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Cross-Boundary Water Transfers in the Colorado River Basin: A Review of Efforts and Issues Associated with Marketing Water Across State Lines or Reservation Boundaries

Colorado River Governance Initiative

University of Colorado Boulder. Getches-Wilkinson Center for Natural Resources, Energy, and the Environment

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COLORADO RIVER GOVERNANCE INITIATIVE, CROSS-BOUNDARY WATER TRANSFERS IN THE COLORADO RIVER BASIN: A REVIEW OF EFFORTS AND ISSUES ASSOCIATED WITH MARKETING WATER ACROSS STATE LINES OR RESERVATION BOUNDARIES (Getches-Wilkinson Ctr. for Natural Res., Energy, and the Env't, Univ. of Colo. Law Sch. 2013).

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A REVIEW OF EFFORTS AND ISSUES ASSOCIATED WITH MARKETING WATER ACROSS STATE LINES OR RESERVATION BOUNDARIES

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Colorado River Governance Initiative*

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EXECUTIVE SUMMARY

The use of water markets to reallocate water within the Colorado River Basin states is well established and growing, and provides a valuable mechanism for adjusting to long-term demographic (or climatic) changes as well as addressing short-term crises, such as droughts. However, the use of this tool at larger, cross-jurisdictional scales—particularly those that cross state lines and Indian reservation boundaries—has been limited, despite numerous proposals. This report reviews major (and unsuccessful) proposals—all limited to voluntary and temporary leases—going back as far as 1984, tracing the political fallout of each effort, and the lessons that have emerged.

The early proposals all entailed moving water from Upper Basin sites to Lower Basin municipalities. Specifically, the *Galloway Proposal* (1984), the *Resource Conservation Group Proposal* (1990), *California's Conceptual Water Bank* (1991), and the *Roan Creek Proposal* (1993), focused on water—primarily from the State of Colorado—delivered to downstream users in San Diego, Los Angeles, and Las Vegas. And with the exception of the California proposal, all entailed a prominent role for private investment groups. In each case, political opposition from Upper Basin leaders was significant, and was supported by legal arguments suggesting primarily that the efforts violated the Law of the River.

A very different dynamic has been seen in the proposals and, later, establishment of interstate marketing arrangements confined to the Lower Basin. Beginning largely in 1993, new organizations such as the Arizona Water Banking Authority and new Interior managed initiatives such as the "intentionally created unused apportionment" (ICUA) and the "intentionally created surplus" (ICS) programs established a framework for interstate marketing that continues to steadily evolve.

Weaving in and out of these two threads of experimentation have been the proposals and experiments led by tribal governments, especially those associated with the Ten Tribes Partnership. From an early interbasin proposal in 1992, to more recent submissions to the Colorado River Basin Supply and Demand Study (in 2011-2012), the tribes have consistently pressed (unsuccessfully) for large-scale marketing programs, while simultaneously enacting a wide diversity of smaller scale off-reservation marketing programs.

This review of the past, present and potential future of cross-boundary water marketing in the Colorado River Basin yields four major findings:

1. Over the roughly three decades of experience summarized in this report, the topic of cross-boundary water marketing has always been a sensitive and controversial topic, but while

the most ambitious proposals have been consistently and soundly rebuffed, the amount of actual experimentation that has occurred—almost exclusively in the Lower Basin—is significant. Off-reservation water marketing is very common, although it is currently confined to intrastate options.

2. The opposition to most proposals is described in legal terms, but the underlying concerns are clearly political. A diversity of legal arguments can be made to either support or reject most proposals, as the Law of the River does not feature a direct affirmation or repudiation of the legality of interstate transfers. The legality of large-scale tribal water transfers is a particularly complex and unsettled subject.

3. The political concern over interstate marketing is rarely about unequal benefits or a feared "economic manipulation" of one party by another, but is that the "rules" of the exchange will be unilaterally changed mid-course by the more politically empowered participant. In this regard, the challenge is perhaps better defined in terms of a governance shortcoming or, in legal terms, as a problem of contract enforcement. This, ultimately, is what distinguishes cross-boundary water marketing from intrastate marketing.

4. Nonetheless, we are experiencing a renaissance in proposals and experimentation in cross-boundary water marketing, with the next frontier emphasizing Upper Basin arrangements, the involvement of Mexico, and most prominently, a central role for the tribes. Prospects for true interbasin transfers (i.e., those that transcend the Upper/Lower Basin divide) seem remote, unless they emerge from the tribal proposals.

It remains highly debatable whether or not the type of large-scale water transfers described in this report are a smart or practical management tool in the Colorado River Basin; this report makes no presumption or determination on that issue. But conceptually, it is difficult to deny that flexibility in water allocation is an inherently useful tool for coping with a variety of management challenges, if underpinned by arrangements that focus on voluntary transactions and strict contract compliance. Whether or not this institutional hurdle could be overcome is an open question, and is one that will likely be played out with respect to the tribal proposals. The experimentation already seen in the Lower Basin suggests that the potential for mutually useful arrangements is possible if an environment of trust and legal certainty can be cultivated. While that level of trust and legal certainty increasingly exists within the two sub-basins, it is not so apparent at the interbasin scale.

CROSS-BOUNDARY WATER TRANSFERS IN THE COLORADO RIVER BASIN:

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I. Introduction

In the American Southwest, it has long been realized that markets can serve as an efficient tool to reallocate scarce water resources. In Colorado, for example, there is a 100 year history of trading water rights (Howe, 2000).[1] Transfer arrangements vary widely in terms of their size (i.e., the amount of water), distances, duration, pricing terms, and other qualities. What is (and is not) possible is shaped by many factors, including the obvious need for buyers and sellers, the physical infrastructure to move (and store) transferred water, and the ability to overcome the legal hurdles—and their associated transactions costs—associated with state-defined transfer processes (Nichols and Kenney, 2003). The expansion of water markets has been further tempered, in part, by social pressures that characterize transfers as rich cities exploiting poor rural areas. While this characterization is overly simplistic and sometimes erroneous—for example, members of the Palo Verde Irrigation District in Southern California have been compensated handsomely for exchanges with San Diego—the fact remains that the ability of a community to control local water supplies is socially important, and allowing market mechanisms to function freely makes many parties understandably apprehensive. Nonetheless, with few exceptions, western states continue to broaden water transfer opportunities, especially with regard to promoting temporary exchanges and other alternatives to the "buy-and-dry" arrangements that have characterized many of the most controversial agricultural-to-urban exchanges (NRC, 1992; Squillace, 2012).

In this paper, we review another type of hurdle to the expansion of large-scale water transfers in the Southwest: the salience of key jurisdictional boundaries. Specifically, our primary focus is on the transfer of water across state lines. This focus unavoidably forces us to confront a secondary jurisdictional boundary of note—Indian reservations—as a broadened marketing of tribal water off-reservation could surely attract interstate, as well as intrastate, buyers. This is particularly true in our focus area, the Colorado River Basin, where tribes have already settled claims to roughly 2.9 million acre-feet/year of diversion rights, and many unsettled claims remain (Basin Study Appendix C9, 2012).

[1] Water marketing has been particularly effective In the Northern Colorado Water Conservancy District of Colorado (NCWCD), where water shares are readily tradable in an active market to any potential user that can demonstrate "beneficial use."

The recently completed Colorado River Demand and Supply Study (the "Basin Study") projects systemwide demands to exceed supplies by 3.2 million acre-feet (MAF) by 2060.[2] While addressing this imbalance is likely to entail a variety of demand management and supply enhancement options, significant reallocations of water across these jurisdictional boundaries could potentially be part of the solution. This is not a new thought. Research in the early 1980s correctly projected the demand for Colorado River water would outweigh supply in two decades (Simison, 1984), and throughout the 1980s and, especially, the early 1990s, several tangible proposals for interstate water markets were developed. These proposals came from a variety of sources—including states, municipalities, tribes, and private businesses—located in both the Upper and Lower Basins. By the mid-1990s, the scope of proposals had primarily been confined to the Lower Basin, the federal government (through the Department of Interior) had become a major player, the terminology had evolved from "markets" to "banks" (or in some cases, "market-banks"[3]), and ideas matured from proposals to demonstration projects to ongoing programs.

While the expansion of Lower Basin "water banking" continues, there are several reasons to suggest that the discussion of broader interstate markets may again heat up. Sparked largely by the Basin Study, multiple groups are discussing the potential value of Upper Basin water banks, most likely as a tool to aid in compact compliance (i.e., avoiding or fulfilling the delivery requirements associated with a compact call).[4] The Ten Tribes Partnership has proposed revisiting the topic of large-scale marketing[5], with one member, the Uintah and Ouray Utes (the "Northern Utes") in Utah, showing a particular interest in exploring markets that transcend the Upper Basin/Lower Basin divide.[6] Furthermore, recent agreements with Mexico also have a minor marketing component embedded into a larger suite of issues, and may provide a foundation for more elaborate arrangements. All these conversations are delicate and most are in their early stages, but it's likely each can benefit from a review of what has already been proposed, debated, and in a few cases, enacted. Certainly, most of the political and legal issues raised in earlier conversations are still relevant today, and still reflect the social uneasiness that seems inherent to water marketing.

The past, present, and potential future of cross-boundary water marketing in the Colorado River is reviewed in the following pages, not only with the aim of explaining what has occurred, but also to identify the reasons most proposals have not been implemented. It is worth explicitly noting that this review does not assume that cross-boundary water marketing is either

[2] This is a "mid point" estimate. Using more extreme supply or demand projections results in different estimates. Study materials are available online at http://www.usbr.gov/lc/region/programs/crbstudy.html
[3] This is the term used in the 1994 draft regulations (*see* Johnson Proposed Rules (1994)).
[4] This idea is featured in Options 62 and 95 submitted to the Basin Study, discussed later in this document.
[5] This proposal is found in Option 144 submitted to the Basin Study, discussed later in this document.
[6] This proposal is found in Option 66 submitted to the Basin Study, discussed later in this document.

an inherently good or bad idea, nor does it provide an opinion on the magnitude of legal issues that are raised by the proposals. Rather, it is simply motivated by the observation that reallocation of water is a management strategy that has been used effectively within the Colorado River states, so it is not beyond reason to think that marketing may have a role across larger scales, and it appears clear that at least some parties will insist on its consideration.

II. Some Early Proposals: 1984 to 1993

GALLOWAY PROPOSAL (1984)

Proposal Logistics

In the mid-1980s, San Diego County relied on 300,000 to 500,000 acre-feet (AF) of Colorado River water per year—more than double its legal apportionment (Peterson, 1985). However, as the Central Arizona Project (CAP) began to come online in stages, the future availability of this supply was called into question:

> …Southern California stands to lose about seventeen percent of its current water supply. California is presently 'borrowing' from the Colorado River 962,000 acre-feet of water per year more than it's entitled to and this excess water will be delivered to Arizona as the CAP's gates are opened and Arizona utilizes its apportionment of the Colorado River. (Prange, 1986-87: 81-82).

City planners estimated by 2000 San Diego would face a water deficiency preventing it from meeting nearly half of its domestic water demands (Prange, 1986-87). Hoping to supplement the city's water supply with leased Colorado River water, in 1984, the Galloway Group, a Colorado corporation, proposed an interstate water marketing scheme in which San Diego County Water Authority (SDCWA) paid the Galloway group a $10,000 sum for an option to lease 300,000 to 500,000 AF of water per year for forty years (Gross, 1985).

According to the proposal, the Galloway Group planned on damming the Yampa and White Rivers—both tributaries of the Colorado River—constructing reservoirs to store impounded water, developing the respective water rights for hydroelectric power generation as well as recreational use and, ultimately, leasing the water to San Diego for an unspecified price (Landry, 1985; Prange, 1986-87). The feasibility of the project hinged on the Galloway Group's efforts to establish water rights to 1.3 MAF of water on the Yampa and White Rivers (Gross, 1985). Furthermore, the company believed it could raise $200 million to privately finance dam and reservoir construction. To minimize additional costs, the Galloway Group proposed utilizing existing infrastructure and the natural river system to deliver leased water. Specifically, leased water would flow through the Colorado River to Lake Havasu, where it would be channeled to San Diego via the Colorado River Aqueduct (Landry, 1985).

In addition to directly leasing water to the SDCWA, the Galloway Group offered to facilitate leases of water from the three Upper Basin states to other potential Lower Basin customers (McDonald Memo, 1984). Under the proposed scheme, the Galloway Group would pay each

participating Upper Basin state an option of $10,000 in exchange for a promise of being provided 50,000 to 100,000 AF/year of water for leasing. As explained by Bill McDonald, then Director of the Colorado Water Conservation Board:

> These options, which were offered to each governor…purport to give a state the right to enter into a 'lease agreement' by which the signatory state would lease 50,000 to 100,000 acre-feet per year of 'its' water to Galloway for delivery by Galloway to unspecified entities in the Lower Colorado River Basin. In exchange, a state would receive $10 per acre-feet or, at a minimum, $1 million per year. (McDonald Memo, 1984: 1-2).

In terms of legal apportionment, water obtained from Galloway was to be subtracted from the apportionment of the Upper Basin state where the water originated.

Legal and Political Issues

Prior to the Galloway Proposal, the Colorado River Basin states never seriously addressed the prospects of interstate water marketing along the Colorado River. Consequently, much of the debate surrounding the political merits and legal viability of such transfers has been primarily explored in context to this specific proposal. Not surprisingly, the proposal fueled divisive political debates. In addition to the proposed buyer and seller, alleged proponents of the proposal included several unidentified officials in Colorado, Wyoming and Utah. Project supporters argued the project not only would secure Colorado's rights to the undeveloped water, but the new water infrastructure would create an additional water source for irrigation, establish recreational hot spots, and generate revenue for the participating Upper Basin states (Simison, 1984). These arguments proved unpersuasive to a broad coalition of opponents who believed the proposal operated outside the boundaries of governing policies and laws. As one observer noted:

> Water agencies of six of the seven signatory states [to the Colorado River Compact of 1922] have analyzed the Galloway Group proposal and have formally recommended that it be rejected and opposed as 'illegal, immoral or dangerous to the current comity among the states.' (Landry, 1985: 961).

Leaving aside the arguments about the "morality" or "dangerous" nature of the proposal, the legal arguments hinged on language found in key elements of the Law of the River—including

the Colorado River Compact of 1922 (the "Compact"), the Boulder Canyon Project Act of 1928, and the Upper Colorado River Basin Compact of 1948—as well as Colorado's Export Statute.[7]

Of central importance is the structure of the Compact, which in Article II (f and g) divides the drainage area into two sub-basins: an Upper Basin (Colorado, New Mexico, Utah and Wyoming) and a Lower Basin (Arizona, California and Nevada).[8] The apportionment in Article III(a) assigns each sub-basin the right to 7.5 MAF/year for "exclusive beneficial use," and further mandates in Article VIII that "[a]ll other rights to beneficial use of waters of the Colorado River System shall be satisfied solely from the water apportioned to that Basin in which they are situated." When read together, critics of the Galloway Proposal claimed these Articles established territorial use limitations which prohibit interbasin water transferring:

> The Compact equitably apportioned the Colorado River among the two Basins, but left the states free to regulate use within their borders. The states could regulate water because it was considered property of the state, but the scope of their regulation only extended to the physical boundaries of the state…the plain meaning and construction of the words apportioning to the Lower and Upper Basins the 'exclusive beneficial consumptive use' of a quantity of water support a finding that the Compact limited the use of Colorado River water to the territory of the Basin to which the water was apportioned. (Gross, 1985: 951).

Also flagged as potentially relevant was Article III(e), which prohibits the Upper Basin from withholding water which "cannot reasonably be applied to domestic and agricultural uses." Because the Galloway scheme planned on storing unused Upper Basin water for hydroelectric power generation—not domestic and agricultural use—opponents argued the company could not legally withhold, let alone sell, this water to Lower Basin users:

> …Article III(e) leads one to question whether Lower Basin states should be required to pay for water not being consumptively used in the Upper Basin in the first instance. That is, water which is not being used in Colorado should be left in-stream. (Prange, 1986-87: 94).

Similar to the Colorado River Compact, the Galloway Proposal raised questions under the Upper Colorado River Basin Compact of 1948. This compact aims to protect and apportion Upper Basin consumptive use among Colorado (51.75% of the Upper Basin's allotted 7.5 MAF), New Mexico (11.25%), Utah (23%), and Wyoming (14%), minus a fixed 50,000 AF apportionment to the

[7] Several letters and memos to this affect are on file with the authors, including the Getches Letter (1984) and McDonald Memo (1984) (cited in the Literature Cited), as well as several documents and resolutions from the states of Arizona and California. Also see Prange (1986-87).
[8] Colorado River Compact (1922), 45 U.S. Stat. 1057.

upper portion of Arizona.[9] Opponents of the Galloway Proposal argued the proposal disregarded Article VI's definition of consumptive use as "man-made depletions of the virgin flow at Lee Ferry." As explained by Guy (1991: 36):

> Opponents of interbasin transfers might argue that because water transferred under this…proposal would pass Lee Ferry, no depletion would occur in the Upper Basin; therefore, there would be no consumptive use and the water should not be credited to the Upper Basin.

If the water were not credited as a depletion against the apportionment of the Upper Basin state, then that state arguably has no right to withhold or sell that water to the downstream buyer, and presumably, the eventual depletion might be credited against the apportionment of the home state of the purchaser—in this case, California—which then puts that state over limits established in the Boulder Canyon Project Act and the decree in Arizona v. California.[10]

The proposal could also prove problematic with respect to Article XIII of the Upper Basin Compact, which allocates half of the Yampa's average annual flow (roughly 1 MAF) to both Colorado and Utah. By leasing a large amount of Yampa water to San Diego, Colorado presumably would potentially be unable to meet its delivery obligation of 5 MAF every ten years, and would thus infringe upon Utah's apportionment (Landry, 1985).

A variety of state water management laws were also implicated by the Galloway Proposal. One prominent example is the Colorado Export Statute, which presumably gives the state the ability to block water exports that don't satisfy at least one of the following three criteria: (1) expressly authorized by interstate compact, (2) credited as a delivery under a compact, or (3) does not impair the ability of Colorado to honor legal obligations to other states (Guy, 1991). Critics of the proposal argued the proposal failed on all counts (Gross, 1985).

Ultimately, the legality of the Galloway Proposal was not tested in the courts, as the maze of potential legal hurdles, fueled by intense political pushback, was sufficient to table this effort. But other proposals testing the limits of cross-boundary water marketing were not far behind.

[9] Upper Colorado River Basin Compact of 1948, 63 Stat. 31 (1949).

[10] In 1928, the Boulder Canyon Project Act apportioned the Lower Basin's 7.5 MAF such that Arizona legally receives 2.8 MAF, California 4.4 MAF, and Nevada 0.3 MAF. This was affirmed in *Arizona v. California*, 373 U.S. 546 (1963).

RESOURCE CONSERVATION GROUP PROPOSAL (1990)

Proposal Logistics[11]

Building on and (arguably) learning from the Galloway Proposal experience, the Resource Conservation Group (RCG) in 1990 unveiled a sophisticated proposal for the downstream leasing of Upper Basin water. Unlike the Galloway model, the RCG Proposal offered both undeveloped and developed (i.e., currently utilized) water, acquired through lease from a variety of participating rightsholders on a rotational schedule designed to protect each lessors state recognized water rights—in a manner characteristic of many "water banking" proposals. It also involved the states in a prominent fashion, hoping to strengthen—both legally and politically—the leasing framework.

Water was to be pooled into three categories, distinguished in practice by whether or not the water was currently being used, and distinct legally based on RCG's interpretation of the Compact's apportionment and the ability of the Upper Basin to control water not currently applied to consumptive uses. Type I water was comprised of "unallocated and undeveloped water not dedicated to Upper Basin beneficial consumptive use"—water that (presumably) would be considered surplus under the Colorado River Compact. Type II water, in contrast, was water that was within the Upper Basin apportionment and was developed, but was not used on a regular basis. Finally, Type III waters are those currently used consumptively. The RCG plan was to comingle and store all three types of water in existing water facilities.

Incorporating both Lower and Upper Basin interests, the RCG Proposal plays Type II and Type III water off each other. As described in the proposal,

> Upper Basin interests are very interested in receiving revenues … for Type II water and may be willing to lease certain amounts of Type III water … as an inducement to the Lower Basin. On the other hand, Lower Basin entities are primarily interested in obtaining additional supplies of Type III water and may be willing to pay for a certain amount of Type II water in order to obtain it on a guaranteed basis and in order to obtain the Type III water. (RCG Proposal).

The pricing of Type II and Type III waters was to be determined based on state-to-state negotiations, with the assumption that Type III would be most expensive.

Type III water offered to RCG for lease would remain the property of the private rightsholders, primarily irrigators, who would receive both a retainer throughout the lease agreement as well as additional payments in those years where the water was delivered to Lower Basin

[11] RCG Proposal (1990). On file.

purchasers. While RCG anticipated lease agreements to range from 5-20 years, no participating Upper Basin irrigator would be expected to fallow their crops more than a year at a time, a rotational strategy designed to protect both communities and water rights. Contract details would be negotiated between private rightsholders and RCG, with the expectation that this model would help enhance and stabilize the revenues of participating farmers and ranchers. The state would also be a signatory to these contracts, and would retain the authority to terminate the lease under certain conditions.

In addition to individual lease agreements, RCG was to enter into contracts with participating states regarding the terms of their participation, including how much Type II and Type III water each Upper Basin state was willing to contribute to the total pool, the amount of water Lower Basin states wished to lease (and for what duration), the prices to be paid for leased water, and the amount of revenues distributed back to the states. While subject to negotiation, RCG proposed the majority of revenues be returned to the states, and placed in an account used to fund future water developments or public works projects.

Legal and Political Issues

While the RCG proposal sought to address Galloway's shortcomings, it faced similar political and legal scrutiny. For example, in a memo to the Colorado Water Conservation Board, Jim Lochhead, then Commissioner of the Upper Colorado River Commission, argued the marketing scheme would dry up Upper Basin farmland, adversely affect both the economy and the environment, create a competitive water rights 'bidding war' between Upper and Lower Basin users, and overwhelm Colorado's water court system (McDonald and Lochhead Memo, 1990).

Many of legal arguments raised against the RCG Proposal mirrored those of the Galloway Proposal. As another interbasin (i.e., Upper to Lower Basin) scheme, the interaction of Articles II (f and g) and III(a) of the Compact—apportioning water to the sub-basins—with Article VIII—mandating that all rights to use Colorado River water must be satisfied from the sub-basin in which they are situated—raised the territorial limitation issue. That interpretation of the Compact's intent highlights a constitutional law consideration over the regulation of interstate water markets, as the Supreme Court has identified water as an article of interstate commerce.[12] According to Article I Section 8 of the U.S. Constitution, only Congress can regulate commerce among states; if Congress chooses to not exercise this power, states may not enforce regulations that unduly burden commerce. But this is where the special legal status of a Compact is salient. As Viscoli (1991: 901) explains:

[12] The Supreme Court has identified water as an article of commerce. See: *Sporhase v. Nebraska*, 458 U.S . 941, 954, 102 S. Ct. 3456, 3459 (1982).

> A state may not enact a statute which unnecessarily burdens the exportation of its resources… At the same time, however, the Constitution gives the states the power, with the consent of Congress, to enter into compacts with other states … [Such] compacts, as exercises of state sovereignty, are subject to Commerce Clause analysis. If, however, compacts are considered federal law, they are immune from Commerce Clause scrutiny because, '[o]nly state regulation which Congress has not expressly authorized is vulnerable to commerce clause attack.'

In addition to this now-familiar list of legal issues, the RCG Proposal and its classification of water of three types ran into an additional Compact issue. Specifically, RCG's "type 1" water is to be "surplus"—water beyond that allocated in III(a) and III(b)—and, presumably, above and beyond water reserved for Mexico in III(c) and later promised in a 1944 treaty. Summing these allocations together yields 17.5 MAF—more than the river provides on a reliable basis. Thus, type 1 water likely does not exist (Viscoli, 1991). Similarly, "type 2" water assumes the Upper Basin has a right to store, control and presumably market water which falls within the 7.5 MAF Upper Basin apportionment but for which there is currently no Upper Basin demand. This appears to contradict the sentiment of III(e) mandating that "[T]he States of the Upper Division shall not withhold water, and the States of the Lower Division shall not require the delivery of water which can not reasonably be applied to domestic and agricultural uses." Given these considerations, the proposal would likely be confined to type III water.

In sum, the RCG Proposal sought to overcome the legal criticisms of the Galloway Group primarily by improving the political appeal of the scheme. RCG's promise to generate substantial revenues for rightsholders and the states, and the effort to integrate the states into the specification of contracts and the negotiable of leases, were both smart but ultimately inadequate strategies. Similarly, the effort to classify water of different types was innovative and was reflective of the complexities of Law of the River; however, the execution was poor.

CALIFORNIA'S CONCEPTUAL WATER BANK (1991)

Plagued by a severe five year drought—including the four driest years in the Colorado Upper River Basin—California in 1990 sought additional drought-coping water from Lake Mead (Romer Letter, 1991). Moreover, California requested help and cooperation from the Basin states to also develop solutions to long-term water shortages (Lochhead Memo, 1991). Responding to California's calls for help, the Secretary of Interior, Manuel Lujan, proposed a plan in which Upper Basin states would donate surplus water to California (Lochhead, 2003). In a letter to Secretary Lujan, Colorado Congressman Ben Nighthorse Campbell responded with

the following suggestion, “I propose you and I work together to allow Colorado to transfer the water rights decrees from congressionally authorized, but as yet unconstructed dams, to instream flows. Colorado could then begin to temporarily lease its unused water to downstream states that are unable to live within their means with respect to water” (Campbell Letter, 1991). Although Campbell agreed to provide temporary relief, he prefaced his promise with, “I am not in favor of sending Colorado water to California, but in lieu of your suggestion of free water, I feel obligated to state that if California users are to receive additional water, they should pay for it.” While nothing came of Campbell’s Proposal, it reopened the door for discussions on transbasin water marketing.

In addition to Campbell’s response, the Upper Basin states feared a lack of cooperation would persuade Secretary Lujan to declare Lower Basin surplus conditions, thus forcing them to donate their ‘excess’ water (Lochhead, 2003). Feeding off this fear, on February 21, 1991, Colorado Governor Roy Romer wrote a letter to California Governor Pete Wilson expressing his willingness to work with California to help develop a sustainable water management plan.

As a short term solution, Governor Romer promised to collaborate with other Basin states as well as the federal government to ensure the Metropolitan Water District of Southern California (MWDSC) received an ample supply of Colorado River water for the rest of the year (Romer Letter, 1991). This short-term solution was contingent upon California agreeing to the following criteria outlined by Governor Romer:

- California must actively commit to discuss long-term solutions
- all discussions and agreements must honor the Law of the River as well as the other legal frameworks governing the Colorado River,
- all discussions and agreements must identify how California will reduce its Colorado River consumption down to its 4.4 MAF allotment in a reasonable time period,
- agreements should acknowledge how operational changes impact the Basin states, and
- discussions should focus on other basin interests such as environmental concerns and overall river operations.

Furthermore, Romer’s letter emphasized the importance of state-to-state resolution as well as the avoidance of private interstate water marketing schemes (Lochhead Memo, 1991). Despite the stringent stipulations, Governor Romer’s letter was well-received by both California and the other Basin states, resulting in a Basin-wide meeting held in Torrance, California on June 24, 1991. At the meeting, Colorado presented the *Conceptual Framework Concerning the Resolution of Selected Issues on the Colorado River*, which outlines a short-term solution as well as Romer’s aforementioned discussion and agreement criteria (Colorado Position Paper, 1991). In a nutshell, the proposal would allow the Metropolitan Water District (MWD) of Southern California to continue receiving extra Colorado River water (1.212 MAF/year) while a plan was

developed to limit statewide consumption at 4.4 MAF; in return, a mechanism would be implemented to convey compensation—either monetary or non-monetary—to the other Basin states.

In addition to Colorado's Conceptual Framework, Arizona presented its position regarding the operation of the Colorado River reservoir system. Similar to Colorado, Arizona committed to collaborating with the other Basin states as long as California started reducing its beneficial consumptive use in 1992, and as long as California accepted the risks associated with operational changes. As stated in the letter:

> Arizona is committed to the principal that those receiving increased benefits from changes in the current operational philosophy of the Colorado River system must accept all risks associated with those changes. Arizona cannot accept any additional risks associated with changes from the current operation. (Arizona Position Paper, 1991).

This concern reflected the junior priority of Central Arizona Project supplies, and the notion that any operational change that prompted or accelerated a decline in Lake Mead storage disproportionately threatens Arizona water interests.

Proposal Logistics

Taking into consideration the Basin states' opinions, on August 28, 1991, California presented its detailed water banking proposal called the *Conceptual Approach for Reaching Basin States Agreement on Interim Operations of Colorado River System Reservoirs, California's Use of Colorado River Water Above Its Basic Apportionment, and Implementation of an Interstate Water Bank Prepared by California*. In the proposal, California proposed a schedule for reducing its beneficial consumptive use to 4.4 MAF by 2010. According to framework, California would cap its total annual consumptive use of Colorado River water at 5.2 MAF through 1993, dropping to 5.0 MAF by 1996, 4.8 MAF by 2000, and 4.6 MAF by 2005 (California's Conceptual Approach, 1991). While California implements this schedule, MWD would be permitted to continue diverting 1.2 MAF through existing infrastructure. The schedule would change if apportioned but unused Lower Basin water became available or if surplus conditions were declared by Reclamation.

In addition to outlining a reduction plan, the framework establishes an escrow account to offset impacts resulting from California's excess use of Colorado River water. Essentially, when California consumes water, consequently causing the Lower Basin to exceed its apportioned 7.5 MAF, California would be obligated to pay an unspecified amount into an escrow account

(LaBianca, 1998). The money in the account would be divided among the Basin states as follows: Arizona (26.4%), California (15.2%), Colorado (18.1%), Nevada (8.8%), New Mexico (9.9%), Utah (13.3%), and Wyoming (8.3%). This distribution reflects the apportioned use of water coupled with the risks associated with water shortages as well as other unforeseen impacts. Each state would be permitted to use the escrow money to fund water related projects such as conservation efforts, efficient water development projects, environmental protection efforts, and/or the development of recreational areas.

The other key element of California's proposal was the establishment of a voluntary state-operated water bank overseen by a state-controlled forum (California's Conceptual Approach, 1991). As described in the framework, any basin state would be permitted to voluntarily buy or sell Colorado River water to offset the risk of current or future water shortages. Water sold to the bank must be sold by a state and on an annual basis. Once purchased by the forum, water in the bank would be treated as non-Colorado River system water. The total amount of water in the water bank would be made available to state buyers as follows: Arizona (20.6%), California (32.4%), Colorado (23.5%), Nevada (2.9%), New Mexico (4.4%), Utah (10.3%), and Wyoming (5.9%).

If a state chose to purchase less than its allocated apportionment, the difference would be reallocated proportionally among any remaining buyers. Purchased water would go into each state's own account, with storage volumes not allowed to exceed specified limits: Arizona (1.4 MAF), California (2.2 MAF), Colorado (1.6 MAF), Nevada (0.2 MAF), New Mexico (0.3 MAF), Utah (0.7 MAF), and Wyoming (0.4 MAF). Each state would be free to determine how to use this water within its boundaries, or could return this water to the interstate market by selling it back to the forum.

Legal and Political Issues

On November 6, 1991, each state submitted responses to California regarding its proposed framework. According to Colorado's response, Governor Roy Romer supported the creation of the escrow account but questioned the development of the water bank. As Lochhead (2003: 9) observed:

> Although Colorado remained open to discussions of a water bank, it expressed a number of reservations and questions as to how such a bank could operate consistently with the Law of the River and the protection of the entitlements of future development of the other states. Colorado Governor Roy Romer stated the water bank concept would not 'offer the necessary incentive to California to solve its own water supply problems.'

In addition to these concerns, Romer expressed reservations regarding a free market approach, treating water as an article of commerce, and re-defining bank water as non-Colorado system water (Lochhead Memo, 1991). While he was open for further discussion, he firmly believed the implementation of a water bank was not the best option to satisfy long-term management needs.

Wyoming, similarly, was willing further discuss the escrow account, but opposed the water banking component. New Mexico and Nevada showed little interest in either element, with Nevada expressing concerns that the combination of "redefined surplus and water banking" would result in increased risk of shortages (Lochhead, 2003). A similar sentiment was expressed by Utah, which conditioned its willingness to discuss both the water banking and the escrow account concepts upon the assurance that neither would increase risk and injury to other Basin states. That being said, it viewed the water bank's "legal, institutional, political, and practical obstacles … as 'virtually insurmountable.'"

Perhaps the most skeptical response came from Arizona, which reasserted its concern that any program allowing California to continue uses beyond its 4.4 MAF apportionment was a threat to Arizona's water supplies. As noted by Lochhead (2003: 9-10), "Arizona expressed no interest in either the monetary aspect of the escrow account or the water bank, and insisted that any program allowing California to use any Colorado River water over its basic normal entitlement give 'absolute assurance' to Arizona that its future water supplies not be impaired."

Ultimately, the fear that the proposal would only perpetuate—and perhaps intensify—California's overreliance on the river undermined its political viability, and it was retracted by California. Nonetheless, it did provide the springboard for new Lower Basin discussions that considered MWD's water concerns in context of unprecedented growth in southern Nevada and, conversely, the worsening agricultural economic conditions in Arizona and the resulting decreased demand for CAP water. These discussions were fruitful, and gave rise to pilot groundwater recharge programs in both Arizona and California. They also began to shine a light on the critical role of water allocated to the tribes, as California's plan relied heavily on the consumption of presently unused tribal water—yet failed to mention tribal involvement and compensation.[13]

[13] This observation largely inspired a 1992 proposal from the Ten Tribes, summarized later in Chapter IV as part of the review of tribal marketing activities.

ROAN CREEK PROPOSAL (1993)

In 1993, Chevron Shale Oil and the Getty Oil Exploration Company co-developed another interstate market proposal known as the Roan Creek Proposal. Together, the two companies proposed to pipe Colorado River water three miles uphill to a storage reservoir on Roan Creek—located in Garfield County, Colorado—and, subsequently, to lease the water to Las Vegas and the Southern Nevada region (Obmascik, 1993a). Trying to differentiate it from previous proposals, Chevron and Getty marketed the Roan Creek Proposal as an innovative multipurpose project having benefits as diverse as environmental protection and oil shale development. And by relying on existing water rights and facility authorizations, the proposal sought to avoid some of the feasibility issues that plagued earlier efforts.

Proposal Logistics

The proposal called for implementation in two phases (Obmascik, 1993a). In the first phase, Chevron and Getty proposed leasing 100,000 to 200,000 AF of water per year to Nevada for a 30-50 year duration. As part of the lease agreement, Nevada would finance the development, construction, and operational costs—estimated at $200 million—associated with the required water facilities located in Colorado. These facilities include a Colorado River water intake structure, a river stabilization structure, a sedimentation/re-regulation pond, pumping and pipeline facilities, and a dam and reservoir located on Roan Creek. Furthermore, recipients of leased water would pay the State of Colorado $50/acre-foot—generating approximately $8.75 million per year. As an additional benefit, releases would be designed to support the Colorado River Endangered Fish Recovery Program, specifically targeting critical river habitat for the newly listed razorback sucker.[14] This was to be a short-term strategy for endangered fish recovery while a permanent strategy was developed. After this initial phase, Chevron and Getty planned to use the water—along with the newly constructed infrastructure—to pursue their long-term objective: oil shale development.

Legal and Political Issues

Based on previous permitting, their adjudicated water rights and land ownership, Chevron and Getty maintained that project implementation would be feasible and straightforward. Notably, in the 1980s, Chevron and Getty had already obtained the appropriate permitting and

[14] As explained in the proposal, "Reservoir releases will be tailored to take advantage of significant near-term opportunities for assisting in enhancement and stabilization of these Colorado River endangered fishes…" RCG Proposal (1993). On-file.

authorization required to create a common pool of water for oil shale development. This permitting process included the completion of an Environmental Impact Statement, a Clean Water Act Section 404 permit authorizing the construction of the aforementioned water facilities, a 401 Water Quality Certification, and approval under both the Endangered Species Act as well as the Fish and Wildlife Coordination Act. Similarly, in the 1980s, Chevron and Getty had obtained approval from the Water Courts to modify their existing water rights, which were decreed for oil shale purposes. As outlined in the proposal,

> The project proponents own or have the right to lease the water rights to be used in connection with the Roan Creek Project…The project proponents obtained Water Court approval to modify these water rights in various respects, including permission to store water there under in Roan Creek Reservoir and to permit additional uses of water there under (including recreational, municipal, and other beneficial uses), in the mid-1980s. (RCG Proposal, 1990: 3).

Moreover, Chevron and Getty believed they could offer a reliable supply of water to Nevada because these rights are senior to many existing Colorado Basin rights—including some of Denver Water's rights, the Windy Gap Project, and decrees held by the Colorado River Water Conservation District (Ross and Williams Memo, 1993).

Despite the optimism of the proponents, the proposal was rejected by virtually every notable public official in Colorado, including Colorado's U.S. senators Ben Nighthorse Campbell and Hank Brown, the state's top water officials—including Natural Resource Director Ken Salazar, State Engineer Hal Simpson, and Water Conservation Board Director Chuck Lile—former Governor Roy Romer, and Colorado Attorney General Gale Norton (Obmascik, 1993b; McGregor, 1993). Opponents noted the fundamental concepts were almost identical to those presented in the Galloway Proposal, and thus featured similar legal barriers and political shortcomings. For example, opponents argued the Roan Creek Proposal would violate interstate compacts, result in unregulated markets, jeopardize Colorado's water rights, and, consequently, cost tax payers millions of dollars in water court battles. Additionally, the federal reviews conducted in the 1980s were now outdated, based on an oil shale (not a water leasing) proposal, and conducted before the listing of endangered fish.

Building on debates associated with earlier marketing proposals, the ability of states to regulate interstate water markets was again a central point of legal analysis. Attorneys representing Chevron and Getty argued that since "[t]here is no provision in the Law of the River which explicitly prohibits interstate commerce in water or interests in water…the absence of an express law of prohibition means that the Commerce Clause continues to protect the export of water as contemplated" by the Roan Creek proposal (Ross and Williams Memo, 1993: 2). In contrast, Colorado water officials argued that *Sporhase* contemplates a certain degree of

"reasonable regulation" of interstate water markets by states, which is expressly done in Colorado's Export Statute. According to a legal analysis of the Export Statute by Gregory Hobbs, "any state wishing to have water delivered to it from Colorado would have to receive such water as part of its compact delivery" (Hobbs Memo, unknown date). If Colorado approved a lease that called for providing water to a Lower Basin state distinct from a compact delivery, then that water is now outside of the Export Statute's scope, and the ability of the state to regulate the market is lost. This could set a dangerous precedent:

> With respect to breaching Colorado's *Sporhase* protection, leasing is no different from permanent water sales. Once water is sold interstate from Colorado's allocation, there is no restriction or bar to any future transaction of the same nature. Leasing would open Colorado to federal Commerce Clause regulation in favor of interstate water marketing. Existing west slope water rights would likely be subject to being bought up and removed from the land and delivered across state lines without compact delivery credit. (Hobbs Memo, unknown date).

The political sentiment was perhaps best captured by former Governor Roy Romer, who suggested the proposal could effectively "turn Colorado into a 'water farm' for wealthy Lower Basin cities" (Hobbs Memo, unknown date). Sharing this concern, Senator Hank Brown insisted: "Colorado's No. 1 concern is to ensure we don't jeopardize our rights to water under the interstate compact. We must ensure no water is lost before a project like this moves forward" (Obmascik, 1993b). Supporters, including Nevada and Colorado State Representative Tim Foster of Grand Junction, suggested the proposal would, in fact, protect Colorado's share of the Colorado River; however, few others agreed and the proposal did not move forward (McGregor, 1993). To the extent that interstate water marketing proposals would move forward, they would be confined to the Lower Basin.

III. Lower Basin Experimentation: 1993 to Present

SEEDS OF A LOWER BASIN WATER BANK (1993-1995)

With mounting pressure to find additional sources of water, in 1993, the Colorado River Commission of Nevada hosted the Southern Nevada Water Summit to discuss potential water supply proposals. A broad spectrum of ideas was considered, including still additional proposals calling for water leased from the Upper Basin (Lochhead, 2003). Specifically, Utah and Nevada began exploring the option of leasing Utah's unused Colorado River water to Las Vegas. According to preliminary discussions, Utah would lease its unused water for 50-100 years and put the money generated from lease payments towards water development projects—generating up to $20 million per year (Woolf, 1994).

Putting this proposal into practice, however, would not be easy. In a white paper outlining interstate transferring logistics, board members of the Colorado River Commission of Nevada and the Southern Nevada Water Authority (SNWA) cite the Law of the River as the dominant legal barrier, with one board member suggesting "we must change the Law of the River" (Lochhead, 2003: 12). Perhaps more problematic was the political firestorm associated with the proposal to move Upper Basin to the Lower Basin, something that Colorado objected to in principle. As explained by Jim Woolf (1994: A1):

> Colorado is unenthusiastic. Jim Lochhead, director of the Colorado Department of Natural Resources, said he has not seen the details of Utah's proposal but he is uneasy with the concept. 'Colorado's position on water marketing from the upper basin to lower basin has consistently been that we're opposed to it. . . . We've cast a doubtful eye on many of these proposals.'

Having witnessed this type of political opposition before, Nevada initiated an important shift in the conversations, proposing in 1994 a Lower Basin water bank that would collect and allocate voluntarily contributed water. The system would be operated by a new Lower Basin Commission comprised of delegates from each Lower Basin state (LaBianca, 1998). In theory, the proposal offered something for each of the Lower Basin states: an augmented supply for the Metropolitan Water District of Southern California (MWD) and the Southern Nevada Water Authority (SNWA), and end to the CAP's low priority. Not surprisingly, this idea met the political litmus test of the Upper Basin, as it satisfied two key criteria: "that the Lower Basin resolve its own water allocation issues within the Lower Basin, and that no private water marketing occur between the Upper and Lower Basins" (Lochhead, 2003: 13). It did not,

however, satisfy Arizona, which felt that as the obvious seller of water, it would be overwhelmed and exploited by California and Nevada (LaBianca, 1998).

As an alternative, Arizona proposed to establish its own bank. The seeds for such an arrangement had already been sown in 1992 when the CAWCD (Central Arizona Water Conservation District) and MWD had entered into a water banking demonstration project, later joined by the SNWA (Kightlinger Letter, 2007).[15] Also salient were draft regulations issued in 1994 by the Bureau of Reclamation, proposing the establishment of a Lower Basin bank emphasizing conserved Colorado River water. As defined in the draft regulations:

> Conserved water is that water within the limit of an entitlement which has been put to historical beneficial use and saved as a result of specific conservation measures which are identifiable, quantifiable, and verifiable. Conserved water that is made available for banking must result from actions which conserve water that either would have been consumptively used or lost from availability for beneficial consumptive use in the absence of the conservation measures. Conservation measures may include the use of non-Colorado River water in lieu of Colorado River water which otherwise would have been used. (Johnson Proposed Rules, 1994: 81).

This proposal moved the conversation of a Lower Basin water bank ahead further, but was still not the model that Arizona preferred for two reasons. First, the proposal classified water banked in Lake Mead as "top water" (first in, first out), which could have the practical effect of further subordinating the priority of the state's CAP entitlement water (LaBianca, 1998). Second, to comply with the Law of the River, the draft regulations equate the act of conserving and banking Colorado River water to beneficial consumptive use. As LaBianca (1998: 10) explains:

> …the water conserved would be charged against the apportionment of the conserving state in the year of the conservation. Once the water had been 'used' and charged against the apportionment of a Lower Basin state pursuant to

[15] Originally, the agreement allowed MWD and SNWA to each establish up to 100,000 acre-feet of underground storage credits in years which there was a surplus on the Colorado River, an amount later increased (in 1995) to 300,000 acre-feet. Once credits were developed, the agreement allowed MWD to and SNWA to request recovery of up to 15,000 acre-feet/year of credits in years which there was a normal flow on the Colorado River. When withdrawals were requested, CAWCD would utilize stored groundwater instead of surface water while deliveries from Lake Mead to MWD or SNWA would be made of an equivalent amount. Ultimately, MWD and SNWA earned credits of 89,000 and 50,000 acre-feet, respectively. Later once the Arizona Water Banking Authority was established, SNWA's credits were transferred to that program, while MWD continued to withdrawal from the CAWCD demonstration project until exhausting credits in 2010.

> Article II(B)(4) of the Decree, in effect, it would no longer be Colorado River water and thus, no longer subject to the Law of the River.

This rule allows states to buy water in excess of their legal apportionment, but it also means that Arizona's access to wet water is reduced accordingly. This prompted Arizona to describe this redefinition of beneficial use as a violation of the Law of the River (LaBianca, 1998). Ultimately, Arizona wanted the ability to broker transactions in a largely independent fashion without penalizing Arizona water users. In the opinion of Arizona water leaders, neither Nevada's nor Reclamation's proposals were adequate in this regard.

Further angering Arizona were negotiations in 1995 between MWD and SNWA that, among other items, called for both entities to finance lining of the All-American Canal and thus capturing an additional 67,000 AF/year for their use (LaBianca, 1998).[16] Similar to Reclamation's draft regulations, the states would bank excess water in Lake Mead as top water. As described by Lochhead (2003: 15):

> Governor Symington of Arizona blasted the proposed deal, in particular the Lake Mead 'top-banking' proposal that Arizona had opposed in the technical committee discussions, in letters to the governors of California and Nevada and to Secretary of the Interior Babbitt. Governor Symington illustrated the bitterness of the political atmosphere, stating that the secret negotiations '[have] severely undermined our confidence in the ability of Nevada to negotiate in good faith ... Arizona will not sit idly by while such a disingenuous plan is put into operation.'

Combined, these events all strengthened Arizona's resolve to pursue its own water banking idea.

ESTABLISHMENT OF THE ARIZONA WATER BANK (1996)

In 1996, Arizona passed legislation creating the Arizona water bank ("the bank") and the Arizona Water Banking Authority (AWBA) (Glennon, 2002). The bank allows Colorado River water moved through the Central Arizona Project (CAP) to central Arizona to be used for either "direct recharge" or "in lieu recharge," which generates "future recovery rights" that can be later withdrawn. Direct Recharge occurs when CAP water is used to recharge underwater

[16] Interesting, MWD planned on selling some of the captured water to the San Luis Rey Indian Tribe (Lochhead, 2003).

aquifers for storage; in lieu recharge occurs when CAP water is used instead of groundwater, thereby saving the groundwater for future use.

In establishing the bank, the Arizona legislature laid the foundation for allowing California and Nevada to participate, potentially accessing up to 100,000 AF/year each of Arizona's Colorado River allotment through the Arizona Water Bank.[17] The passage of the 1996 legislation, however, did not immediately allow California or Nevada to use the bank or access the 100,000 AF. Instead, the legislation first required the promulgation of federal regulations[18] and mandated that any interstate deliveries be a part of a water delivery contract[19] approved by the Secretary of the Interior in order to comply with the Boulder Canyon Project Act ("Project Act").[20] The Department of the Interior promulgated the necessary regulations in 1999.[21]

A key feature of the regulations is that they permit Lower Basin states to store "intentionally created unused apportionments" (ICUAs) in a location off-stream—such as the Arizona Water Bank.[22] The regulation also permits the voluntary sale of ICUAs among the Lower Basin states, hence opening the door to interstate water marketing.[23] When a state wishes to withdraw its deposit from the water bank, the withdrawing state must inform the Secretary and the other Lower Basin states of this intent, and Secretary—or the Regional Director of the Bureau of Reclamation acting on the Secretary's behalf—then releases the water "consistent with the [Boulder Canyon Project Act], Article II(B)(6) of the Decree, and all other applicable laws" (LaBianca, 1998). Once the water is released, the consuming state may assign the water right to any entity given that all contracting parties are in agreement.[24] An ICUA must be released in the year it was created.[25] The Secretary may also authorize the "borrowing" or "anticipatory release" of ICUA, before its actual development, if assurances are given that the ICUA will be developed in the year of the anticipatory release.[26]

[17] For California or Nevada to access this water several conditions must be met including a requirement that there is no use for the water in Arizona and a requirement that there are no shortages on the Colorado River (Glennon, 2002).
[18] A.R.S. § 45-2471
[19] The Project Act requires all diversions of Colorado River Water, including banking and trading, to be supported by a water delivery contract approved by the Secretary of the Interior.
[20] *See*, 43 C.F.R § 414.1 (e).
[21] *See* 43 C.F.R § 414.1 (e) at 938.
[22] 43 C.F.R § 414.1 (a)(1-2) (2008). ICUAs are essentially a water credit for water that is intentionally not used, but intended to be used in the future (thus distinguishing ICUAs from surplus).
[23] 43 C.F.R § 414.1 (a)(4).
[24] 43 C.F.R § 414.1 (d).
[25] 43 C.F.R § 414.1 (a)(13).
[26] 43 C.F.R § 414.1 (f).

NEVADA'S USE OF THE ICUA PROGRAM (2001 to Present)

Building on this new framework, on July 3, 2001, the AWBA, SNWA, and Colorado River Commission of Nevada (CRCN) enacted the Agreement for Interstate Banking ("Interstate Agreement") (AWBA, 2011). The agreement calls on the AWBA to store 1.25 MAF of long-term storage credits, which Arizona can develop into ICUAs to be sold to Nevada as needed. When Nevada requires the water, Arizona can utilize banked water and Nevada can withdrawal from Mead water that would have otherwise been delivered to Arizona (SNWA, 2009). Soon thereafter in 2004, worsening drought conditions prompted Nevada to approach Arizona to accelerate access to the 1.25 MAF. Specifically, Nevada wished to be able to withdraw up to 30,000 AF for 2009 and 2010 and 40,000 AF per year thereafter until bank reserves had been depleted. The resulting "Amended Agreement" (enacted on December 9th, 2004) had the following terms: (1) guaranteed Nevada a total of 1.25 MAF of credits; (2) recognized that water other than Colorado River water may be the source of water stored to obtain long-term storage credits; (3) Nevada would pay the full cost of delivery, storage and recovery in addition to the $100 million to mitigate the risk of the guarantee; (4) identified a set schedule for recovery of long-term storage credits; and (5) provided that a sufficient supply of credits would be recovered to allow Nevada to use up to 340,000 AF during a declared shortage on the Colorado River (SNWA, 2009). In exchange for this service, Nevada agreed to pay Arizona for the full costs of storage and recovery, plus a sum of $100 million to mitigate any water supply risks incurred by Arizona (AWBA, 2011). In light of the economic downturn, the schedule of payments was modified in the "Second Amended Agreement" on December 8, 2010.[27] The current schedule calls for payments through 2024.

In an arrangement very similar to that with the AWBA, SNWA and CRCN in 2004 also entered into a water banking agreement with MWD which called for the southern California water provider to bank unused Nevada apportionments in California for later use (MWD, 2004; SNWA, 2009). Like the various iterations of the AWBA and SNWA interstate agreements, the MWD and SNWA banking agreement requires the federal ICUA mechanism, first promulgated in 1999, to work. Under the agreement, MWD agrees to use "best efforts" to divert and store a specified amount of Nevada's unused apportionment creating water credits. When the SNWA wishes to withdraw its credits, the MWD develops an ICUA and releases it to the SNWA. The SNWA is limited to withdrawing 30,000 AF per year, unless the MWD and SNWA enter a specific agreement allowing the SWNA to withdraw more. The SNWA must provide six months prior notice to the MWD before withdrawing any water from its account. Under the agreement, MWD incurred all costs of associated storage, diversion, and conveyance from the enactment

[27] *See* http://www.snwa.com/ws/future_banking_arizona.html (last visited Jul. 12, 2012).

of the agreement until 2010. Since, 2010 costs have been determined amongst the parties annually. To date, MWD has banked 70,000 AF of water on behalf of the SNWA.

THE INTERIM GUIDELINES AND THE ICS PROGRAM

On May 18th 2006, the Bureau of Reclamation and MWD signed an agreement for a demonstration program to determine whether the intentional creation of surplus water in Lake Mead could be used as a long-term water management tool on the Lower Colorado River (BOR Press Release, 2006). In the agreement MWD agreed to develop 50,000 AF of "intentionally created surplus" (ICS) credits by using water that had been conserved through existing land management, crop rotation, and water supply programs in lieu of Colorado River water. Additionally MWD, agreed to create 200,000 AF of additional ICS credits in 2007 through a variety of water conservation programs and extraordinary conservation measures (Kightlinger Letter, 2006). On June 26th 2006, the Imperial Irrigation District (IID) of California also joined the demonstration program (Hosken Letter, 2006). IID agreed to create 5,000 AF of ICS water in 2006 and an additional 25,000 AF in 2007. IID agreed to create its ICS water through water extraordinarily conserved in IID's On-Farm Fallowing Program. Under the demonstration program, five percent of ICS water is dedicated to the Colorado River System and a 3% annual evaporation tax is assessed, but the remainder is then available to the ICS creator at a later date as needed and as conditions allow.[28]

As the program was evolving, severe drought conditions prompted the enactment of the so-called "Interim Guidelines" (Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead), which formalized and expanded the ICS program (Interim Guidelines, 2007; Birdsong, 2011). The implementation of the ICS provisions were conditioned on the signing of "forbearance agreements" whereby parties normally entitled to surplus Colorado River Water[29] forgo their rights to the water. All parties required to sign forbearance agreements did so on December 13, 2007.[30]

Once the forbearance agreements were signed parties could then submit proposals for ICS projects of four potential types: Tributary Conservation, Groundwater Imported ICS, System

[28] The 5% assessment and 3% evaporation tax do not pertain to certain types of ICS.

[29] In years where the Secretary determines that there is sufficient mainstream water to satisfy the 7.5 MAF of consumptive use in Lower Division States the surplus water is apportioned 50% to California, 46% to Arizona, and 4% to Nevada.

[30] The Interim Guidelines specifically made the ICS provisions conditional on the signing of forbearance agreements by the State of Arizona, the Palo Verde Irrigation District, the Imperial Irrigation District, the Coachella Valley Water District, The Metropolitan Water District of Southern California, the City of Needles, and other California entities as appropriate, the Southern Nevada Water Authority, and the Colorado River Commission of Nevada.

Efficiency, and Extraordinary Conservation.[31] For an ICS project to be approved, a Contractor[32] must submit a plan to the Secretary with the following information:

> a project description including any extraordinary measures taken to conserve or import water, term of activity, estimate of the amount of water to be conserved or imported, proposed methodology for verification of the amount of water conserved or imported, and documentation regarding any state or federal permits or other regulatory approvals that have been obtained by the Contractor or that need to be obtained prior to the creation of the ICS.[33]

The terms for depositing and withdrawing ICS credits vary by state and by conservation type. For example, for Extraordinary Conservation ICS, California, Nevada, and Arizona, respectfully, can create a maximum of 400,000, 125,000, and 100,000 AF annually, and can accumulate a maximum total of 1.5 MAF, 300,000 AF, and 300,000 AF.[34] Limits also exist on the amount that can be withdrawn in a given year: 400,000 AF for California, 300,000 AF for Nevada, and 300,000 AF for Arizona.[35] If Shortage Conditions exist or are expected to exist, the Secretary may limit the delivery of ICS below that requested.[36] ICS credits can be lost if flood control releases as required. ICS accounting is conducted by Lower Colorado Regional Director ("the Director"), with values reported annually in the Water Accounting Report.

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[31] *See* http://www.snwa.com/ws/river_surplus_ics.html (last visited July 16, 2007). A Tributary Conservation ICS project is a project that allows a water user to fallow water rights in tributaries of the Colorado River that were in use prior to the effective date of the 1928 Boulder Canyon Project Act and transport this water to the Colorado River for credit. A Groundwater Imported ICS project allows a Colorado River contract holder to convey non-Colorado River water to the Colorado River for credit. A System Efficiency ICS project allows a user to fund a system efficiency project that would conserve Colorado River water. An Extraordinary Conservation ICS allows a water user to implement a project, such as land fallowing, canal lining, or desalination, to conserve water which would increase Lake Mead levels. An Extraordinary Conservation ICS can only be created if such water would have been otherwise beneficially used. Unlike the other forms of ICS, Extraordinary Conservation ICS is not available for withdrawal during declared shortages.

[32] A Contractor is an entity holding an entitlement to Mainstream Colorado River Water under the Consolidated Decree, a water delivery contract with Secretary of Interior, or a reservation of water by the Secretary of Interior.

[33] 73 FR 19873 *supra* note 58 at 19887.

[34] 73 FR 19873 *supra* note 58 at 19887.

[35] 73 FR 19873 *supra* note 58 at 19888.

[36] A significant limitation on the utility of the ICS program is the inability to withdraw certain types of ICS credits during a declared shortage. For example, System Efficiency and Extraordinary Conservation ICS are not available for withdrawal during declared shortages. However, debate continues on whether other forms of ICS can be withdrawn during shortages, as a shortage has never been declared. The MWD maintains that the guidelines are silent on its ability to withdraw water in storage from Lake Mead during a shortage. Arizona, on the other hand, believes withdrawal during a shortage would violate the Supreme Court decree. Arizona and the MWD have reached a verbal agreement to not decide the issue and to resolve it when the need arises to recover ICS water during a declared shortage. The interim guidelines do contain another category of water, developed shortage supply (DSS), which is available, with some limitations, during a declared shortage. Types of DSS include water developed in a manner similar to Tributary and Imported ICS. DSS water can only be used during a declared shortage. To develop DSS a project must be designated as DSS from its inception. For more information, see McClurg (2008) and Grant (2008).

From a marketing standpoint, the ICS program is important because of its scale—very large amounts of water can potentially be in play; however, the program is limited by its focus on "surplus" waters (which may not exist for some time in the Basin), and by inflexibility with regard to interstate and interbasin transfers (Grant, 2008). Imported and Tributary ICS are explicitly limited to intrastate projects, and interstate System Efficiency ICS transfers are only allowed on a temporary basis. The guidelines are silent as to the viability of an interstate Extraordinary Conservation ICS, and it was thought to be prohibited. Recently, however, several Extraordinary Conservation ICS projects have been undertaken that have been partially financed by states other than where the project is constructed, and as such can be characterized as a form of interstate marketing.

Two examples are the Brock Reservoir and the Yuma Desalination Plant. The Brock or "Drop 2" reservoir was conceived in 2007 in a drought management plan adopted by the Colorado River states (McKinnon, 2010). The project consists of two lined reservoirs located in Gordon Wells California that offer a combined capacity of 8,000 AF. The reservoir is intended to capture water, including system water requested from farmers but not needed by the time of delivery, associated with rainstorms that exceed the holding capacity of the soil. Without storage, this water is over-delivered (or "spilled") to Mexico. The project was funded through a joint financing program involving Arizona, California, and Nevada. Nevada paid $115 million for 400,000 AF in ICS credits and Arizona and California added $28.6 million each for shares of 100,000 AF in ICS credits.

The Yuma Desalination Plant was originally conceptualized in the Colorado River Salinity Control Act of 1974 as a way to meet water quality objectives for water delivered to Mexico (MWD Audit, 2011). The plant was completed in 1992 but has not been utilized, in part because the most saline agricultural waters have been bypassed by canal to the Mexican delta region, which protects the quality of the water "officially delivered," but results in over-deliveries for which the US receives no credit. In 2009, MWD, SNWA and CAWCD all participated in the financing of Reclamation's test run of the facility, with the desalted water establishing ICS credits. In exchange for funding 80% of the program's non-federal operation costs (or roughly $9 million), MWD received 24,397 AF of ICS credits in return.

MEXICO AND MINUTE 319

A related set of new programs were introduced in 2012 in the Minute 319 agreement with Mexico that hint at potentially expanded marketing opportunities. One element was the establishment of Intentionally Created Mexican Allotments ("ICMA")—analogous to

Intentionally Created Unused Apportionments (ICUA), which allows Mexico to store water in Lake Mead created through conservation and new water source projects.[37] Under the ICMA, Mexico is allowed to create a maximum value of 250,000 AF in ICMA credits, and is able to withdraw up to 200,000 AF in a given year (as long as Lake Mead is above 1025 feet).[38] Perhaps more important, the ICMA/ICS Exchange Pilot Program provides a framework for converting ICMA credits to ICS credits, a stepping stone to integrating this water into the marketing framework that is evolving out of the Interim Guidelines. At this time, the focus of the program is creating water for environmental purposes in the limitrophe and delta—both base flows and a pulse flow.[39] As part of the arrangement, the United States will contribute $21 million for new water efficiency projects in Mexico, focused primarily on canal lining and technical improvement projects in irrigation districts. Ownership of the water generated will remain with Mexico, with the notable exception of a one-time allotment of 124,000 AF provided to the United States from either ICMA, water generated through US funded earthquake infrastructure repairs (as provided by Minute 308), or some other source.[40] The Minute, which runs through 2017, is explicitly designed as a temporary arrangement, but is intended to provide a period for experimentation and further discussions aimed at more comprehensive and longer-term agreements.

[37] Minute 319, §III (4)
[38] Minute 319, §III(4).
[39] Minute 319, §III(6)(e)(ii).
[40] Minute 319, §III(6)(e)(iii).

IV. The Special Case of Tribal Water Marketing

To this point, this review of cross-boundary water marketing in the Colorado River Basin is notable for one major omission: the tribes. Regrettably, it is not unusual for tribal rights and concerns to be relegated to the sidelines in Colorado River matters. Yet, moving forward, it is entirely likely that the tribes could be central players, in part because their water rights are extensive, but also in large part because many of these rights are still undeveloped. How the tribes will (or will not) use their water rights in the future is a tremendous source of uncertainty in the basin, but it is also a potential source of flexibility and creativity. Taking advantage of that flexibility in a way that can benefit both tribes and non-Indian water users implicates marketing.[41]

Below, three elements of tribal water marketing are reviewed: the central role of the Ten Tribes Partnership in this issue; the legal issues that surround tribal marketing proposals; and a status update on the breadth of tribal rights in the basin and how they are already being marketed.

The Ten Tribes Partnership

No tribal entity has pushed the topic of large-scale tribal water marketing longer and more aggressively than the Ten Tribes Partnership, formed in 1992.[42] In that year, the partnership offered its first marketing proposal—known simply as the Ten Tribes Proposal (1992). More of a conceptual document than a fleshed out proposal, the Ten Tribes Proposal acknowledged the Tribes' long-term plan to develop and maximize on-reservation water use, but suggested that off-reservation water marketing could serve as a temporary mechanism to support tribal interests while alleviating the basin's ongoing drought conditions. Furthermore, the proposal highlighted the Tribes' interest in upholding the decree in *Arizona v. California*, reminding all parties that "the action of the States cannot infringe on tribal entitlements" and that the federal government is obligated to develop "the water of the Colorado River for the economic benefit of *both* the states and the Indian Tribes."[43]

The proposal sought to establish a framework that protected each tribe's autonomy while allowing collective oversight over the off-reservation marketing scheme. According to the

[41] Arguably, the tribal water rights settlement approach is the basin's best example of marketing, in that large rights are typically exchanged for smaller rights attached to funding for water development (or other) purposes.
[42] The tribes comprising the Ten Tribes Partnership are: the Chemehuevi Indian Tribe; the Cocopah Indian Community; the Colorado River Indian Tribes; the Fort Mojave Indian Tribe; the Jicarilla Apache Tribe; the Navajo Nation; the Northern Ute Tribe; the Quechan Indian Tribe of the Fort Yuma Reservation; the Southern Ute Indian Tribe; and the Ute Mountain Ute Indian Tribe.
[43] Ten Tribes Proposal (1992): 1.

proposal, each Tribe would retain independence in deciding whether or not to lease water, and if so, to determine whether leases would involve unused water, currently used water, or a combination. The terms of each lease were to be negotiated directly between the tribe and the "water-short" state, but under a cooperative framework in which all transactions would be subject to approval by the seven basin states, the Colorado River Tribal Partnership, and the Secretary of the Interior. Tribes would also work cooperatively with the relevant states, as necessary, to quantify water available for lease. This framework, it was argued, allowed the marketing in a manner consistent with the Law of the River. Additionally, the Tribes pointed to the *Sporhase* decision to assert that the arrangement was consistent with the Commerce Clause, arguing "water developed under their entitlements may be marketed without regard to state and reservation boundaries" (Ten Tribes Proposal, 1992: 2). On these matters, the Tribes received significant push-back, particularly from Arizona and the Upper Basin states, who argued the proposal would "violate the Law of the River, erode the entitlements to use water within the states, and lead to wholesale inter-basin water marketing" (Lochhead, 2003: 11).[44]

As described in detail below, the legality of this type of arrangement remains a hotly contested issue. But the desire of The Ten Tribes to explore their opportunities has also not waned. One immediate outcome of the 1992 proposal was the establishment of the so-called "7/10 Process" (featuring the seven states and the Ten Tribes) to explore means of better satisfying the economic development needs of the Tribes, the water supply needs of the states, and the importance of protecting water rights under both state and federal systems. While a variety of proposals were developed, all raised institutional issues that proved insurmountable.

Undeterred, the potential value of large-scale tribal water rights marketing resurfaced in the recent Basin Study as the Ten Tribes submitted a solution option (*Option 144, Voluntary Tribal Water Transfers*). In a bold, extensive, but largely conceptual proposal urging additional study and experimentation, the Ten Tribes assert:

> There are a number of voluntary tribal transfers which one or more tribes are exploring, or may wish to explore, to utilize their water entitlements for the ultimate benefit of their members. The voluntary tribal transfers will likely

[44] The tribes noted that the alternative—tribal development and consumption of entitlements—would be no better a solution for the states:

> A water marketing arrangement that allows tribal water to be used to meet the needs of California and the other water short States will eliminate the danger to the water-short States that the presently unused water on which they rely will be put to use by those entitled to it. It is important to note … a decision by a tribe to market water does not affect other water users in the state in question any more than if the tribe were to put that water to use on its reservation. (Ten Tribes Proposal, 1992: 3).

include, but are not limited to, water banking, water marketing, leasing and forebearance agreements. These transfers could be to any existing user of Colorado River water without regard to geographic limits. The analysis should include the extent to which each Tribe's ability to use its water rights on any of its lands without regard to State boundaries would assist in meeting demands in the Basin as a whole.

The type of analysis recommended did not occur in the Basin Study, and is unlikely to occur in the new working groups establish in May 2013 as part of Interior's "next steps." In the following section, some of the legal issues implicated by the Ten Tribes proposal are summarized.

Unique Legal Issues Associated with Tribal Transfers

The ability of tribes to market their water rights is a highly complex and contentious subject. Potential water marketing arrangements raise a host of legal and political issues. Of particular salience are the special nature of tribal federal reserved rights and the division of authority between the federal government, the tribes, and state governments. In many respects, these issues are fundamental considerations about sovereignty and governance—issues with a much broader reach than water management. Nonetheless, water management rules are significant in the marketing context and bring in additional considerations such as the terms and types of water marketing envisioned, the provisions of water codes (federal, tribal, and state), and other region-specific rules of water management—including the Law of the River. Furthermore, neither the Supreme Court nor Congress has offered comprehensive guidance on tribal water marketing; as a result, determining what rules apply raises legal questions which frequently lack the statutory or case law sufficient to offer clear guidance. This memo does not attempt to provide a complete analysis or opinion on the legal issues, but rather is intended to highlight—in broad brushstrokes—the nature and diversity of the issues.[45]

The Special Nature of Federal Reserved Rights

When the United States withdrew lands from the public domain to establish reservations (i.e. national parks, military reservation, Indian reservation, etc.), the government simultaneously and implicitly reserved unappropriated water to fulfill the purpose of that reservation (Fisher,

[45] A much more detailed review of the legal issues is forthcoming (fall of 2013) in a separate publication by Julie Nania, the Getches Fellow of the University of Colorado Law School.

1982). *Winters v. United States*[46] was the first case to recognize federal reserved rights for Indian reservations. *Winters* also established that the amount of water reserved is the amount necessary to fulfill the purpose of the reservation.[47]

Federal reserved water rights are not subject to state prior appropriation laws (Fisher, 1982). Tribes' federal reserved rights are, importantly, *federal* rights, meaning they are fundamentally different and separate from those water rights established under the prior appropriation doctrine. Once Indian federal reserved rights are quantified[48], they can be used for any purpose, including purposes different from the purpose used as the basis for quantification.[49] While this view is still disputed[50], it is consistent with the notion that the ultimate purpose of the reservation is to enable the tribe to establish a viable homeland. Under this broad interpretation, marketing water may provide for economic development and, in fact, be the most appropriate use of the water.

Additional issues arise regarding the general terms of such arrangements when tribes market water. One issue where there is legal clarity is that absent clear Congressional authorization, transfers of water must be temporary—leases or deferral agreements—rather than sales.[51] Courts routinely allow tribes to include water rights when leasing reservation lands for

[46] *Winters v. United States,* 207 U.S. 564 (1908).

[47] In addition to *Winters* (1908) also see *United States v. New Mexico*, 438 U.S. 696, 720 (1978) (the court sought to limit the amount of water reserved to the amount necessary to fulfill the "primary" purpose of the reservation. There is an argument that if this standard was applied to Indian reservations it would preclude tribes from marketing water. Other precedent has refuted this argument and emphasized the important distinction between Indian reservations and other federal reservations); *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source*, 212 Ariz. 64 (2006) (the "homeland standard" suggests that Indian reservations were established with the purpose of providing a permanent homeland. In light of the canons of construction that require liberal interpretation of treaties, statutes, and executives orders pertaining to Indian affairs, Indian water rights must be flexible in order to be used to fulfill the purposes of a homeland).

[48] Title to water rights is only perfected when the claimant has undergone an adjudication or a final determination of title to the right, which can be effectuated by a judgment or a court decree. This determination is necessary for tribes to lease water, but even without a settlement or a final decree, a tribe may still enter into forbearance or deferral agreements to market water.

[49] *Arizona v. California*, 460 U.S. 605 (1983).

[50] *In re the General Adjudication of All Rights to Use Water in the Big Horn River System*, 835 P. 2d at 275 (Wyo. 1992).

[51] 25 U.S.C. § 177 (1834). (the Indian Non-Intercourse Act invalidates any "purchase, grant, lease, or other conveyance of lands, or any title or claim thereto, from any Indian nation or tribe of Indians . . . unless the same be made by treaty or convention entered into pursuant to the Constitution." This statute prevents conveyance of tribal lands without Congressional authorization); *United States v. Ahtanum Irrigation Dist.*, 236 F.2d 321, 336-38 (9th Cir. 1981) (The Indian Non-Intercourse Act only refers to tribal lands and not water, but courts have assumed that it applies to water as well. Under 25 U.S.C. § 415, tribes (as lessors) can lease tribal lands for up to 25 years and can agree to an option of extending the lease for an additional 25 years; however, some leases are authorized for 99 years).

agriculture.[52] Another settled matter is the general requirement of secretarial approval, discussed in more detail below. Other issues entail to whom and where tribal water can be marketed. For instance, courts have repeatedly upheld leases of land and water to non-Indians. However, under the terms of individual settlements or decrees, federal reserved rights may be rendered appurtenant to the land or restricted to use in a particular area.[53] Such restrictions could limit leasing to specific counties or states, or even limit or preclude off-reservation transfers entirely.

One issue is what type of approval must be obtained to market federal reserved rights. In approaching this question, the key actor is the Secretary of the Interior. Many settlement acts expressly require the Secretary to approve or deny proposed leases.[54] These settlements may define the terms of permissible leasing agreements, which can frequently entail requiring arrangements to conform to, and be approved by, state water marketing frameworks and regulatory agencies. Secretarial approval is also required generally under the language of the Indian Non-Intercourse Act of 1834[55], unless Congress has waived the requirement.[56]

Authority Over Federal Reserved Rights

Because tribes are sovereign nations, they are able to develop their own water laws to govern allocation, quality, and use of water on the reservation.[57] These water codes often contain definitions and considerations similar to state law (such as what constitutes beneficial use). Codes of individual tribes might enable or interfere with a tribe's ability to market its water. Tribal constitutions adopted through the Indian Reorganization Act[58] may require approval of the tribal water code by the Secretary of Interior. In 1975, the Secretary declared a moratorium on the enactment of new tribal water codes pending approval of rules that the Secretary would

[52] Sly (1996) notes that many tribes have used this authority to lease tribal water rights for on-reservation use; however, it is unclear whether the statute permits water leasing for off-reservation use. Royster (2006) describes how tribes are increasingly using deferral agreements to market their water. Federal courts have never decided whether such agreements are subject to the Non-Intercourse Act and barred without congressional approval.
[53] *Arizona v. California*, 373 U.S. 546 (1963) (the special master found that some tribal federal reserved rights are tied to the reservation lands).
[54] Gaining Secretarial approval of any off-reservation lease of tribal water rights requires, at a minimum, a judgment that the arrangement is consistent with the United States' trust responsibility to the tribe.
[55] 25 U.S.C. § 177.
[56] *See, e.g.*, the Colorado Ute Indian Water Rights Settlement Act of 1988, Pub. L. No. 100-585, 102 Stat. 2973 (explicitly stating the Indian Non-Intercourse Act does not apply to water rights confirmed in the settlement).
[57] *See Colville Confederated Tribes v. Walton*, 647 F.2d 42 (9th Cir. 1981) (the court held that state-issued permits had no effect in an area entirely within the reservation because the state did not have jurisdiction to regulate water within the area. State regulatory authority had been preempted by federal law when the reservation was established, protecting the tribes' sovereign authority to control federal reserved rights within the reservation boundary when there is little impact on off-reservation state interests).
[58] 25 U.S.C. § 461 (1934).

use to make these determinations; however, no rules have been approved to date. Although it provides another hurdle in the path to water marketing, tribes can bypass this requirement by amending the tribal constitution to remove the requirement of secretarial approval.

Where tribal authority fits within the broad federal reserved rights hierarchy remains a contested issue. Under *Worcester v. Georgia*[59], tribes are considered to be "domestic dependent nations" with many of the characteristics of other nations, but simultaneously dependent on the protection of the United States. In seeking to define the sovereign status of tribes, courts have found that tribes retained rights not explicitly ceded to the federal government.[60] Simultaneously, the "dependent" status of tribes has been used to subject tribes to federal authority under certain circumstances. More recent cases have upheld the power of Congress to unilaterally reduce the sovereign authority of tribes. Today, Congress can expressly define or alter the scope of tribal federal reserved rights. One such example of Congressional abrogation of tribal authority is the McCarran Amendment[61], which enables states to force tribes to adjudicate their federal reserved rights in state general stream adjudications. This is an important but limited authority; it has no impact on tribes' substantive rights.

Federal authority over federal reserved rights can be traced back to constitutional law, stemming from the Property Clause, the Commerce Clause, and the Supremacy Clause. It is clear that federal agencies can control federal reserved rights and that Congress may directly legislate to expand, contract, or define federal reserved rights—as Congress has on several occasions. It is important to note that this ability must be guided by the federal trust relationship between tribes and the federal government. The federal trust relationship requires that the federal government makes decisions that are in the best interest of the tribes. However, beyond this general fiduciary duty, obligations arising under the trust relationship are unclear.

The 9th Circuit has noted in dicta that states have no power to regulate water on non-Indian land holdings within reservation boundaries because federal law preempts state regulatory authority.[62] In *Colville Confederated Tribes v. Walton*, the 9th Circuit held that the tribal government has power to regulate water resources in watersheds fully encompassed by the reservation. However, the 9th Circuit has also held that the state has regulatory authority over non-Indian water use of excess waters on non-Indian fee land within reservation boundaries.[63]

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[59] 31 U.S. 515 (1832).
[60] *United States v. Winans,* 198 U.S. 371 (1905).
[61] 43 U.S.C. § 666 (1952) (The McCarran Amendment waives federal sovereign immunity in adjudicating and administering federal water rights. Under the McCarran Amendment, the United States can be joined as a defendant in an adjudication when it is a necessary party to the suit, such as when tribal rights are part of the adjudication).
[62] *Colville Confederated Tribes v. Walton*, 647 F.2d at 42.
[63] *United States v. Anderson*, 736 F.2d 1358 (9th Cir. 1984).

In *United States v. Anderson*, the 9th Circuit explained that the state had regulatory authority because state regulation did not interfere with the tribe's full ability to exercise its federal reserved water rights. The court distinguished *Anderson* from *Walton* based on the court's perception that regulation of excess state waters on non-Indian lands from a water source which originated off of the reservation would in no way interfere with the tribe's sovereign authority.

With transfers of water off-reservation, addressing state water law may become important. Although states may still be precluded from regulating, some form of state regulation over water resources becomes more likely when water is used off-reservation. Authority over water resources is critical; as discussed earlier, subjecting tribal marketing to state rules and regulation would open up a variety of issues. Such regulation would likely limit the type and destination of transfers, constraining marketing opportunities. Even if states are permitted limited regulatory authority over narrow tribal water uses, states' exercise of this authority might be preempted by federal supremacy, run afoul of the Commerce Clause, or be considered an impermissible infringement on tribal sovereignty. As noted earlier, the ability of states to limit interstate transfers remains a delicate and contested issue. The Constitution prohibits state interference with interstate commerce, including the marketing of groundwater[64], under the dormant Commerce Clause. It is important to remember that states remain able to regulate tribal water marketing if a tribe explicitly agrees to submit its federal reserved rights to state regulation in a settlement agreement.

Looking Forward

As proposals to market tribal water rights become more common (see Section V), legal issues of jurisdiction and control over such efforts will continue to rise. While we make no attempt to predict the outcome of such disputes, it is worthwhile to note that early Indian law cases prescribed general principles—so-called "canons of constructions"—that should be used to interpret treaties between tribes and the federal government. One such canon is that rights not explicitly ceded in treaties were reserved by the tribes.[65] Another canon is that treaties are to be constructed in terms favorable to the tribes.[66] This canon would operate in favor of tribal control over water resources, which would include the authority to use the water as a tribe determined, including for water marketing. A final canon of construction is that Congress must

[64] *Sporhase v. Nebraska*, 458 U.S. 941 (1982) (parties who owned adjacent parcels of land in Colorado and Nebraska pumped groundwater from a well located in Nebraska for irrigation of both parcels, which was prohibited by a Nebraska statute. The court held that the Nebraska statute forbidding exportation of groundwater was unconstitutional because it violated the dormant Commerce Clause and discriminated in favor of its citizens).
[65] *United States v. Winans*, 198 U.S. at 371.
[66] *Worcester v. Georgia*, 31 U.S. 515 (1832).

affirmatively abrogate treaties with tribes.[67] Under these canons, Congress must express a clear and plain intent to modify a treaty. Congress has not abrogated tribal control over water resources and the ability to market water may be shown to be in the tribes' best interest. Arguably, this requirement of an explicit statement in conjunction with the federal government's trust responsibility to tribes should support the ability of tribes to market water.

Inventory of Tribal Rights and Tribal Marketing Programs

The utilization and full realization of Indian federal reserved rights will have substantial implications for future demand and distribution of Colorado River water. For this reason, having an accurate inventory of tribal water rights is critically important. As part of the Basin Study, the Bureau of Reclamation took an initial step towards predicting these impacts when it projected the future use and demand of Reclamation project water for tribes with settled claims in the Colorado River Basin (Basin Study Appendix C9, 2012). As noted by the Study, "Tribes hold quantified rights to a significant amount of water from the Colorado River and its tributaries (approximately 2.9 maf of annual diversion rights)" and these rights tend to be senior to those of other users (Basin Study Appendix C9, 2012: 34). Reclamation explains that because of the magnitude and seniority of these rights, "… representing these rights and the associated demand is a critical component of assessing future water demand in the Basin."

However, this assessment is just the tip of the iceberg, as it does not include unsettled Indian federal reserved rights or tribal water rights outside of Reclamation projects. This shortcoming was acknowledged in the Basin Study, and some information about unsettled claims and additional (non-Bureau) water sources was provided by the tribes. However, this information was not included in demand projections, and the Study made no attempt to project what quantity this may amount to or how the use or transfer of these rights could impact allocation in the future. These unquantified rights are undoubtedly substantial. For instance, a proposed settlement between Utah and the Navajo Nation regarding the tribe's claims to the mainstem Colorado River and tributary waters in Utah calls for a diversion limit of 314,851 AF and depletions of 81,500 AF.[68] This is a significant, but not isolated, case. The Hualapai, Havasupai, Kaibab Band of Paiutes, Ute Mountain Ute, Yavapai-Apache, Tonto Apache, Pascua Yaqui, and Hopi Tribes are among the federally recognized tribes that have unsettled claims to federal reserved rights within the Colorado River Basin.

[67] *Menominee Tribe of Indians v. United States*, 391 U.S. 404 (1968).
[68] UTAH CODE ANN. § 51-9-702 (2012). This settlement cannot become final without federal consent.

Additionally, as noted elsewhere, the tribes' ability and willingness to transfer and reallocate water resources was also not considered in the Basin Study. While there is significant legal uncertainty surrounding efforts to expand tribal water marketing activities, many tribal settlements contain language that permit marketing, and many tribes are already engaged in leasing or marketing arrangements which redistribute tribal water allocations. These arrangements take several forms: long-term leases, water auctions, and deferral and forbearance agreements. The Basin Study acknowledges the importance of understanding the potential of tribal water transfers and agrees that "[f]uture Reclamation planning efforts should include a study capable of evaluating full tribal development, control, and protection of tribal water resources in the Basin … includ[ing] water banking, voluntary water transfers, improved efficiencies, re-use opportunities, underground storage, and other options" (Basin Study Appendix C9, 2012). In that spirit, this report features an updated and expanded inventory of tribal water rights in the basin in a lengthy table as Appendix A. In addition to covering (and updating) information from the Basin Study effort, this table includes information about unsettled claims, rights satisfied from non-Bureau projects, and the ways the tribes are currently marketing rights.

V. The Next Wave: Water Marketing Proposals in the Basin Study

Large-scale, cross-boundary water marketing still is regarded by many parties as a dangerous subject, but there is no denying that experimentation is widespread, the forms of marketing are remarkably diverse, and the proposals for additional efforts continue to multiply. The most recent example comes from the Basin Study, which received 160 different submissions, most anonymously, suggesting solutions to the growing supply/demand imbalances in the Basin. Many of those called for an expansion of water markets across jurisdictional boundaries, and typically used the language of "water banking." Roughly half of the water marketing options were specifically geared to tribal water rights, and of those, most were focused on the rights of the Utes in Utah and Colorado. Several examples are summarized below, organized by the geographic scale of the envisioned transfers: Basinwide, Lower Basin, and Upper Basin:

Basinwide Proposals

Option 101 – Water Banking Transfer Scheme is among the most ambitious of all the proposals, calling for a scheme within which "select parties located throughout the Colorado River Basin (i.e., on a basinwide scale) are capable of transferring and/or banking portions of unused water entitlements for future use by themselves or other select parties." The select parties include Mexico, basin states, and the tribes; participation by some contractors—namely Lower Basin users holding section 5 contracts under the Boulder Canyon Project Act—would also be considered. Furthermore, the proposal also calls for a program within which instream flow augmentation could be pursued. Should a bank on this scale prove to be infeasible, the option suggests establishing a new Upper Basin water banking program, and expanding existing banking provisions in the Lower Basin.

Many of the most far reaching proposals focus on tribal marketing: options 144, 109, and 66. *Option 144 – Voluntary Tribal Water Transfers* is the broad ranging statement of the Ten Tribes Partnership in which the ownership of tribal water rights—including particularly those rights not developed by the tribes but currently utilized by others—is reaffirmed, but the option of marketing those rights is proposed. Specifically, "the Ten Tribes Partnership proposes that BOR assess how voluntary transfers of tribal water might be used to assist in meeting future imbalances," and that "[t]his assessment should not be constrained by any particular interpretation of existing law and policy in the Colorado River Basin." As noted elsewhere, the proposal suggests that this assessment should consider marketing opportunities "without regard to State boundaries" and should be part of efforts to meet demands of "the Basin as a whole."

Similarly, *Option 109 – Tribal Efficiencies and Voluntary Water Transfers* expresses the sentiment that water legally reserved for tribes but not yet developed is a potential asset that can be managed to the benefit of the tribes and other (non-tribal) water users that may wish to utilize the water now or in the future. Specifically, the proposal refers to water held by the Southern Ute Indian tribe, and suggests tools such as "water banks, water marketing, and forebearance agreements" all have the potential to "increase the efficiency of the Colorado River system" while recognizing the role of tribes. While the scale of transfers of not specifically described, the authors note that "[c]onceptually, voluntary tribal water transfers could occur essentially anywhere in the Basin if the proper agreements are put into place."

Option 66– Interbasin Leasing of Ute Indian Tribal Water is perhaps the most specific and ambitious of the tribal water marketing proposals. In this proposal, the Unitah and Ouray Reservation Utes (i.e., the "northern" Utes), recount the evolving nature of their water rights, and the degree to which these agreements and the physical features of their reservation suggest interbasin marketing as a logical next step:

> The [Ute Indian Water] Compact recognizes the Tribe's federally reserved water rights within the Upper Colorado River Basin, amounting to 480,594 Acre-Feet (AF) of diversions and 258,943 AF of depletions. Of this quantity, the Tribe holds water rights to 142,359 AF of diversions (77,311 AF by depletion) sourced from the Green River. A large majority of these Tribal rights (113,378 AF by diversion; 57,948 AF by depletion) were transferred to the Green River from other Reservation streams through past agreements with the U.S. and State of Utah, in part to allow development of non-Indian trans-basin diversions. However, on its way through the Reservation, the Green River flows within a deep canyon. As a result, the Tribe is physically limited in its ability to use transferred Green River water rights on Tribal lands. Thus, in transferring the Tribe's rights to the Green River to the benefit of non-Indians, it was assured that the Tribe would hold "paper" water rather than "wet" water for any real use on Tribal lands.
>
> Currently, the only feasible option for the Tribe to make beneficial use of its "paper" Green River water is through water leasing. Colorado River water is in high demand, especially in the Lower Colorado River Basin states of Nevada and California. Less demand exists with the State of Utah, although the Tribe proposes to permit Utah the first right of refusal for any marketed Tribal water. Inter-basin leasing of Tribal water may provide a dependable, secure supply to Lower Basin States, as well as provide a valuable means for the Tribe secure

benefits from its federal reserved water rights. At present, the Tribe is precluded from inter-basin leases by interstate agreements.[69]

Lower Basin Water Banking

Option 35 – Lower Basin Water Banking calls for the establishment of a bank in which all water in the Lower Basin mainstream, plus some other agreed-upon tributaries, would be available for intrastate or interstate sale or lease of entitlements to water between willing buyer and seller. The suggested benefit of such a system is to provide a means for Lower Basin water users to temporarily or permanently re-allocate water among themselves as a tool for coping with anticipated chronic shortages caused by increased demand and decreased flows. Notably, the option calls for the direct involvement of tribes both as participants, and on the governing body to be established to oversee the bank.

Option 68 – Lower Basin Water Bank also calls for water banking in the Lower Basin States. However, it suggests that the water users in the US and Mexico should work together to conserve water under a US federal Intentionally Created Surplus (ICS) program and anticipated future Intentionally Created Mexican Allocated (ICMA) program. These programs, which would require statutory enactment, would allow for the sale or lease of conserved water, or, alternatively, exemptions from forfeiture for water saved through efficiency and conservation practices. Option 68 suggests that these banks could be operated on an interstate/international level, or as multiple banks within distinct jurisdictions.

Similar to Option 68, Option 146 proposes the expansion of the ICS program. *Option 146 – Beneficial Water Use of All Tribal Water by Tribes* laments that the tribes have not been permitted to participate in the ICS program, and suggests creation of a similar Tribal Conservation Reserve (TCR) to incentivize conservation. In this proposal from the Inter-Tribal Council of Arizona, TCR credits could be earned, with water stored in Lake Mead for future withdrawal or marketing, with "[s]uch exchanges … permitted only among tribes, and only involving water accounted for in the same state's apportionment."

Upper Basin Water Banks

Option 95 – Upper Basin Water Bank describes a plan for allowing the Upper Basin states to pool their present perfected rights (i.e., those established prior to the Compact[70] and thus

[69] Leasing of this water may also require the development of storage. This is suggested in Option 82 – *Recognition of the Ute Tribe's Reserved Water Right in Storage*.

outside of the Compact's apportionment scheme) to allow exchanges "in the event of a curtailment." The purpose would be to protect critical junior water right users, presumably M&I customers. The proposal calls for banking that is either "proactive or last-minute," and would primarily entail fallowing existing agricultural lands. The proposal acknowledges the political and legal hurdles that can be associated with interstate banking, but also points to the successes in the Lower Basin as inspiration:

> Interstate water banking is unprecedented in the Upper Basin and political concerns may exist. However, there is precedent for interstate water sharing in the Lower Basin, and Upper Basin states may conclude that water banking is desirable if benefits can be clearly defined and rights are protected.

Option 62 – Guided Water Markets (which is identical to option 121) also describes a framework of Upper Basin water banking to manage a potential Compact call, which the authors suggest is inevitable.[71] However, unlike Option 95, the intent herein is to move water from low-value agricultural production to higher-value agricultural production. Additionally, it is argued that exchanges could be "guided" in a way to minimize salinity loading into the river.

Similar to Option 66 (discussed earlier), *Option 96 – Upper Basin Interstate Leasing of Ute Indian Tribal Water* proposes to investigate leasing of water belonging to the Uintah and Ouray Reservation Utes. However, whereas Option 66 proposes to lease Green River Water downstream to Nevada and California, this proposal also mentions the tribes' White River rights, and the potential to market this water via interstate leases "outside the State of Utah, but within the Upper Colorado River Basin." As noted in the proposal:

> [T]he Tribe holds water rights to 61,598 AF of diversion (30,796 AF by depletion) in the White River and 142,359 AF of diversion (77,311 AF by depletion) in the Green River. Both the White and Green Rivers are entirely contained within the Upper Colorado River Basin. … Most Tribal White and Green River rights are currently unused.

[70] Note that the proposal defines these are "pre-1922" rights. There are some parties who have argued that present perfected rights could legitimately be defined as those established prior to ratification of the Compact, which did not occur until 1928.

[71] "This concept is based on the assumption that in the future Upper Basin states will have to curtail uses in order to comply with the Colorado River Compact and that some water transfers and market based solutions will occur."

VI. Summary and Conclusion

Many findings can be distilled from the proposals and innovations reviewed in this report. Perhaps most salient, however, is that while significant innovation has occurred in the Lower Basin states and among the tribes, the Upper Basin states have generally opted to discourage discussion of the interbasin transfer options, and have chosen to do this using legal arguments. The legal arguments employed depend on the circumstances of the proposal. Based on the historical review, some of the most salient questions to consider include:

- Is the proposal between states or are private entities involved?
- Does the proposal entail moving water between the Upper and Lower Basin?
- Is the transferred water currently consumptively used?
- Are tribal water rights implicated?

Proposals that entail a role for parties other than the basin states, that move water long distances, and that involve large volumes of water, are particularly ripe for legal challenge.

Among the most prominent arguments are those rooted in the belief that cross-boundary marketing violates the Law of the River. There are many provisions of the Compact that can be construed to prohibit interstate marketing. Of particular salience are the interaction of Articles II (f and g) and III(a) of the Compact—apportioning water to the sub-basins (i.e., the Upper and Lower Basins)—with Article VIII—mandating that all rights to use Colorado River water must be satisfied from the sub-basin in which they are situated, and Article III(e) of the Compact prohibiting the Upper Basin from withholding water which "cannot be reasonably applied to domestic and agricultural purposes." Also potentially relevant are some elements of the Upper Basin Compact, specifically Article VI (describing the Upper Basin apportionment in terms of "man-made depletions of the virgin flow at Lee Ferry") and Article XIII (specifying sub-allocations of tributaries among the Upper Basin states). However, while these Articles, as interpreted by marketing opponents, all offer practical impediments to marketing, none feature a direct and clear prohibition of the practice. Likewise, there is no clear affirmation of the practice. If the architects of the Law of the River wanted to articulate a clear position on the issue, they ignored ample opportunities to do so.

Finding a clear anti-marketing sentiment in law generally requires looking at state-level water management provisions designed, ironically, to temper the clearly pro-marketing message implied by the (federal) Supreme Court in the *Sporhase* decision. Federalism issues run throughout the legal debates on cross-boundary marketing, and are complicated by the traditional federal deference to the western states on many water allocation issues, by the unique status of compacts as both state and federal law, and by the authority and jurisdiction issues that are at the heart of the tribal proposals.

In short, there are plenty of legal arguments that can be brought to either defeat or defend any cross-boundary marketing proposal. As is true for many elements of Colorado River management, if the states agree to a given proposal or management approach, it can be justified as consistent with the Law of the River, and if the states cannot agree, it can be argued as being inconsistent with the Law of the River. The complexity of the Law of the River hides a very simple political calculus on which the states are united—namely, that the law should be construed to allow the states to do the things for which they unanimously agree, and should be construed to prohibit the things for which agreement is not possible. The hurdle for any marketing proposal, thus, is ultimately political more so than legal, even if the dialogue inspired by such proposals tends to be couched in legal verbiage.

In considering this political environment, it should be remembered that none of the proposals described in this report call for permanent transfers of water, and most do not envision or require the retirement or fallowing of existing uses. Presumably, this should make them uncontroversial, as the arrangements are to be voluntary, temporary, and in the spirit of "interstate comity" that is at the heart of the Compact. All provide a framework for outcomes that should be win-win for the participating states, and thus should be politically viable. But this is where law and politics again collide, especially for the interbasin proposals, as many parties fear that arrangements explicitly designed as voluntary and temporary will become forced and permanent, with buyers of water utilizing their political might to unilaterally change the rules of the transaction. Given this fear, potential water-selling states consider it prudent to forgo the benefits of temporary exchanges to minimize the chances of detrimental long-term modifications of law. Thus rather than an indictment on interstate marketing *per se*, the political opposition to these proposals is more a critique of governance shortcomings, as some states are not convinced that their collective decisions are immune from congressional tampering.[72] If all parties could be 100 percent certain that deals would be honored as agreed, then there is little reason to think that any opposition or legal argument would have precluded widespread marketing schemes, as the huge disparities throughout the Basin in the economic value of water, and the demand for water for short-term needs such as drought-coping, are formidable incentives.

In the historical review of marketing proposals, proponents were increasingly careful to design systems offering broad benefits, but they failed to appreciate the political challenge was not merely to offer benefits to both buyers and sellers, but to design a scheme that would be not

[72] Ironically, the empowerment of the states to manage through collective decision-making is one of the primary attractions of compact-based management regimes, but is a feature that has arguably been at least partially undermined by the determination—as reinforced by *Arizona v. California* (1963)—of the congressional power to modify apportionments. Given that California has more congressional representatives than the other six basin states combined, this imbalance in political influence makes congressional intervention frightening to many parties.

corrupted by outside decision-makers. That's the hurdle that could not be overcome, and is the hurdle that still plagues the large-scale proposals that entail moving water from the Upper Basin to the Lower Basin. It is no accident and no surprise that, where cross-boundary marketing is thriving, it is within the Lower Basin, and particularly in and between Arizona and southern Nevada, where the political power inequalities are not as dramatic, and where the governance framework is more formally entrenched. Similarly, to the extent that many Upper Basin interests are showing a renewed interest in marketing, most discussions are focused on schemes that are confined to Upper Basin participants.

Given this backdrop where large-scale marketing proposals consistently falter politically due to a fear of unilateral rules changes, it is interesting to see that the tribes, more than any other party, are experimenting with a diversity of marketing arrangements and are advocating ambitious new transfer proposals on a scale not seen since the early 1990s. If any party should fear unilateral rules changes and the consequences of agreements that are not honored, it should presumably be the tribes. Yet, many of the tribes—especially those in the Ten Tribes Partnership and, specifically, the Unitah and Ouray Utes—have offered up ambitious proposals that cross the major jurisdictional boundaries featured in this report: state lines, basin lines (i.e., that transcend the Upper/Lower Basin divide), and reservation boundaries. Of the ten large-scale water marketing proposals submitted to the Basin Study (summarized in Chapter V), seven envision tribes as a participant. Those proposals, incidentally, more so than advocating transfers, advocate for *studying* and considering transfers as part of the long-term solution to Colorado River challenges. That analysis did not occur in the Basin Study, and thus stands as a high priority moving forward. The potential role of the tribes in facilitating solutions to the water supply/demand imbalances throughout the Basin continues to be underappreciated.

It remains highly debatable whether or not the type of large-scale water transfers described in this report can be a smart or practical management tool in the Colorado River Basin; this report makes no presumption or determination on that issue. But conceptually, it is difficult to deny that flexibility in water allocation is an inherently useful tool for coping with a variety of management challenges, if underpinned by arrangements that focus on voluntary transactions and strict contract compliance. Whether or not this institutional hurdle could be overcome is an open question, and is one that will likely be played out with respect to the tribal proposals. The experimentation already seen in the Lower Basin suggests that the potential for mutually useful arrangements is possible if an environment of trust and legal certainty can be cultivated.

But while that level of trust and legal certainty increasingly exists within the two sub-basins, it is not so apparent at the interbasin scale (Robison and Kenney, 2013; Kenney et al., 2011). A quarter century ago, the notion of interbasin marketing was something that could be openly discussed, and it's worth noting that a majority of the proposals were authored by groups or

governmental figures based in the Upper Basin. That the two sub-basins would discuss these types of arrangements then but not today may suggest—as some will argue—that the ideas were vetted and rejected as not useful. Certainly, the idea that there are "unused" apportionments to market is complicated by the fact that no water today goes unused in the basin. Demands have exceeded supplies for a decade, so marketing of an "unused apportionment"—whether belonging to the Upper Basin or to the tribes (in either basin)—is increasingly likely to result in a curtailment to an existing user somewhere in the system. Still, systems that temporarily (and voluntarily) curtail some users to provide emergency relief to others is a more pressing need than ever, and to the extent that intrabasin marketing schemes are growing, this is the motivation. That this conversation seemingly cannot occur at the interbasin scale is a prominent and largely new development in the basin, probably fueled by lingering uncertainties about the true nature of how the interbasin apportionment will function in this new era of chronic scarcity. This is the area where the Colorado River Governance Initiative (CRGI) is focused, as this tense interbasin relationship continues to not only shape the water crisis in the region, but limits the search for solutions.

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Unpublished Materials

This project required the use of a variety of letters, memos, internal proposals and other documents that were never published or released to the public. Finding these documents required searching many personal archives and library "special collections." We are indebted to the numerous individuals who assisted us in our search. Key unpublished materials utilized in the report are noted below:

Arizona Position Paper (*Arizona's Position Relative to Issues Associated with Operation of the Colorado River Reservoir System*). 1991. June 21. On file.

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APPENDIX A: INVENTORY OF TRIBAL WATER RIGHTS IN THE COLORADO RIVER BASIN

The Bureau of Reclamation's *Colorado River Basin Water Supply and Demand Study* (the Study) put forth a valiant effort to represent tribal water rights in the Colorado River Basin and the future demands of these Tribes on Basin supplies. However, the Study is understandably limited in its scope and focused primarily on the demands and projections involving Bureau of Reclamation projects. Similarly, it assessed projected demand scenarios for settled tribal water rights.

The projected demand numbers include only Bureau of Reclamation project water and settled tribal federal reserved rights claims. Because of this, it does not fully represent the full quantity of Colorado River Basin water which may be utilized by the Tribes in the future.[1] Nor does is the Study able to reflect the extent that tribes may be able to engage in voluntary water transfers or water marketing. Below is another approach to examining the potential of tribal water marketing in the Colorado River Basin. It includes tribes' water rights from sources additional to or other than Bureau of Reclamation projects. It also notes past and present leasing or water transfer activities and notes any authorities limiting or sculpting these acts. Finally, it mentions substantial unsettled claims which may impact future water management in the Colorado River Basin.

Unsettled tribal water rights in the Basin are substantial. For instance, the proposed settlement agreement between the Navajo Nation and the State of Utah alone would provide the Nation with an additional 314,851 afy of Colorado River Basin water with 81,500 afy of depletion. Other tribes, including the Hualapai and Havasupai, have substantial reservation land bases, but are just now beginning to negotiate settlements of their federal reserved rights. Once recognized and utilized, these rights will have substantial impacts on the distribution of water resources in the Colorado River Basin.

Similarly, water marketing, or voluntary water transfers, could have serious implications for Colorado River water users. Tribes are engaging in a variety of different forms of water marketing. While the unsettled legal questions surrounding tribal water marketing remain substantial, the situation on the ground demonstrates that tribes are finding creative ways to avoid potential barriers of legal uncertainties. Each tribe is in a unique situation. The Jicarilla Apache has held two water auctions while some tribes in Arizona agreed during the settlement process to restrict their leasing activities to particular counties.

Our objective is to start to portray a more holistic view of tribal water marketing in the Colorado River Basin. We strive to show the full extent of waters controlled by tribes and to emphasize the role that tribes will play the future allocation of Colorado River Basin waters. By emphasizing water marketing, we demonstrate the role that tribes are already playing in redistributing basin waters.

UPPER COLORADO RIVER BASIN TRIBES					
	Bureau of Reclamation Basin Study		**Getches-Wilkinson Center Investigation**		
Rightsholder (state)	**Magnitude of Right (afy) (diversion / consumption)**	**Est. Current (2015) Use (afy) (diversion / consumption)**	**Estimated Entitlements (afy)**	**Quantification Method/ Unsettled Claims**	**Marketing Provisions / Activities**
Jicarilla Apache Nation (NM)	45,683 / 34,195	36,932 / 27,650	The Nation is entitled to divert a total of 40,000 of water (32,000 for consumptive use)[2] and holds an additional 5,683 for historic uses.	Jicarilla Apache Tribe Water Rights Settlement Act, P.L. 102-441, 106, Stat. 2237 (1992).	The Nation has leased to a variety of different entities including the City of Santa Fe, the Public Service Company of NM, individual farmers, and an Elks Lodge. The 1992 Settlement explicitly permits the Nation to transfer water from the Colorado River Basin to the Rio Grande Basin. Any leasing must be done in accordance with NM state law. In July of 2011, the Nation held the first-ever tribal water auction and auctioned off 6,000. The Nation held a second auction in 2012.
Navajo Nation (NM)	606,660 / 325,670	506,348 / 271,820	606,660 / 325,670 from the San Juan River Basin.[3]	Settlement [P.L. 111-11 (2009); San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement (April 19, 2005).] Pending final approval.	Rights may be leased long-term within NM with SOI approval; out-of-state leasing requires approval of NM Interstate Stream Commission.

Navajo Nation (AZ) (Upper Basin only) Navajo Nation (AZ) (Lower Basin)	-- / --	49,125 / 47,987	Unsettled rights to the mainstem of the Colorado, the Little Colorado River, and the Gila. The most recent draft the Navajo-Hopi Little Colorado Settlement Act (S. 2109) would have awarded the Tribe 160,000 from the LCR, approx. 90,000 from tributary washes, plus water from the N & C aquifers.[4]	Proposed Navajo-Hopi Little Colorado River Settlement Agreement (2012).	The Nation has been involved in a long-term lease agreement with the Navajo Generating Station (NGS). The proposed LCR Settlement would have renewed the Tribe's lease with NGS. The Tribe also leases water to Peabody coal company.
Navajo Nation (UT)	-- / --	-- / --	Presently, the Tribe is engaged in negotiations with the State of Utah to settle claims to the San Juan River and mainstem of the Colorado. The federal government is not yet involved in the process. A 2011 draft settlement recognized an annual diversion of 314,851 (81,500 depletion)[5]	No final settlement.	-- / --
Southern Ute Indian Tribe (CO)	137,090 / 74,318	Tribal demand is embedded within other state demands	137,090	Colorado Ute Indian Water Rights Settlement Act, Pub. L. No. 100-585, 102 Stat. 2973 (1988); Colorado Ute Settlement act Amendments of 2000, Pub. L. No. 106-554, 114 Stat 2763 (2000) with minor amendments in Pub. L. 110-161 (December 26, 2007).[6]	The original settlement was intentionally left neutral on the topic of water marketing. Presently, the Tribe can voluntarily sell, exchange, lease, use, or otherwise dispose of a portion of a water right off –reservation. However, that portion of the Tribe's water right "shall be changed to a Colorado state water right." The Tribe attempted a water marketing arrangement from the ALP but failed to reach a timely agreement with the State of Colorado.
Ute Indian	480,594 /	480,594 /	480,594 / 258,943	Revised Ute Indian Compact of	The Tribe has been looking to

Tribe of Uintah and Ouray Reservation ("Northern Utes") (UT)	258,943	258,943		1990 ratified in PL. 102-575, 106 Stat. 4600 (1992).	review the Ute Indian Water Compact to determine its best opportunities to market water.[7] The Tribe submitted a Study option promoting tribal water marketing.
Ute Mountain Ute Tribe (CO, NM, and UT)[8]	88,358 / 51,081	Tribal demand is embedded within other state demands	88,358[9] The Tribe is currently litigating its rights in New Mexico and has not yet litigated or settled rights in Utah.	Colorado Ute Indian Water Rights Settlement Act, Pub. L. No. 100-585, 102 Stat. 2973 (1988); Colorado Ute Settlement act Amendments of 2000, Pub. L. No. 106-554, 114 Stat 2763 (2000), with minor amendments in Pub. L. 110-161 (December 26, 2007).	The original settlement was intentionally left neutral on the topic of water marketing. Presently, the Tribe can voluntarily sell, exchange, lease, use, or otherwise dispose of a portion of a water right off –reservation. However, that portion of the Tribe's water right "shall be changed to a Colorado state water right." The Tribe attempted a water marketing arrangement from the ALP but failed to reach an agreement with the State of Colorado.

LOWER COLORADO RIVER BASIN TRIBES					
	Bureau of Reclamation Basin Study		**Getches-Wilkinson Center Investigation**		
Rightsholder (state)	**Magnitude of Right (afy) (diversion / consumption)**	**Est. Current (2015) Use (afy) (diversion / consumption)**	**Estimated Entitlements (afy)**	**Quantification Method/ Unsettled Claims**	**Marketing Provisions / Activities**
Chemehuevi Indian Tribe (CA)	11,340 / --	11,340 / 8,000	11,340	Decree [*Arizona v. California*, 547 U.S. 150 (2006); supplemental decrees (1979 and 1984).]	Subject to the restrictions in the *Arizona v. California* decrees. There is some uncertainty surrounding whether the appurtenance language in the decrees restricts the *Arizona v. California* tribes to using water on reservation lands in the absence of a Congressional fix.
Cocopah Indian Tribe (AZ)	10,847 / --[10]	10,847 / 9,412	10,847[11]	Decree [*Arizona v. California*, 547 U.S. 150 (2006); supplemental decrees (1979 and 1984).]	No independent water leasing. The Tribe leases the majority of reservation land to non-Indian agriculture with enough water to irrigate crops.[12]
Colorado River Indian Tribes (AZ)	662,402 / --	662,402 / 463,00	Maximum of 662,402[13]	Decree [*Arizona v. California*, 547 U.S. 150 (2006); supplemental decrees (1979 and 1984).]	No present marketing. The Tribes use nearly all of their entitlement for irrigation on the reservation.[14]
Colorado River Indian Tribes (CA)	56,846 / --	56,846 / 39,000	56,846	*See above.*	*See above.*

Fort Mojave Indian Tribe (AZ)	103,535 / --	103,535 / 73,000	103,535	Decree [*Arizona v. California*, 547 U.S. 150 (2006); supplemental decrees (1979 and 1984).]	In the early 1990s, the Tribe sought to introduce legislation permitting it to lease 5,000 of its Colorado River water allocation in Arizona for up to 25 years.[15] However, the Tribe requested that the legislation be deferred.[16]
Fort Mojave Indian Tribe (CA)	16,720 / --	16,720 / 8,995	16,720	*See above.*	*See above.*
Fort Mojave Indian Tribe (NV)	12,534 / --	12,534 / 9,000	12,534	*See above.*	*See above.*
Hopi Tribe (AZ)	6,028 / --	4,278 / 2,984	Contract for 6,028 and an unsettled claim to the Little Colorado River. The Hopi Tribal Council voted to approve the most recent proposed settlement. The proposed settlement would have provided the Tribe with on-reservation surface water and groundwater. It also reserved a quantity of water from the mainstem Colorado River for a future settlement of the Hopi Tribe's mainstem water rights claims.[17]	Contract [Contract No. 04-XXX-30-W0432, December 14, 2004.] Proposed Navajo-Hopi Little Colorado River Settlement Agreement (2012).	No marketing activities.
Navajo Nation (AZ) (Lower Basin only)	-- / --	16,456 / 16,057	*See Navajo Nation discussion above.*	*See Navajo Nation discussion above.*	*See Navajo Nation discussion above.*
Quechan Indian Tribe	6,350 / --	6,350 / 3,670	6,350	Decree [*Arizona v. California*, 547 U.S. 150 (2006);	The Quechan forbearance agreement with California's

(AZ)				supplemental decrees (1979 and 1984); final Consolidated Decree (2006).]	Metropolitan Water District is, for all practical purposes, a water marketing agreement.[18]
Quechan Indian Tribe (CA)	71,616 / --	71,616 / 36,000	71,616	*See above.*	*See above.*
Ak-Chin Indian Community	75,000 / --[19]	75,000 / --	The Community's entire entitlement is delivery of up to 108,300 (including groundwater pumping and pre-San Carlos transfer water) and the smallest quantity assured is 72,000.[20]	1978 Ak-Chin Settlement Agreement P.L. 95-328, 92 Stat. 409 (1978); Ak-Chin Indian Water Rights Settlement Act of 1984[21]; Ak-Chin Water Use Amendments Act, Pub. L. No. 106-285, 114 Stat. 878 (2000).	• The 1978 settlement Act restricted tribal water uses to agriculture. • The 1984 Act permits the Community to use water for "any use."[22] • The 1992 Act amended the 1984 settlement to authorize the Ak-Chin Indian Community to lease portions of its CAP water within the Central Arizona Water Conservation District[23] and expressly sanctioned a lease with Del Webb Corporation • Ak-Chin Water Use Amendments Act of 2000[24] was enacted "to clarify certain provisions concerning the leasing of such water rights, and for other purposes."
Fort McDowell Yavapai Nation	18,233 / --	18,233 / --	36, 350[25]	The Fort McDowell Indian Community Water Rights Settlement Act of 1990, P.L. 101-628, 104 Stat, 4480 (1990); Kent Decree.	The Settlement Act restricts the Community to leasing only a portion of its CAP allocation "for use and reuse in Pima, Pinal or Maricopa counties." The Community leases water to the City of Phoenix and the Phelps Dodge Corporation.[26]

Gila River Indian Community	208,200 / --[27]	208,200 / --	653,500 (including mainstem Colorado) (311,800 of CAP water makes it the largest allocator of CAP water in the state[28])	The Gila River Indian Community Water Rights Settlement Act, P.L. 108-451 (2004) (part of the Arizona Water Rights Settlement Agreement).	The SRP is helping the Community to engage in CAP recharge projects to accrue long-term water storage credits for CAP. Under the 2004 Act off-reservation sales and leasing are permitted but leasing out of state is prohibited.
Gila River Indian Community NIAR (Non-Indian Agriculture Relinquished)	120,600 / --	0	*See above.*	*See above.*	*See above.*
Kaibab Band of Paiute Indians	(not included in BOR study)[29]	-- / --	The Tribe receives up to 7,884,000 gallons of water from the National Park Service in exchange for 1/3 of the water pumped from the Pipe Spring National Monument.	Water Agreement between NPS and Kaibab Paiute Tribe, April 13, 1972.	The Tribe exchanges portion of its allowance to the National Park Service in return for potable water.[30]
Havasupai Tribe	(not included in BOR study)[31]	-- / --	Unsettled claims to groundwater on the Coconino Plateau and the mainstem Colorado.	Tribe has not yet settled its water rights claims but has been assigned a federal negotiating team.	No water marketing.
Hualapai Tribe	(not included in BOR study)[32]	-- / --	Unsettled claims to the groundwater on the Coconino Plateau and the mainstem Colorado.	Tribe has not yet settled its water rights claims but has been assigned a federal negotiating team.	No water marketing.
Pascua Yaqui Tribe	500 / --	500 / --	500	1980 CAP contract with the Secretary of the Interior.[33]	In 1992, the Tribe turned down the opportunity to market water to Tucson. No current marketing.

Salt River Pima-Maricopa Indian Community	13,300 / --	13,300 / --	122,400[34] .	1910 Kent Decree; Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. No. 100-512, 102 Stat. 2549 (1988).	The Settlement permits leasing of CAP water to local cities[35] but prohibits it from banking water.[36] The Community leases to a variety of private entities including a Wal-Mart on the reservation.
Salt River Pima-Maricopa Indian Community (Priority 3 Mainstream)	22,000 / --	22,000 / --	*See above.*	*See above.*	*See above.*
San Carlos Apache Tribe	30,845 / --	30,845 / --	77, 435 total Including the transfer below; up to 61, 645 of that is CAP. Please see endnote explaining the full extent of the Tribe's rights.[37]	The San Carlos Apache Tribe Water Rights Settlement Act of 1992, P.L. 102 -575, 106 stat. 4740 (1992).[38]	The Act authorized the Tribe to engage in limited leasing of its CAP contract water supplies.[39] The Tribe has leased to Phoenix, Phelps Dodge[40], the City of Scottsdale and the town of Gilbert.[41]
San Carlos Apache Tribe (Ak-Chin Transfer)	33,300 / --	12,655 / --	Average of 30,800[42] (amt included above)	-- / --	*See above.*
Tohono O'odham Nation	24,000 / --	20,460 / --	87, 200 The entireTohono O'odham CAP award amounts to 66,000.[43]	Southern Arizona Water Rights Settlement Act P.L. 97-293, 96 Stat. 1261 (1982); technical amendment; P.L. 102-497, 106 Stat. 3526 (1992); Title III of the Arizona Water Settlements Act of 2004; P.L. No. 108-451; 118 Stat. 2809, 3432-41 (2004). Additional CAP delivery contract.	*Information forthcoming.*

Tohono O'odham Nation (San Xavier)	50,000 / --	34,340 / --	*See above.*	*See above.*	*See above.*
Tonto Apache Tribe	128 / --	128 / --	128[44]	Contract made on December 11, 1980.[45]	No current water marketing.
White Mountain Apache Tribe	25,000 / --	2,031 / --	25, 000	124 Stat. 3064 P.L. 111–291. Title III. (2010). The White Mountain Apache Tribe Water Quantification provisions of the 2010 Claims Resolution Act settled the White Mountain Apache Tribe's claims to both the Gila and the Little Colorado Rivers in Arizona. Contract 08–XX–30–W0529.	The Act permits the Tribe to use water for any purpose. None of the Tribe's 25,000 CAP water is delivered to the reservation. 22,500 will be leased to the various cities and 2,500 will be leased back to the Central Arizona Water Conservation District.
Yavapai-Apache Nation	1,200 / --	1,200 / --	1,200 The Yavapai-Apache Nation also has unsettled claims to the Verde River.[46]	The Arizona Water Settlement Act, P.L. No. 108-451; 118 Stat. 2809, 3432-41 (2004). .[47]	No current marketing.
Yavapai-Prescott Tribe	500 / --[48]	500 / --	1,550[49] (additional groundwater pumping)	1994 Yavapai-Prescott Indian Tribe Water Settlement Act, P.L. 103-434, 108 Stat. 4526 (1994).	The Act authorizes the Tribe and the City of Prescott to market CAP water to the City of Scottsdale (complicated exchange arrangement).
Zuni Indian Tribe (Zuni Heaven Reservation)			5,500	Zuni Indian Tribe Water Rights Settlement Act of 2003, Pub. L. No. 108-34, 117 Stat. 782.	No water marketing. The Act restricts water to non-consumptive uses on reservation (or other Zuni) lands.

[1] The information provided for the Study includes the original endnotes from the water demand projections. It should be noted that the BOR also composed "Tribal Summaries" that go into greater detail about individual tribes' water rights and entitlements. The Study also mentions the unsettled claims of several tribes, including the Havasupai, Hualapai, and Kaibab Paiute. However, these considerations are tangential to the Study; they are not incorporated into BOR projections. U.S. Dep't of the Interior Bureau of Reclamation, *Appendix C9—Tribal Water Demand Scenario Classification, Colorado River Basin Water Supply and Demand Study* 25 (May 22, 2012), http://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20C%20-%20Water%20Demand%20Assessment/TR-C_Appendix9_FINAL_Dec2012.pdf (the Tribe is currently in litigation to claim 2,400 additional acres of irrigable lands, which would give the Tribe further water rights).

[2] 33,500 from the Navajo Reservoir and the remaining 6,500 from the San Juan-Chama Project.

[3] EXEC. SUMMARY OF THE SAN JUAN RIVER BASIN IN NEW MEXICO NAVAJO NATION WATER RIGHTS SETTLEMENT (Apr. 19, 2005), *available at* http://www.ose.state.nm.us/water-info/NavajoSettlement/NavajoExecutiveSummary.pdf.

[4] NAVAJO-HOPI LITTLE COLORADO RIVER SETTLEMENT AGREEMENT (Mar. 18, 2012), *available at* http://nnwrc.org/wp-content/uploads/2011/01/2012-03-23-Summary-LCR-Settlement-Agreement.pdf .

[5] Utah Code Ann. § 51-9-702 (2012).

[6] Although the Colorado Ute Tribes originally settled their water rights claims in the Colorado Ute Indian Water Rights Settlement Act of 1998, Pub. L. 100-585, 102 Stat. 2973 (1988), an essential element of the settlement was unable to be completed (the Animas La-Plata Project) and the Tribes went back to the negotiating table. The 2000 Amendments (Pub. L. 106-554) reduced the quantity of water the tribes would receive.

[7] Carol Berry, *Future Resources are Key to Planning for Ute Tribes*, INDIAN COUNTRY (May 3, 2011), http://indiancountrytodaymedianetwork.com/article/future-resources-are-key-to-planning-for-ute-tribes-31679.

[8] Diversion / consumption quantities are given for Colorado only as the rights are unquantified in New Mexico and Utah, but litigation is ongoing in New Mexico.

[9] Under the 1988 Colorado Ute Settlement Act, the Tribe had 92,000 from the Dolores and Animas-La Plata Projects (ALP), 27,400 from on-reservation rivers, and was entitled to continue using groundwater for existing uses. The 2000 amendments reduced the Tribe's ALP award to 33, 050 of diversion with an average annual depletion not to exceed 16,525. http://www.usbr.gov/uc/progact/animas/faq.html

[10] Other sources suggest that the magnitude of right is 9,707 afy.

[11] U.S. Dep't of the Interior Bureau of Reclamation, *Appendix C9—Tribal Water Demand Scenario Classification, Colorado River Basin Water Supply and Demand Study* 25 (May 22, 2012), http://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20C%20-%20Water%20Demand%20Assessment/TR-C_Appendix9_FINAL_Dec2012.pdf (the Tribe is currently in litigation to claim 2,400 additional acres of irrigable lands, which would give the Tribe further water rights).

[12] Any marketing would be subject to the restrictions in the *Arizona v. California* decrees. There is some uncertainty over whether the appurtenance language in the decrees restricts the *Arizona v. California* tribes to using water on reservation lands in the absence of a Congressional fix.

[13] CRIT water rights consist of "annual quantities not to exceed (i) 719,248 acre-feet of diversions from the mainstream or (ii) the quantity of mainstream water necessary to supply the consumptive use required for irrigation of 107,903 acres and for the satisfaction of related uses, whichever of (i) or (ii) is less."

[14] *Supra*, note 13.

[15] The substantive provisions of the Act were included in Section 2, *Authorization of Use of Water*. The entirety of Section 2 required:

> "(a) DISPOSITION OF WATER RIGHTS- The Fort Mojave Indian Tribe (hereinafter referred to as the `Tribe'), whose water rights were adjudicated in *Arizona v. California*, 373 U.S. 546 (1963), 460 U.S. 605 (1983); Decree 376 U.S. 340 (1964); Supplemental Decree 439 U.S. 419 (1979); Second Supplemental Decree 466 U.S. 144 (1984), is hereby authorized to lease, or enter into an option to lease, or to exchange or temporarily dispose of, for use within the State of Arizona, not more than 5,000 acre-feet of water to which the Tribe is entitled for beneficial use as part of its Arizona allocation of Colorado River water; except that, in no case shall any such lease, exchange or disposal of such water be for a period in excess of 25 years. In no case shall the Tribe permanently alienate any such water right."
>
> (b) CONTRACT- In the event the Tribe leases, exchanges or disposes of water pursuant to subsection (a), such action shall be pursuant to a contract that has been accepted and ratified by a Resolution of the Fort Mojave Tribal Council and approved and executed by the Secretary of the Interior.

[16] *Supra*, note 13.

[17] "The Hopi Tribe has claimed reserved water rights from four sources: on-reservation surface water and groundwater, surface water from the Little Colorado River, and surface water from the mainstem Colorado River. The proposed settlement would confirm the Hopi Tribe's rights to on-reservation surface water and groundwater, reserve a quantity of water from the mainstem Colorado River for a future settlement the Hopi Tribe's mainstem water rights claims, provide for the development of essential on-reservation water delivery infrastructure, and establish a framework for the sustainable management of the N-Aquifer which is currently threatened by unmanaged pumping. In return, the Tribe would waive its claims to the Little Colorado River and its damages claims for injuries to water rights or water quality that occur before the settlement goes into effect." *Hopi Tribe Endorses Historic Little Colorado Water Rights Settlement*, Hopi Tribe Press Release, June 21, 2012, *.available at* http://www.hopi-nsn.gov/LinkClick.aspx?fileticket=qHYJ7wTMjUo%3d&tabid=169.

[18] According to the terms of the decree, the Tribe has the sole option to forbear and assign up to 13,000 of that allocation to MWD in exchange for a cash payment. Paragraph 6 Provides:

> "… the rate that Metropolitan shall pay to the Tribe for water shall be … escalated at 2.5% per year…"In understanding the authority of the federal government over state law, it is essential to recall that *Winters* upheld the power of the government to exempt waters from appropriation under state law.

Paragraph 4 Provides:

> "Metropolitan and the Tribe further agree that if the Tribe chooses to limit currently proposed development and utilization of practicably irrigable acreage … and instead allows such water to pass through the priority system and be diverted by Metropolitan … Metropolitan agrees to pay the Tribe … provided that such water is actually available for use and is received by Metropolitan."

[19] When sufficient surface water is available in the CAP canal, Ak-Chin Indian Community is entitled to up to 10,000 afy in addition to the 75,000 afy shown in this row and the next row.

[20] The Ak-Chin Indian Water Rights Settlement Act of 1984 amended the original settlement to require the Secretary of the Interior to deliver "annually a permanent water supply from the main project works of the Central Arizona Project "of not less than seventy-five afa" except in "times of shortage" when the Secretary may reduce the supply to 72,000 afa. In wet years the Tribe may receive up to an additional 10,000 afa (85,000 afa).

[21]Pub. L. No. 98-530, 98 Stat. 2698(1984) (relating to the water rights of the Ak-Chin Indian Community).

[22] *Supra* note 13, at § 7(j).

[23] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 236 (2007).

[24] Act of October 10, 2000. Pub. L. No. 106-285, 114 Stat. 878 (to amend the Act entitled ''An Act relating to the water rights of the Ak-Chin Indian Community'' to clarify certain provisions concerning the leasing of such water rights, and for other purposes).

[25] The Tribe's total allocation of 36,350 is divided as follows: -Kent Decree, 7,060
-Salt River Project, 6,730
-RWCD, 3,200
-FMIC CAP Allocation 18,233 (a total Verde River diversion right of 19,192 in the exchange)

[26] *Id*. at ¶ 21.4.

[27] Other sources suggest that the magnitude of entitlement for the Gila River Indian Community (CAP and mainstream) is 653,500 afy.

[28] "The Gila River Indian Community was allocated 173,100 acre-feet of irrigation water in 1983. Under an August 7, 1992 agreement among RWCD, the United States, and the Gila River Indian Community, RWCD purportedly relinquished the remainder of its CAP entitlement for the use and benefit of GRIC. The relinquished entitlement was quantified as 18,600 acre-feet and reallocated to the Community under §204(b)(1)(A) of the Arizona Water Settlements Act, Pub. L. 108-451. The Act also reallocated to the Community 18,100 acre-feet of the former HVID entitlement and 102,000 acre-feet of non-Indian agricultural priority water relinquished pursuant to the Arizona Water Settlement Agreement. See Pub. L. 108-451, §§204(b)(1)(B) and 204(b)(1)(D)."United States Bureau of Reclamation, *CAP Subcontracting Status Report.* October 1, 2012, *available at* www.usbr.gov/lc/phoenix/reports/capgilbert/EAGilbertCAPlease.pdf .

[29] The Bureau of Reclamation does mention unsettled claims outside of the Study projections.

[30] Dave Sharrow & Lynn Cudlip, Appendix M. Summary of Water Quality and Quantity Vital-Signs Workshop, NCPN Monitoring Plan, M-12 (2003).

[31] The Bureau of Reclamation does mention unsettled claims outside of the Study projections.

[33] Pascua Yaqui Tribe, Office of the Chairman, *Pasquia Yaqui Tribe's Comments to Advanced Notice of Proposed Rulemaking - Assessment of Anticipated Visibility Improvements at Surrounding Class I Areas and Cost Effectiveness of Best Available Retrofit Technology for the Four Corners Power Plant and Navajo Generating Station - Docket No. EPA-R09-OAR-2009-0598*. (December 14, 2009).
[34] Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. No. 100-512, 102 Stat. 2549(1988) (before the 1988 decree the Community had secured 18,766 from the 1910 Kent Decree, 20,000 from the 1935 Bartlett Dam agreement, 13,300 of CAP allocation.
[35] *Id.*
[36] Interview with Michael Byrd, Salt River Reservation (Nov. 13, 2012).
[37] "The Colorado River water available to the Tribe as part of the 1999 settlement for the San Carlos Apache Indian Reservation includes: 12,700 afa of CAP Indian priority; 14,665 afa of CAP M&I priority water n; 3,480 afa of CAP M&I priority water previously allocated to the town of Globe; and the excess water (unquantified) not required to be delivered to the Ak-Chin Indian Reservation under subsection (f)(2) of Section 2 of the Ak-Chin Water Rights Settlement Act of 1984." Source: U.S. Dep't of the Interior Bureau of Reclamation, *Environmental Assessment*: *CAP Water Lease from the San Carlos Apache Tribe to the Town of Gilbert* (November 2010), http://www.usbr.gov/lc/phoenix/reports/capgilbert/EAGilbertCAPlease.pdf."In a normal water supply year on the Colorado River—i.e., when no more than 27,500 acre-feet of the original Ak-Chin allocation is needed for delivery to the Ak-Chin Indian Community—the San Carlos Apache Tribe allocation is 61,645 acre-feet. The former Phelps Dodge water and the former Globe water retain their original M&I CAP priority." United States Bureau of Reclamation, *CAP Subcontracting Status Report.* October 1, 2012, *available at* www.usbr.gov/lc/phoenix/reports/capgilbert/EAGilbertCAPlease.pdf .
[38] San Carlos Apache Tribe Water Rights Settlement Act of 1992, Pub. L. No. 102-575, § 3710(c), 106 Stat. 4740.
[39] *Supra* note 27.
[40] *Id*.
[41] *Id*.
[42] *"*Whatever portion of the original Ak-Chin CAP allocation is not needed to satisfy delivery obligations to the Ak-Chin Indian Community (30,800 acre-feet in a normal year) is available for delivery to the San Carlos Apache Tribe." United States Bureau of Reclamation, *CAP Subcontracting Status Report.* October 1, 2012, *available at* www.usbr.gov/lc/phoenix/reports/capgilbert/EAGilbertCAPlease.pdf .
[43] Dep't of the Interior, *Secretary Norton Signs Water Rights Agreement for Tohono O'odham Nation* (March 30, 2006). The Nation also has a contract for an additional 8,000 of CAP water for the Sif Oidak District of the Nation. Under the terms of the settlement, the San Xavier District can pump 10,000 of groundwater annually and the Shuck Toak District of the Sells Reservation can pump 3,200.
[44] Inter-Tribal Council of Arizona, Inc., *Projecting Tribal Water Use* (February 11, 2011).
[45] The Sparks Law Firm, *Comments on the DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead - TONTO APACHE TRIBE.* (April 27, 2007).
[46] Steve Ayers, *Quick route to water rights settlement scuttled*, VERDE INDEPENDENT (September 29, 2012).
[47] Through the CAP contract, in years of shortage the Nation's CAP rights could be reneged or minimized—rights, which through CAP are to be protected by the Secretary. *Id*.
[48] Another source provides for a 0-afy magnitude of right.
[49] The Settlement Act permitted the relinquishment of the Tribe's CAP contract, the proceeds to be used for a water service contract with the City of Prescott for 550 afa; it also provided 1,000 of surface water from Granite Creek; right to pump groundwater within the reservation boundaries. Sections 8 & 9. 1994 Yavapai-Prescott Indian Tribe Water Settlement Act.