place primacy in water matters with the Secretary of the Interior.²⁶⁵ In their view, traditional principles of equitable apportionment should have governed, including the role of priority and the decisions of the states respecting water uses.²⁶⁶ Justice Douglas went further in his dissent, arguing the necessity for accounting for uses of tributary water in the con-

259. *Arizona v. California*, 373 U.S. 546, 595 (1963)(discussion of tribal rights beginning at 595-96; federal reservations treated at 601).

260. *Id.* at 601.

261. *Id.* at 596.

262. *Id.* at 591. The Master, in relying on the BCPA for authority for federal water allocation, felt constrained to limit such control to the waters actually stored in Lake Mead. The Supreme Court was not concerned about such legal niceties. The Court, however, agreed with the Master that such control did not extend to depletions from tributaries above Lake Mead.

263. *Id.* at 593.

264. *Id.* at 603, 627.

265. "It is manifest that § 4 (a) [of the BCPA], on which the Court so heavily relies, neither apportions the waters of the river nor vests power in any official to make such an apportionment." *Id.* at 606. Justice Douglas added: "The present case. . .will, I think, be marked as the baldest attempt by judges in modern times to spin their own philosophy into the fabric of the law, in derogation of the will of the legislature." *Id.* at 628.

266. "In my view, it is the equitable principles established by the Court in interstate water-rights cases, as modified by the Colorado River Compact and the California limitation that were intended by Congress to govern the apportionment of mainstream waters among the Lower Basin States, whether in surplus or in shortage. A fortiori, state law was intended to control apportionment among users within a single State." *Id.* at 603.

text of making an apportionment of all system water—not just the Colorado River mainstream.²⁶⁷

VI. THE RELEVANCE OF ARIZONA V. CALIFORNIA TODAY

The U.S. Supreme Court's 1963 *Arizona v. California* decision is one of the foundation pieces of the Law of the River. Yet, its importance is more than historical. By resolving rights to the use of mainstream Colorado River water among Arizona, California, and Nevada, this decision enabled the expansion of uses of water in the Lower Basin beyond that provided under the 1922 Colorado River Compact. In this important respect, the decision appears to have consequences for uses of water in the Upper Basin. This decision is ever more important as evidence mounts of a shrinking basin water supply.

The Master and the Supreme Court majority purposefully crafted an outcome they believed suited to the situation in the 1960s. They accomplished this result by disregarding the 1922 Compact and holding that Congress in passing the BCPA had directly allocated the consumptive use of 7.5 maf of mainstream water among Arizona, California, and Nevada. Underlying these decisions was an assumption of sufficient water supplies and limited Upper Basin water use. Today we can see this assumption was as mistaken as the assumption shared by the drafters of the 1922 Compact of abundant basin water supplies.

The most direct and immediate effect of the *Arizona v. California* decision was Congressional approval in 1968 of the CAP.²⁶⁸ While California had long opposed this project on the grounds of insufficient water, the Upper Basin became concerned when a report prepared by its consultants demonstrated that deliveries of water for the CAP depended in part on use of water apportioned to the Upper Basin under the 1922 Compact.²⁶⁹ Analysis of flows during the 1930s had already made clear the Upper Basin would not be able to use its full 7.5 maf consumptive use apportionment and still meet its 10-year, 75 maf commitment at Lee Ferry during another such dry period.²⁷⁰ Assuming Upper Basin depletions were no greater than 5.6 maf, Tipton and Kalmbach estimated a 1.0

267. Thus he would have apportioned to California 4.4 maf of the first 7.5 maf of *system* water available to the Lower Basin, plus one half of any excess or surplus water. *Id.* at 631.

268. Colorado River Basin Project Act, Pub. L. No. 90-537, § 301, 43 U.S.C. § 1521.

269. TIPTON & KALMBACH, *WATER SUPPLIES OF THE COLORADO RIVER* (July 1965). "All studies disclose without exception that any increase in the use on the lower river must now be made from water apportioned to the Upper Basin, but now unused by it." *Id.* at 6.

270. The Tipton & Kalmbach analysis suggested maximum secure depletions in the Upper Basin of 5.6 maf, including reservoir evaporation of about 900,000 acre-feet. *Id.* at 21. Such depletions would require the draining of Lake Powell as well as Flaming Gorge and the Curecanti or Aspinall Unit reservoirs.

maf shortage to the Lower Basin that presumably would fall primarily on the CAP.²⁷¹ Even the Bureau of Reclamation's studies predicted that only 673,000 acre-feet (out of a planned 1.2 maf/year diversion) would be available from the Colorado River for diversion into the CAP by the year 2030.²⁷² The remedy was presumed to be importation of water into the basin.²⁷³

271. This result would follow from a situation in which no more than 7.5 maf/year would pass Lee Ferry so water in Lake Mead would include only this amount plus modest additions from tributaries (Little Colorado and Virgin) less channel losses. The report concluded: "it would appear that it might be unwise at this time to authorize a new project for use of substantial amounts of water from the main stem of the Colorado River in the Lower Basin when a study of stream-flow records discloses that the requirements for such a project might cause the depletion of Lake Mead below the level where it could generate power. Even then, there would be no assurance that water would be available to the project if storage in Lake Mead were entirely depleted to absolute dead storage. At that time the only water available would be the amount released at Lee Ferry plus accretions to the river between Lee Ferry and Hoover Dam. This would fall far short of enough water to sustain present uses and the new development." *Id.* at 24.

272. Central Arizona Project, Report together with Minority and Individual Views, to Accompany S. 1004, July 26, 1967, "Summary of Bureau of Reclamation Reservoir Operation and Water Supply Studies," at 35. Wayne Aspinall, congressman from western Colorado and chair of the House Interior Committee, made sure the record contained numerous references to water supply issues associated with the CAP. See JOHNSON, *supra* note 46, at 158–59, 163–64, 166, 186–87, 198–99, 212–216.

273. *Id.* at 163 (discussing Seven-State Accord acknowledging that uses in the Upper Basin would not be jeopardized by any new uses in the Lower Basin and the necessity of water importation.) The final bill called for a study to evaluate the feasibility of such importations. Colorado River Basin Project Act, Sections 201–203, 43 U.S.C. §1511. Section 203 provided significant protections for the basin of origin of any such importation: "(a) In the event that the Secretary shall, pursuant to section 1511 of this title, plan works to import water into the Colorado River system from sources outside the natural drainage areas of the system, he shall make provision for adequate and equitable protection of the interests of the States and areas of origin, including assistance from funds specified in this Act, to the end that water supplies may be available for use in such States and areas of origin adequate to satisfy their ultimate requirements at prices to users not adversely affected by the exportation of water to the Colorado River system. (b) All requirements, present or future, for water within any State lying wholly or in part within the drainage area of any river basin from which water is exported by works planned pursuant to this Act shall have a priority of right in perpetuity to use of the waters of that river basin, for all purposes, as against the uses of the water delivered by means of such exportation works unless otherwise provided by interstate agreement." 43 U.S.C. § 1513. Importation also was held out as the answer to the Mexico Treaty obligation. The same law that authorized the CAP also directed the Secretary of the Interior to conduct "reconnaissance" studies for a plan to "meet the future water needs of the Western United States." 43 U.S.C. § 1511. The following section declared: "The Congress declares that the satisfaction of the requirement of the Mexican Water Treaty from the Colorado River constitutes a national obligation which shall be the first obligation of any water augmentation project planned pursuant to [the study provision] and authorized by Congress." 43 U.S.C. § 1512. No such importation plan has ever been authorized by Congress.

A. Declining Runoff from the Upper Basin

Beginning in the 1940s, analyses of the “virgin” flow of the Colorado River at Lee Ferry—the amount of water that would have reached this point without human uses—started to conclude less water was available than had been thought. This change reflected the incorporation of annual runoff estimates from the Upper Basin during the 1930s, a period much drier than the previous 30 years of record.²⁷⁴ While the compact commissioners in 1922 had been told the average virgin flow at Lee Ferry was about 18 maf/year, Bureau of Reclamation now estimated a virgin flow of 16.27 maf/year.²⁷⁵ The estimated virgin flow at Lee Ferry for the 10-year period between 1931 and 1940 was 11.8 maf.²⁷⁶ In the 1970s, scientists began reconstructing pre-historic virgin flow estimates using tree ring analysis.²⁷⁷ As now refined, these estimates suggest a long-term average virgin flow of approximately 14.3 maf/year, with 10-year periods lower than the 11.8 maf observed in the 1930s and the 12.3 maf estimated between 2000 and 2009.²⁷⁸

B. Global Warming and Basin Hydrology

Compounding this growing sense of limits are studies of the likely effect of global warming on basin hydrology. A synthesis produced for the State of Colorado provides this summary: “Recent hydrologic studies on climate change in the Upper Colorado River Basin point to an expected decline in runoff by the mid-to-late 21st century. . . . Those studies that explicitly calculate runoff report multi-model average decreases ranging from 6% to 20% by 2050 compared to 20th century conditions. . . .”²⁷⁹ If basin runoff declines by 10% during this period, one study

274. Bureau of Reclamation, *The Colorado River*, House Document 419, 80th Cong. 1st Sess., 281 Table CXL (1947)(showing average estimated virgin flow of 16.27 maf between 1897 and 1943).

275. *Id.*

276. Upper Colorado River Commission, *Sixty-Second Annual Report*, Sept. 30, 2010, at 22, Table 3 [hereinafter *Upper Colorado River Commission*].

277. Charles W. Stockton & G.C. Jacoby, *Long-Term Surface-Water Supply and Streamflow Trends in the Upper Colorado River Basin Based on Tree-Ring Analyses*, 18 LAKE POWELL RESEARCH PROJECT BULLETIN 1 (1976).

278. Connie Woodhouse, et al., *Updated Streamflow Reconstructions for the Upper Colorado River Basin*, 42 WAT. R. RES. W05415 (2006). The lowest reconstructed 10-year period is 9.7 maf. Upper Colorado River Commission, *supra* note 276, at 23, Table 3.

279. ANDREA J. RAY ET AL., *CLIMATE CHANGE IN COLORADO: A SYNTHESIS TO SUPPORT WATER RESOURCES MANAGEMENT AND ADAPTATION*, Colorado Water Conservation Board (2008).

concludes we are already fully using all available supplies.²⁸⁰ Another study concludes: “The confluence of three factors—increasing delivery obligations anticipated because of population growth, the likelihood of multiyear droughts, and potential flow reduction due to climate change—poses an increasing threat to the water supply of the Colorado River system, especially after the mid 2020s.”²⁸¹

C. Increasing Lower Basin Water Uses

On the demand side, by the 1990s, with completion of the CAP, continued growth in the South Coast of California, and unexpected rapid growth of Las Vegas, the Lower Basin was consumptively using well over 7.5 maf of mainstream water.²⁸² While Upper Basin uses had continued their modest growth, flows to Mexico had declined considerably following construction of Glen Canyon Dam.²⁸³ Reclamation’s Consumptive Uses and Losses Report for 1996–2000, published in 2004, made clear that the basin’s water budget was badly out of balance.²⁸⁴

D. The Consequences of Prolonged Drought

The prolonged drought beginning in 1999 provided a clear and sobering look at this problem. The first important consequence was to force California to reduce its consumptive uses from about 5.2 maf to 4.4 maf in 2004.²⁸⁵ The legal mechanism producing this result was the Secre-

280. Tim P. Barnett and David W. Pierce, *Sustainable Water Deliveries from the Colorado River in a Changing Climate*, 106 *PROC. NAT’L ACAD. SCI.* 7334, 7336 (2009). According to this study, “currently scheduled water deliveries from the Colorado system are not sustainable in the future if anthropogenic climate change reduces runoff even by as little as 10%.” *Id.* at 7337. The authors add: “[t]he problem is at our threshold and appears solvable, at least in the near term. But it needs to be addressed now.” *Id.* at 7338. They find long-term sustainable deliveries to be in the range of 11–13.5 million acre-feet per year. *Id.* at 7337–38.

281. Balaji Rajagopalan et al., *Water Supply Risk on the Colorado River: Can Management Mitigate?* 45 *WATER RES. RESEARCH* W08201, W08205 (2009).

282. *1996–2000 Consumptive Uses and Losses Report*, *supra* note 3, at iv, Table-Summary (showing annual average consumption from the mainstream of 7.989 maf, another 2.508 maf in the tributaries, and 1.321 in evaporation and other losses).

283. The Bureau of Reclamation began storing water in Lake Powell in 1963. RUSSELL MARTIN, *A STORY THAT STANDS LIKE A DAM: GLEN CANYON AND THE STRUGGLE FOR THE SOUL OF THE WEST* 217 (1989). With the capacity to store 27 maf, Lake Powell enabled far greater control of the river’s highly variable flows.

284. *1996–2000 Consumptive Uses and Losses Report*, *supra* note 3. See also, Lawrence J. MacDonnell, *The Colorado River: Has It Run Out of Water?* *THE WATER REPORT*, Issue #16, June 15, 2005.

285. In the 1990s, diversions by the three mainstream states in the Lower Basin resulted in consumptive uses greater than 7.5 maf/year. *1996–2000 Consumptive Uses and Losses Report*, *supra* note 3, at iv, Table-Summary. The seven basin states entered into prolonged

tary's determination that "normal" (rather than "surplus") conditions existed in the basin. Under "normal" conditions, only 8.23 maf can be released from Glen Canyon Dam—just enough to provide 7.5 maf to Lee Ferry with an additional 750,000 acre-feet to help supply the Mexico Treaty obligation.²⁸⁶ As the Lower Basin adjusted to less water from the Upper Basin, the Upper Basin began contemplating what would happen if water supplies became inadequate to meet the 75 maf/10 year Compact obligation.²⁸⁷ Long festering disagreements over meeting the Mexico obligation reemerged.²⁸⁸ The states and the U.S. agreed it was time to establish criteria for river operations under "shortage" conditions.²⁸⁹ The resulting "interim" criteria provide for reductions in deliveries up to 500,000 acre-feet to specified users in Arizona and Nevada.²⁹⁰

negotiations seeking some means by which California could reduce its consumptive uses to 4.4 maf, the amount to which it had limited itself in response to the BCPA and which the U.S. Supreme Court

286. Known as the "minimum objective release" this amount had been established in 1970. Criteria For Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968, Pub. L. No. 90-537 (June 8, 1970).

287. Article III (d) of the 1922 Compact provides: "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." The general process for implementing such a curtailment is outlined in the 1948 Upper Colorado River Compact, Section 4: "—In the event curtailment of use. . . shall become necessary in order that the flow at Lee Ferry shall not be depleted below that required by Article III of the Colorado River Compact, the extent of curtailment by each State shall be in such quantities and at such times as shall be determined by the Commission." UPDATING THE HOOVER DAM DOCUMENTS, *supra* note 8, at 1-88. In 2008 the Colorado General Assembly directed the Colorado Water Conservation Board to study issues associated with possible compact curtailment. H.B. 08-1346, § 10.

288. See *infra* text accompanying note 302.

289. *Interim Shortage Guidelines*, *supra* note 5. See also James H. Davenport, *Softening the Divides: The Seven Colorado River Basin States' Recommendation to the Secretary of the Interior Regarding Lower Basin Shortage Guidelines and the Operation of Lakes Mead and Powell in Low Reservoir Conditions*, 10 U. DEN. WATER L. REV. 287 (2007). (The Interim Guidelines expire at the end of 2026.)

290. The Interim Guidelines initiate reduced deliveries when January 1 storage levels in Lake Mead are at or below 1075 feet—about 35% of active storage capacity. Deliveries for consumptive uses would decline 333,000 acre-feet (320,000 acre-feet to Arizona and 13,000 to Nevada). For January 1 elevations at or below 1050 feet, deliveries would decline by 417,000 acre-feet (400,000 to Arizona and 17,000 to Nevada). For January 1 elevations at or below 1025 feet, consumptive uses would decline 500,000 acre-feet (480,000 to Arizona and 20,000 to Nevada). There are to be additional consultations if lake elevations go below 1025 feet. *Interim Shortage Guidelines*, *supra* note 5.

E. The Legal Consequences of *Arizona v. California* Today

How then do we understand the meaning of the Court's decision today? First, the decision must be limited in its application to the Upper Basin as necessary to make it consistent with the 1922 Compact. Uses established in the Lower Basin remain subject to the provisions of the Compact. This conclusion follows from the explicit provisions in the BCPA (the basis for the Court's decision) subjecting all uses of water pursuant to the Act to the terms of the Compact.²⁹¹ It is further supported by the provisions included in all contracts from the United States to Lower Basin states or water users also subjecting uses to the provisions of the 1922 Compact.²⁹² Moreover, the Court was careful to specify that mainstream uses were of the "first" 7.5 maf of mainstream water.²⁹³ The Secretary is charged with determining water availability annually; if there is not sufficient water to enable deliveries in amounts required to support consumptive use of 7.5 maf and still deliver at least 1.5 maf to Mexico, the Secretary must reduce deliveries accordingly.²⁹⁴ Reservoir evaporation and other losses must be considered in determining water availability.

The shortage criteria allow the Secretary to deal with reduced deliveries from Lake Powell and lower storage in Lake Mead to some extent.²⁹⁵ In the long term, however, should supplies from the Upper Basin

291. See, e.g., Boulder Canyon Patrol Act, § 8(a), 43 U.S.C. § 617g(a): "The United States, its permittees, licensees, and contractees, and all users and appropriators of water stored, diverted, carried, and/or distributed by the reservoir, canals, and other works herein authorized, shall observe and be subject to and controlled by said Colorado River compact in the construction, management, and operation of said reservoir, canals, and other works and the storage, diversion, delivery, and use of water for the generation of power, irrigation, and other purposes, anything in this Act to the contrary notwithstanding, and all permits, licenses, and contracts shall so provide." And § 13 (b): "The rights of the United States in or to waters of the Colorado River and its tributaries howsoever claimed or acquired, as well as the rights of those claiming under the United States, shall be subject to and controlled by said Colorado River compact." 43 U.S.C. § 617l(b).

292. See *supra* text accompanying note 231, for an example of such language.

293. *Arizona v. California*, 373 U.S. 551, 565.

294. There are now interim guidelines that govern how shortages up to 500,000 acre-feet will be shared. *Interim Shortage Guidelines*, *supra* note 5; see also *supra* text accompanying note 291.

295. The physical supply that must be available in Lake Mead to provide enough water to supply 7.5 maf/year of consumptive uses in the three mainstream Lower Basin states and 1.5 maf to Mexico is probably about 10 to 10.5 maf. Additional water is required to account for evaporation and channel losses plus some regulatory waste. KUHN, *supra* note 7, at 85: "under normal conditions, outflows from Lake Mead are in the range of 10.0 to 10.5 maf/year. Thus the demand (or outflow) on Lake Mead exceeds its supply (or inflow) by 1.0 to 1.5 maf/year." Under the Compact and the Colorado River Basin Project Act, minimum flows entering the Lower Basin annually at Lee Ferry are 8.23 maf. The 1922 Compact

continue to decline, a host of legal issues are likely to arise. Perhaps most challenging will be the source of supply to meet the Mexico Treaty obligation. Implicitly, the assumption has been this water will come from unused portion of the Upper Basin's 7.5 maf Compact apportionment. Historically, this water reached the Lower Basin because of the Secretary's ability to declare "surplus" conditions allowing releases from Lake Powell beyond the 8.23 maf "minimum objective release" and the release of 0.75 maf/year representing the Upper Basin's assumed legal responsibility to provide half of the water obligated to Mexico.²⁹⁶ As the Upper Basin faces the likely inability to increase consumptive uses and still ensure the 75 maf/10 year Compact flow requirement at Lee Ferry, it is increasingly likely to want to challenge the 0.75 maf release and to argue the Lower Basin must reduce its consumptive uses beyond the Compact-apportioned 8.5 maf as necessary to enable 1.5 maf/year to reach Mexico. *Arizona v. California* greatly complicated this issue by holding the Compact's 7.5 maf basic apportionment applies only to main stream uses, failing to address the status of the additional 1.0 maf made available to the Lower Basin under the Compact, and suggesting the tributaries in the Lower Basin were available for use without regard to the Mexico Treaty obligation.

The real uncertainty caused by *Arizona v. California* concerns uses of water from the tributaries, especially as it relates to the Mexico Treaty obligation. The Court made clear its view that states in the Lower Basin with tributaries are able to make use of available water independent of

actually only requires flows of 75 maf over consecutive ten year periods. In the Colorado River Basin Project Act, Congress directed the Secretary of the Interior to develop "criteria" for the "coordinated" operation of Lake Mead and Lake Powell. Section 602 (a), 43 U.S.C. § 1552. Releases from Lake Powell are to provide (1) half of the Mexico Treaty obligation; (2) the annual increment of the 10-year, 75 maf flow requirement; and (3) additional water determined to be available for release. In 1970, the Secretary promulgated Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968, Pub. L. No. 90-537 (June 8, 1970). These criteria established an "objective" of maintaining a minimum annual release of 8.23 maf. Disregarding any losses between Lee Ferry and Lake Mead, tributary inflows would have to add at least 1.75 maf just to keep Lake Mead in balance. Inflows from the Little Colorado River averaged about 180,000 acre-feet per year between 1906 and 2005. BUREAU OF RECLAMATION, FINAL ENVIRONMENTAL IMPACT STATEMENT, COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD, vol. I (Oct. 2007) at 3-20, available at <http://www.usbr.gov/lc/region/programs/strategies/FEIS/index.html>. Average inflows in this reach, however, do not provide this amount of water. Thus Lake Mead must be drawn down to make up the difference. There are tributaries below Lake Mead that add modest amounts of water, but these additions are more than offset by evaporation losses from the reservoirs below Lake Mead and channel losses. *Id.*

296. *Id.*

uses of the mainstream allocations under the BCPA.²⁹⁷ Clearly the Court wanted to avoid the knotty question of how much water Arizona was entitled to use from the Gila Basin. It made no reference whatsoever to Article III (b) of the 1922 Compact and its authorization for the Lower Basin to increase its consumptive use by another 1.0 maf/year prior to there being another basin wide apportionment process. Instead it discussed only surplus water unapportioned under the 1922 Compact, providing that California had the right to use up to half such water with Arizona getting most of the rest.²⁹⁸ This focus probably was derived from the Court's interest in considering only the BCPA, under which California was explicitly authorized to use—in addition to its basic 4.4 maf allocation—“one-half of any excess or surplus waters unapportioned by said compact.”²⁹⁹ As mentioned, during the formulation of the BCPA Senator Johnson of California chose not to have this provision clarified in relation to the Compact's Article III (b) water—perhaps based on his view that the term surplus water included the III (b) water.³⁰⁰

The Court rejected California's argument that tributary uses should be considered in deciding how much Lower Basin water Arizona could use because it would have the effect of increasing the amount of water California could use and preclude allocating 2.8 maf of consumptive use to Arizona from the mainstream.³⁰¹ Like the Master, the Supreme Court seemed to believe California's demands beyond its 4.4 maf basic allocation would be taken care of indefinitely out of surplus water flowing from the Upper Basin. With the disappearance of this surplus, the matter of tributary use once again demands consideration. At this point the 1922 Compact again becomes relevant. Arizona remains committed to its view that it can fully consume all water in the Gila basin not obligated to New Mexico and that these uses are not constrained by the 1922 Compact and should have no consequences for helping to meet the Treaty obligation to Mexico. The Upper Division states remain equally committed to the position that the Gila is part of the Colorado River ba-

297. See *supra* text accompanying note 233.

298. *Arizona v. California*, 373 U.S. 546, 565 (1963).

299. Boulder Canyon Project Act, Section 4(a), 43 U.S.C. § 617c (a).

300. See *supra* text accompanying note 82.

301. *Arizona v. California*, 373 U.S. 546, 563 (1963). “She argues that the Project Act, like the Colorado River Compact, deals with the entire Colorado River System, not just the mainstream. This would mean that diversions within Arizona and Nevada of tributary waters flowing in those States would be charged against their apportionments and that, because tributary water would be added to the mainstream water in computing the first 7,500,000 acre-feet available to the States, there would be a greater likelihood of a surplus, of which California gets one-half. The result of California's argument would be much more water for California and much less for Arizona.”

sin, that its water supply is subject to the provisions of the 1922 Compact, and that its uses must be considered both in determining how much water the Lower Basin is consuming and in deciding who bears responsibility for meeting the Mexican Treaty delivery obligation.³⁰² It is very possible we will need to have U.S. Supreme Court resolution of this matter.

Arizona v. California must be limited to the issues it considered, primarily the allocation of the consumptive use of the “first” 7.5 maf of available mainstream water in the Lower Basin. As the basin adjusts to a more limited water supply, it seems likely the Lower Basin can only expect the Compact-required 75 maf/10 years, supplemented by the additional 0.75 maf so long as the Upper Basin does not have to curtail any existing uses. Should storage in Lake Powell drop too low to meet the Lee Ferry flow requirement, or storage in Lake Mead decline below the level governed under the interim shortage guidelines, litigation between the basins seem likely.

VII. CONCLUSION

The day of reckoning for the states of the Colorado River basin is not far off. Existing uses already exceed the reliable water supply in the basin, a condition made possible by drawing down the basin’s savings account—water stored in the basin’s enormous storage system. The Upper Basin has always relied on the 1922 Compact to protect its ultimate right to consumptively use basin water when demands emerge. Thus, for example, while Congress was focused on water development in the Lower Basin under the BCPA, the Upper Basin simply relied on adding provisions making everything under the Act subject to the Compact.³⁰³ When the Secretary was issuing contracts for use of water from Lake Mead, the Upper Basin once again relied on provisions subjecting the contracts to the 1922 Compact.³⁰⁴ When Arizona sought to establish its rights to basin water as against California in the U.S. Supreme Court, the Upper Basin stayed out—relying for protection once again on its rights

302. Thus the Upper Basin long has opposed the decision by the Secretary of the Interior to include annual releases from Lake Powell of 750,000 acre-feet to help meet the Mexico Treaty obligations. This view was reiterated most recently when five years of consecutive drought in the Upper Basin dramatically reducing storage in Lake Powell prompted Upper Basin representatives to oppose Treaty release in 2005. See Letter from Scott Balcomb et al., Governors’ Representatives on Colorado River Operations of the States of Colorado, Wyoming, New Mexico & Utah to Herb Guenther et al., Governors’ Representatives of the States of Arizona, California, and Nevada (October 7, 2004) (on file with author).

303. Boulder Canyon Project Act, Section 8 (a), 43 U.S.C. § 617g (a).

304. See *supra* text accompanying note 231.

under the 1922 Compact. When Congress authorized construction of the CAP, fully informed that much of the project's water supply depended on the availability of unused Upper Basin apportionment, the Upper Basin went along because it believed the Compact protected it.³⁰⁵ We are nearing the time in which the Upper Basin will find out if its reliance on the Compact has been justified.

Judicial resolution of Compact issues is not a prospect to be desired. The issues are complex. Judicial resolution would involve an original action before the U.S. Supreme Court. Given the complexity of the issues, the proceedings would be lengthy—perhaps surpassing the 12 years required in *Arizona v. California*. The decision would be in the hands of judges with, at best, a limited understanding of the full implications of their actions.³⁰⁶ A resolution negotiated by the states themselves seems far more preferable.³⁰⁷ Yet it seems entirely likely that the states will not easily find a mutually acceptable basis for agreement on how to bring basin uses into balance with basin supplies.³⁰⁸

It has been the purpose of this Article to revisit the U.S. Supreme Court's 1963 decision in *Arizona v. California* and to identify ways this decision contributed to the extent of uses today in the Lower Basin: (i) the determination Arizona, California, and Nevada are entitled to consume 7.5 maf/year from the mainstream; (ii) that reservoir evaporation, transit losses, and regulatory waste do not count against these consumptive uses; and (iii) that Arizona, Nevada, and the Lower Basin portions of New Mexico and Utah are free to use the water in their tributaries. Among other things, this decision paved the way for Congressional authorization of the Central Arizona Project—enabling Arizona to fully consume 2.8 maf/year of mainstream water, in addition to its uses of tributary water. These determinations, however, should not be conclusive in now considering how to interpret the 1922 Compact as it applies to the two basins. They were made without the participation of the Upper Division states and without consideration of how they would affect

305. No doubt, the Upper Basin also was assured by the apparent promise to “augment” the water supplies available in the basin. Colorado River Basin Project Act, Section 201, 43 U.S.C. §1511.

306. No doubt, the actions of the Special Master and the U.S. Supreme Court majority in *Arizona v. California* were believed to be right at the time. Only in retrospect have the unintended consequences of this decision become apparent.

307. For a proposed approach to such a negotiation, see Lawrence J. MacDonnell, *The Disappearing Colorado River*, 9 W. ECON. FORUM 1 (Fall 2010). The major elements might involve an Upper Basin commitment to cap its depletions in return for relaxation of the Lee Ferry flow obligation and Lower Basin commitment to ensuring sufficient water to meet the Mexico Treaty obligation.

308. *Id.*

these states. Even the Court's interpretation of the BCPA should be limited in application to issues among the three riparian states in the Lower Basin. Congress in the BCPA explicitly subjected all uses of Colorado River system water made possible by Bureau of Reclamation projects to compliance with the 1922 Compact.³⁰⁹ Before long we will have to decide what that means.

309. Section 8 (a) states: "The United States, its permittees, licensees, and contractees, and all users and appropriators of water stored, diverted, carried and/or distributed by the reservoir, canals, and other works herein authorized, shall observe and be subject to and controlled by said Colorado River compact . . ." Section 13 (b) states: "The rights of the United States in or to waters of the Colorado River and its tributaries howsoever claimed or acquired, as well as the rights of those claiming under the United States, shall be subject to and controlled by said Colorado River compact. " 43 U.S.C. § 617g (a).