

Native American Tribal Water Rights in the Colorado River Basin

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1 Introduction

Since the European settlement of the United States, Native American Tribes have struggled to manage and develop the lands reserved for them by the federal government. As sovereign nations, Tribes hold rights to land and water resources, and these must be considered by local, state, and federal policymakers to ensure resources are allocated legally and fairly. In the Western U.S., where water law follows the doctrine of prior appropriation – ‘first in time, first in right’ – the first historic water users were often native inhabitants.

Supreme Court decisions from the early 1900s through the 1960s have affirmed that federally-reserved lands such as Native American reservations have the right to sufficient water to fulfill their ‘primary purpose,’ with a priority date corresponding with their establishment. These rights legally cannot be altered by state water law, but in a transboundary river basin they may count towards a state’s water allocation. Tribal water rights can be obtained through litigation or through negotiated settlement with local, state, and federal parties. Though time-consuming, settlements can help resolve local issues and provide funding for water developments with Tribal benefits. The full assertion of Tribal senior water rights, especially if they have not been utilized historically, can significantly affect other users in the region.

The management of Tribal water rights alongside modern demands is particularly important within the Colorado River basin, whose water is heavily allocated between states and Mexico. Furthermore, climate change-induced warming and long-term drought may reduce river flows by more than 50% by the end of the century (Udall & Overpeck, 2017). An uncertain future of changing supplies requires managers and policymakers to understand how high-priority Tribal demands may be met in the future. This paper examines the water rights of the 32 federally-recognized Tribes with water rights in the Colorado River basin to aid policymakers and resource managers. It describes the legal framework for Tribal water rights, provides an accounting of current allocations or claims, and concludes with policy recommendations for consideration in the basin and throughout the Western United States.

2 Water Law and Native American Tribes

In the late nineteenth and early twentieth centuries, the federal government began a policy of assimilating Native American Tribes into the white populations of the United States. This involved the establishment of reservations where Tribes were expected to forego traditional native lifestyles in favor of the agricultural economies typical of eastern and midwestern states. Tribal lands were further broken up into individual allotments for distribution among Tribal members to encourage farming. This policy was abandoned in the 1930s when it was clear that it had worsened economic and social conditions for Tribes. However, by reserving lands for

Tribes, the government had established a relationship and responsibility that includes the allocation of resources to meet Tribal needs (Anderson, 2010).

Tribal water rights are vested property rights for which the United States has a trust responsibility to Tribes, and it has exercised this responsibility by assisting Tribes with their water rights claims through litigation, negotiations, and/or implementation of settlements. As of 2015, there were 277 federally-recognized Tribes in the Western U.S., excluding Alaska and Hawaii (Stern, 2015). A total of 36 water settlements have been finalized across the country, and 19 federal negotiation teams have been appointed to ongoing settlements with 29 different Tribes (Stern, 2017). Other Tribes are currently litigating their water rights in court cases, contracting for small amounts of water through existing water projects, or are still working to understand their rights and administer their resources within various state and federal legal frameworks.

2.1 Legal Precedent & Litigation of Water Rights

In the Western U.S., appropriative water rights are formalized through general stream adjudications in state courts. All water users in the basin, including Tribes, must resolve long-standing disagreements to determine their final water entitlements. The process involves many legal issues and requires extensive technical work, so it frequently takes decades to complete. Since they have legal standing as sovereign nations, when Tribes become involved in these adjudications the legal basis for their water rights is governed by federal case law. Two Supreme Court decisions to date have assigned water rights to Tribes and provided precedent for further quantifications (Anderson, 2010). The first is *Winters v. United States*, which in 1908 granted water rights to the Gros Ventre and Assiniboine Tribes of the Fort Belknap Reservation in Montana. The case determined that Tribes are entitled to federally-reserved water rights with a priority date of their Reservation's establishment. In a system governed by priority, that often means Tribes are senior to all others in the region. These rights are granted to provide "sufficient water to fulfill the reservation's primary purpose" (Bushnell, 2012).

The second Supreme Court case that established precedent for Tribal water rights was *Arizona v. California*, a major dispute in the Colorado River basin. The 1963 decision and a 1964 decree which was consolidated in 2004, provided rights to five Tribes in the Lower Basin and established a method for quantifying Tribal water rights. This quantification establishes how Tribes are permitted to eventually use their water rights: how much water the Tribe is entitled to, where it is sourced from, when it can be diverted, and how it will be used. This quantification helps Tribes' rights be managed alongside water other users within a basin. Since most reservations were created by the government with the intent of establishing small-scale farms on Tribal lands, the 'primary purpose' of many reservations was agricultural production. As a result, Tribal water rights are most frequently based on requirements for irrigation through the 'practicably irrigable acreage' (PIA) standard. PIA water rights are based on "present and historical irrigation, for those Tribal lands capable of sustaining irrigation in the future, and for growing crops in an economically feasible manner" (Bushnell, 2012). In addition to water historically used by Tribes, their rights often include additional water for the development of new economically feasible agriculture in the future. The Court's decision in *Arizona v. California* also allowed the use of agricultural water rights for other purposes if the desires of Tribes change over time (Anderson, 2010).

As a result of litigation, state Courts in several western states have also decreed water rights to Tribes (Anderson, 2010). Because many Tribes lack access to potable drinking water, and others may need water to support lifestyles including hunting, gathering, fishing, and spiritual practices, Tribal water rights have also been established for municipal supplies or environmental and cultural uses through instream flows (Anderson, 2006).

2.2 Water Rights Settlement & Development

Tribal water rights must be quantified and agreed upon by federal, state, and local parties, but the litigation of these rights can often be unsatisfying to Tribes because it results in ‘paper water rights’ with no funding to develop them unless infrastructure is already in place. As a result, many Tribes have turned towards negotiated settlements that help them obtain ‘wet water rights’ with both legal rights and economic development funds that allow them to be put to use.

Water rights settlements help resolve uncertainty with local parties and put an end to conflict by avoiding costly litigation (Stern, 2012), though they may require Tribes to compromise and receive less water rights than they may have received through litigation (Snider, 2015). Settlements require a federal negotiation team made up of representatives from the Office of the Secretary of the Interior, the Bureau of Indian Affairs, the Office of the Solicitor, the Department of Justice, and the U.S. Fish and Wildlife Service. They must be ratified by Tribal members and state governments, and Congressional approval is required if they include funding. Once a settlement is approved, district courts issue final water rights decrees to Tribes and any federally-funded construction is overseen by the Bureau of Reclamation (USBR) (Bushnell, 2012).

2.3 Tribal Water Rights Today

Because of the historical mismanagement of Tribal water resources in the U.S., Non-Tribal populations have frequently had greater access to water developments. These include large infrastructure project such as dams, irrigation systems, and treatment plants developed by the USBR and the Army Corps of Engineers. If Tribes obtain funding to develop additional water rights that they have not historically used, conflicts may arise. Tribal rights are often the most senior in a basin, and their higher priority holds even if other users may have already developed water infrastructure of their own.

Though Tribal water rights are certified by the respective state(s) in which the Tribe’s reservation is located, they do not have to abide by typical state laws governing the ‘beneficial use’ of water. They retain a priority date of the Reservation’s establishment regardless of water use since then, and they cannot be forfeited due to non-use (Parr & Parr, 2009). Tribes may change points of diversion, use agricultural rights for other uses, and even lease water to other users within the same basin. This leasing may be limited to the state where the reservation is located, depending on state water policy and the conditions of Tribal decrees or settlements (Storey, 1988). The full utilization of Tribal water rights will affect other established users if they are required to reduce diversions and/or cooperate with new Tribal administration of water resources on Reservation lands. These users may be able to lease water from Tribes, but this would come at an additional cost. Sometimes settlements rely on imported water to ease the effects of Tribal water use on other local stakeholders, but these projects may bring their own engineering and legal challenges (Bushnell, 2012).

3 Tribal Water Rights in the Colorado River Basin

The 1922 Colorado River Compact, which governs the allocation of the basin’s water resources between states, specifically acknowledged the rights of Tribes and noted that “nothing in this compact shall be construed as affecting the obligations of the United States of America to Indian tribes” (USBR, 1922). The Compact notably did not quantify any Tribe’s water rights, however, and Tribes were largely excluded in the years following the Compact which formed the ‘Law of the River.’ The 1963 decision in *Arizona v. California* began to change this, bringing Tribes and states together to consider additional water rights to the already heavily allocated river. The Supreme Court also directed that water allocated to Tribes be counted as part of the Colorado River allocation of the state where their reservation is located (CRRG, 2016). This requirement may play a significant role in the planning and allocation of Colorado River resources between states, as well as the future quantification of additional Tribal water rights in the basin.

A total of 32 Federally-recognized Native American Tribal Reservations are located within or have water rights in the Colorado River basin, either directly along the river or within a tributary drainage (Figure 1). These reservations fall within six of the seven states with rights to Colorado River water; only Wyoming has no Tribes within its portion of the basin.

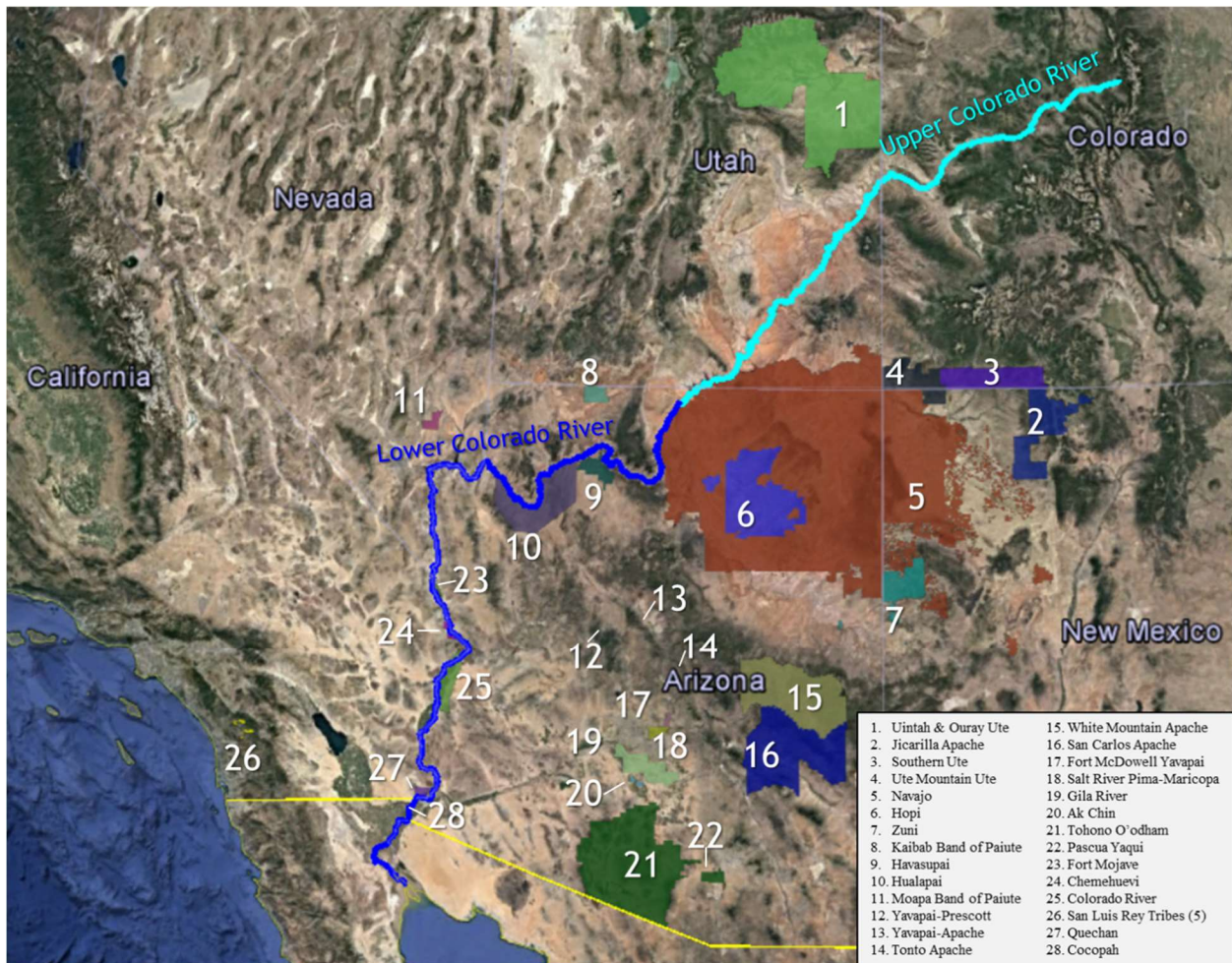


Figure 1: Native American Tribes and their reservations in the Colorado River basin.

Water rights can be quantified through both diversion and depletion volumes of water, in acre-feet per year (AFY). A water right is permitted to ‘divert’ a specific amount of water, a portion of which will be returned to the river depending on its use (i.e. through agricultural return flows or municipal wastewater treatment plants). The portion of the right that is consumptively used (largely through plant evapotranspiration) is considered ‘depleted’ from the basin. When water rights are changed from one use to another, only the depletion portion of the right can be transferred. With the possibility that Tribal water rights may be leased or changed to uses besides agriculture, it is important to consider both diversion and depletion entitlements (as long as they are specified in decrees or settlements, which is not always the case).

The majority of the Tribes in the Colorado River basin have finalized their water rights through either litigation or settlement, and several now have a stake in federal water projects or developments of their own. Some rights are still under negotiation or litigation, and some Tribes have small claims which may increase in the future. These water rights are summarized in the sections below, separated into the upper and lower Colorado River basin to correspond with the way the river’s water was allocated to states under the 1922 Colorado River Compact.

3.1 Upper Basin

Five Tribes reside within the drainage of the upper Colorado River basin, upstream of Lee’s Ferry, and have water rights to about 1.7 million AFY of diversion or 837,000 AFY of depletion (Table 1). These reservations are some of the largest in the country, covering more than 24 million acres of land (including the entire Navajo Nation) in Colorado, Utah, New Mexico, and Arizona. Most of their water rights have been or are close to being finalized through a combination of settlements and court decrees, though some negotiations are ongoing and other quantifications have yet to be made.

Table 1: Tribal water rights in the upper Colorado River basin (after USBR, 2012).

Tribe	State	Status (Source)	Diversion Right (AFY)	Depletion Right (AFY)
Ute Indian Tribe of the Uintah & Ouray Reservation	UT	Settled/Negotiating (P.L. 102-575, 1992)	480,594 ⁺	258,943 ⁺
Jicarilla Apache Nation	NM	Settled (P.L. 102-441, 1992)	40,000	32,000
		Decreed (<i>NM vs. U.S.</i> , 1999)	5,684	2,195
Southern Ute Indian Tribe	CO	Settled (P.L. 100-585, 1988)	137,090	74,318
Ute Mountain Ute Tribe	CO	Settled (P.L. 100-585, 1988)	88,358	51,081
	NM	Litigation (<i>NM v. U.S.</i>)	7,300 ⁺	-
	UT	Unquantified	-	-
Navajo Nation	NM	Settled (P.L. 102-441, 1992)	606,660	325,670
		Decreed (<i>NM v. U.S.</i> , 2013)	26,872	11,061
	UT	Negotiating (S.B. 3482, 2016)	314,851 ⁺	81,500 ⁺
UPPER BASIN TOTAL			1,707,409	836,768

⁺These rights represent only a portion of the Tribe’s potential reserved water rights claims, which are not yet final.

Several of the Upper Basin Tribes have finalized their water rights through settlement. The Jicarilla Apache Nation has rights to divert water from the San Juan River, Navajo Reservoir on the Navajo River, and the USBR's San Juan-Chama Project. The Southern Ute Tribe and the Ute Mountain Ute Tribes have rights to the San Juan River tributaries and the USBR's Animas LaPlata Project, with the Ute Mountain Utes receiving additional deliveries through the Dolores Project. The Ute Indian Tribe of the Uintah & Ouray Reservation's water rights in the Green River system were quantified through settlement, but their final water compact still awaits ratification by the State of Utah and the Tribe's membership before these rights are final. The Ute Mountain Ute Tribe's water rights in New Mexico are currently under litigation, while it has not yet attempted to quantify, litigate, or settle its rights in Utah (USB, 2012).

The Navajo Nation lies within several states and river basins, encompassing a land area of more than 17.5 million acres. Its water rights are largely unquantified except in New Mexico, where a settlement and court decrees provided for water rights in the San Juan River basin and the USBR's Animas-LaPlata Project upstream in Colorado. In Utah, the Navajo Nation has been negotiating its rights to the mainstem of the Colorado River and the San Juan River with the state (S.B. 3482; CU Law, 2016). The portion of the Navajo Nation in Arizona falls within both the Upper and Lower Colorado drainages; the nation's rights there are under negotiation and are discussed further under the Lower Basin below.

3.2 Lower Basin

The lower Colorado River basin drainage, from Lee's Ferry to the Mexican border, includes 28 Tribes with rights totaling about 1.8 million AFY of diversion and more than 653,000 AFY of depletion, though many rights do not have a quantified depletion entitlement (Table 2). These reservations are generally smaller than those in the Upper Basin, covering a total land area of about 9 million acres (not including the Navajo Nation, which is larger than all the other Lower Basin reservations combined). Some of their water rights were decreed in major litigation, others have been settled and currently receive or lease water through water projects in Arizona, some have only signed water purchase contracts or exchanges, while other rights are still being negotiated or remain completely unquantified.

As in the Upper Basin, the Navajo Nation's water rights in the Lower Basin (only within Arizona) remain largely unsettled and are a substantial uncertainty in the basin. The proposed Navajo-Hopi Little Colorado Settlement Act of 2012 would have quantified the nation's rights in the Little Colorado River. The Hopi Tribe, who initially agreed to the settlement, would have had its rights confirmed but not quantified (Navajo & Hopi, 2012). Though the settlement failed when both tribes withdrew, the basin's litigation is ongoing, and the Tribes have recently resumed negotiations (Navajo-Hopi Observer, 2017). The Navajo Nation also has unquantified claims to the mainstem of the Colorado and the Gila River within the state (CU Law, 2016). The Hopi Tribe has obtained some direct Colorado River water rights through purchase of farmland in the Cibola Valley, but its water rights otherwise remain unquantified (USB, 2012).

Table 2: Tribal Water Rights in the lower Colorado River basin (after USBR, 2012).

Tribe	State	Status (Source)	Diversion Right (AFY)	Depletion Right* (AFY)
Navajo Nation	AZ	Negotiating (Navajo & Hopi, 2012)/Unquantified	250,000 ⁺	-
Hopi Tribe	AZ	Negotiating (Navajo & Hopi, 2012)/Purchased/Unquantified	6,028 ⁺	2,984 ⁺
Zuni Tribe	NM	Settled (P.L. 108-34, 2003)	7,000	-
Kaibab Band of Paiute Indians	AZ	Exchange/Unquantified	24 ⁺	-
Havasupai Tribe	AZ	Negotiating (<i>Havasupai v. Anasazi, 2017</i>)/Unquantified	-	-
Hualapai Tribe	AZ	Negotiating (S.B. 1770, 2017)	4,000 ⁺	-
Moapa Band of Paiute Indians	NV	Decreed (<i>Muddy Valley v. Moapa & Salt Lake, 1920</i>)/Unquantified	12 ⁺	-
Yavapai-Prescott Tribe	AZ	Settled (P.L. 103-434, 1994)	1,550	-
Yavapai-Apache Nation	AZ	Contracted/Litigation (<i>Gila Riv. Adjud.</i>)/Unquantified	1,200 ⁺	-
Tonto Apache Tribe	AZ	Contracted/ Litigation (<i>Gila Riv. Adjud.</i>)/Unquantified	128 ⁺	-
White Mountain Apache Tribe	AZ	Settled (P.L. 111-291, 2010)	25,000	-
San Carlos Apache Tribe	AZ	Settled (P.L. 102-575, 1992)	30,845	-
Fort McDowell Yavapai Nation	AZ	Settled (P.L. 101-628, 1990)	36,350	-
Salt River Pima-Maricopa Indian Community	AZ	Settled (P.L. 100-512, 1988)	35,300	-
Gila River Indian Community	AZ	Settled (P.L. 108-451, 2004)	328,800	-
Ak-Chin Indian Community	AZ	Settled (P.L. 95-328, 1978)	75,000	-
Tohono O'odham Nation	AZ	Settled (P.L. 108-451, 2004)/Unquantified	74,000 ⁺	-
Pascua Yaqui Tribe	AZ	Contracted/Unquantified	500 ⁺	-
Fort Mojave Indian Tribe	AZ	Decreed (<i>AZ v. CA, 1964-2004</i>)	103,535	73,000
	CA	Decreed (<i>AZ v. CA, 1964-2004</i>)	16,720	8,995
	NV	Decreed (<i>AZ v. CA, 1964-2004</i>)	12,534	9,000
Chemehuevi Indian Tribe	CA	Decreed (<i>AZ v. CA, 1964-2004</i>)	11,340	8,000
Colorado River Indian Tribes	AZ	Decreed (<i>AZ v. CA, 1964-2004</i>)	662,402	463,000
	CA	Decreed (<i>AZ v. CA, 1964-2004</i>)	56,846	39,000
San Luis Rey Tribes (Rincon, La Jolla, Pauma, Pala, & San Pasqual Bands of Luiseño/Digueño Mission Indians)	CA	Settled (P.L. 100-675, 1988 & P.L. 114-322, 2016)	16,000	-
Quechan Tribe	AZ	Decreed (<i>AZ v. CA, 1964-2004</i>)	6,350	3,670
	CA	Decreed (<i>AZ v. CA, 1964-2004</i>)	71,616	36,000
Cocopah Tribe	CA	Decreed (<i>AZ v. CA, 1964-2004</i>)/Negotiating	10,847 ⁺	9,412
LOWER BASIN TOTAL			1,843,927	653,061

*Few Lower Basin rights have quantified depletion entitlements; most available numbers were estimated by the USBR (2012) using an assumed percent depletion depending on how the water is used.

⁺These rights represent only a portion of the Tribe's potential reserved water rights claims, which are not yet final.

The Central Arizona Project (CAP), which diverts about 1.5 million AFY from Lake Havasu on the mainstem of the Colorado River, makes excess capacity available for carrying Tribal water rights (Walton, 2015). By 1992 a total of 11 Tribes had signed contracts to receive CAP water, and presently eight of these Tribes' rights have been finalized through settlement (USBR, 2012). The Yavapai-Prescott Tribe, following its 1994 water rights settlement, transferred its entire CAP allocation to the City of Scottsdale in exchange for funds to develop alternate water supplies. None of the White Mountain Apache Tribe's settled rights reach the reservation either; they are leased to several cities and the Central Arizona Water Conservation District through the CAP. The San Carlos Apache Tribe receives all of its water from the CAP, with an additional 30,800 AFY (not included in Table 2) available if it's not needed by the Ak-Chin Community. Much of this water is under 50-year leases to Phelps Dodge and the City of Scottsdale since the Tribe does not have the infrastructure to divert it. The Salt River Pima-Maricopa Indian Community's settled rights in the CAP are largely used for farming, and some are partially exchanged with the City of Phoenix for an equivalent water supply from the Salt River Project (SRP) (USBR, 2012).

The Gila River Indian Community receives the state's largest allocation of CAP water through the Tribe's settled rights, and infrastructure is currently being built to put these rights to use for agriculture. Following a presidential veto of the Southern Arizona Water Rights Settlement Act of 1982, the Tohono O'odham Nation's rights were partially finalized in 2004. This water is currently used by or being developed for agriculture in ten of the Nation's 11 districts. The Fort McDowell Indian Community's settled rights are supplied by the CAP and SRP, with additional court decrees and water rights purchases also allowing direct diversions from the Verde River. Some of this water is used for agriculture, and the community also has a 100-year lease with the City of Phoenix. The Ak-Chin Indian Community obtained the first settled water rights in the state in 1978; most of this water is used for agriculture but some is also leased to the Del Webb Corporation through the CAP (USBR, 2012). The San Luis Rey Tribes of California, consisting of the Rincon, La Jolla, Pauma, Pala, and San Pasqual Bands of Luiseño and Digueño Mission Indians, have unique water rights to the Colorado River. Though the Tribes' small reservations north of San Diego are not within the Colorado River drainage, they gained export rights from the river through a 1988 settlement. This was intended to compensate the Tribes for local supplies from the San Luis Rey River which were promised in the early 1900s but ultimately developed for non-Tribal uses. The settlement was not actually implemented until 2016, however, and the Tribes are still working to transport the water over 100 miles from the river to their Reservations. In the meantime the Tribes lease water to local agencies, though this has brought its own conflicts over proper accounting and changes to agency revenues (Rivard, 2018).

The Yavapai-Apache Nation of the Camp Verde Reservation, the Tonto Apache Tribe, and the Pascua Yaqui Tribe presently have water delivery contracts through the CAP but have not quantified their water rights in any other form. Their current uses include small-scale agriculture and municipal uses. It is presently unknown if these Tribes' future rights will come from the Colorado River; if they do, the current lack of infrastructure means that water right exchanges will be required to deliver additional entitlements to their reservations (USBR, 2012). The Yavapai-Apache and Tonto Apache tribes are currently participating in the adjudication of the Gila River system, and both have been assigned federal negotiation teams (Stern, 2017). Additional water rights for the San Carlos Apache Tribe from the Gila River's tributaries and the Tohono O'odham Nation's Sif Oidak District remain currently unquantified (ADWR, 2010).

The Lower Basin Tribes outside the service area of the CAP have been litigating and negotiating their water rights with some success, though several remain unquantified. The Zuni Tribe, whose Zuni Heaven property (the smaller western portion of the reservation) is located more than 160 miles southeast of the Colorado River, settled to obtain water rights to surface water in the Little Colorado River water plus groundwater from the area (ADWR, 2010). The Kaibab Band of Paiute Indians in northwestern Arizona has not quantified its water rights to date, though as a result of a 1972 agreement with the National Parks Service it does receive some water in exchange for pumping within Pipe Spring National Monument (CU Law, 2016). In 2016 the Havasupai Tribe filed a lawsuit against private water companies that asserted it holds unquantified reserved water rights to groundwater feeding springs and creeks that drain into the Grand Canyon. These sources are already used by the Tribe for agricultural, domestic, and cultural purposes. Because the United States is a required participant to Tribal water rights litigation and was not named as a party in the lawsuit, the case was dismissed (*Havasupai Tribe v. Anasazi Water Company et al.*, 2017). The Tribe has been participating in other studies of reservation springs and current water use with the USBR (2012) and has been assigned a federal water rights assessment team (Stern, 2017), but it is the last remaining Tribe in the Lower Basin without any quantified water rights claims (Table 2). The Hualapai Tribe has been negotiating its water rights with the State of Arizona, and a proposed water settlement was introduced in 2017. It includes \$173 million in funding for the development of a pipeline from the Colorado River up to the rim of the Grand Canyon (S.B. 3300). The Moapa Band of Paiute Indians in Nevada obtained a decreed water right to the Muddy River as part of its general adjudication in 1920, though the Tribe may have additional reserved water rights which remain unquantified.

4 Recommendations for Resource Managers & Policymakers

Many Tribes have worked extensively to obtain water rights through litigation or settlement in the Colorado River basin. These rights represent significant quantities of water that count towards individual states' allocations under the Colorado River Compact and the 'Law of the River,' so the additional Tribal rights which have yet to be finalized or even quantified may pose additional challenges for planning in the basin. Water rights settlements have helped fulfill trust responsibilities to Tribes and generate income for historically underserved communities. To continue managing these rights within complex Western water systems with competing demands, policymakers should give Tribes the flexibility and opportunity to exercise their water rights. Some Tribes have shown this can be accomplished by embracing creative solutions and cooperative approaches such as voluntary transfers and leases in partnership with non-Tribal water users.

Resource managers in the Colorado River basin must be aware of Tribes in their regions and the legal status of their existing or potential water rights, especially if these rights are not presently in use and may be developed in the future. Doing so will help anticipate how these rights may affect other water users and encourage adaptive planning. The USBR demonstrated an attempt at this effort through a technical appendix on Tribal water demand quantification in its Colorado River Basin Water Supply and Demand Study (USBR, 2012). A more in-depth assessment of Tribal water uses and interests is underway with the Ten Tribes Partnership, a group of the largest Tribal water rights holders in the basin (Walton, 2015).

Local policymakers and water users should understand water-related challenges faced by Tribes in their areas and seek out opportunities for leasing and other management flexibility. Neighborly negotiation and good water accounting are particularly demonstrated by the Tribes that receive water through the Central Arizona Project (CAP). The majority of these rights were finalized through settlement, and Tribes like the Yavapai-Prescott and the Ak-Chin Community have negotiated long-term leases with cities or corporations to put rights that they would otherwise be unable to divert to use. In turn, cities like Phoenix are able to conserve their groundwater reserves for future drought or growth (Walton, 2015). The Gila River Indian Community has also begun to allow its unused surface water rights to stay in the Gila River channel, providing both instream flows encouraging groundwater recharge (Snider, 2015). These exchanges are mutually beneficial, allowing thirsty cities, industries, or wildlife access to reliable water supplies while putting Tribes' 'wet water rights' to beneficial use and generating income. The San Luis Rey Tribes in California, who have a right to export Colorado River water outside the basin, are currently seeking ways to utilize the existing infrastructure of the Metropolitan Water District and the San Diego County Water Agency to get water to their Reservations (Rivard, 2018). Flexible local system operations can lessen the need for new water infrastructure and further promote cooperation and leasing opportunities.

State policymakers are responsible for knowing about potential water rights claims within their borders and anticipating that Tribal diversions will count towards their allocations in transboundary river basins like the Colorado. States also have a duty to oversee lengthy general stream adjudications or represent the interests of non-Tribal users in water rights settlements. The State of New Mexico demonstrated success in the San Juan River adjudication, which decreed rights to the Jicarilla Apache and Navajo Nations and will eventually include the Ute Mountain Ute Tribe's currently unquantified rights. Arizona's settlement of eight Tribes' rights through the CAP also benefited from state water laws which encouraged temporary water exchanges and leases to benefit Tribes and their neighbors.

Federal representatives have largest trust responsibilities to Tribes with respect to water rights. These include representation in litigation, settlement negotiation and approval, water project operation, and economic development funding. Government-to-government relationships with Tribes must be fostered early and often to ensure needs are being met and resources are developed and distributed fairly. Settlement negotiations must ensure that Tribes are made whole, and cooperation with other parties can facilitate necessary compromises to reach an ideal solution. When the opportunities for Tribal settlements arise, legislation should be expedited to offer certainty to all water users in the basin, provide project funding, and help compensate Tribes for the lack of resource development in the past. Following settlements, Tribal interests must be considered in the operations of federal water projects; good water accounting can facilitate exchanges and leases through these systems as well. The USBR's Animas-LaPlata Project, part of the Colorado Ute Indian Water Rights Settlement Agreement of 1986, was developed with both Tribal input and local buy-in. The resulting infrastructure, Lake Nighthorse, has direct agricultural, municipal, and recreational benefits for all parties (Witte, 1991). Federal courts have significant powers which have decreed Tribal water rights in the Colorado River basin and established precedent for how these rights are quantified and decreed nationwide. Future lawsuits which may fundamentally change the governing of water rights in the Colorado River basin and the West are possible, and it must be insured that Tribes' interests and rights are adequately addressed in these decisions.

To better anticipate the potential impacts of currently unquantified Tribal water rights, resource managers and policymakers on multiple scales should actively work to understand the needs and interests of Tribes. Tribes have the right to claim, negotiate, and potentially litigate reserved water rights sufficient to meet the needs of their Reservations, but compromises are often possible to ensure security and benefits for Tribes and other local interests alike. Projects like water storage, groundwater recharge, water exchanges, and leasing can benefit multiple users. The Colorado River basin may face future changes in water resource availability due to climate change, drought, legislation, and lawsuits, but effective planning and cooperation can help leave all users in a better position than they would have reached in isolation.

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