

# Addressing Institutional Barriers to Native American Water Marketing

Policy reforms can give tribes full value of their water rights

by Leslie Sanchez



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**O**n August 16, 2021, the federal government declared the first-ever shortage on the Colorado River, as measured at the Lake Mead reservoir, triggering cuts to water users in Arizona, Nevada, and Mexico. While the declaration underscores the severity of water scarcity in the basin, it was not unexpected. Lake Mead's elevation has hovered around the 1,075-foot threshold for a "Tier 1" shortage for years, and maintaining even that level has required water marketing agreements with Native American tribes.

In recent years, the Gila River Indian Community and Colorado River Indian Tribes have helped maintain Lake Mead's water levels above the curtailment threshold by entering into leasing and forbearance agreements with federal agencies, states, and municipal governments in the Lower Colorado River Basin.<sup>1</sup> In exchange for banking water rights in Lake Mead, the two tribes received millions of dollars in revenue—more than they would have generated through on-reservation water use—which they have reinvested in more efficient water infrastructure and reservation economies.<sup>2</sup> Meanwhile, off-reservation water users staved off costly, mandatory cuts from the federally declared shortage.

## Highlights

- ▶ Despite the clear mutual benefits of water marketing between tribes and off-reservation water users, federal law severely restricts tribes from marketing their water rights.
- ▶ Because of these restrictions, Colorado River Basin tribes may be forgoing \$563 million to \$1.3 billion dollars annually, or between \$3,200 and \$7,300 per person residing on the corresponding reservations.
- ▶ Authorizing tribes to lease water off reservation would enable tribes to capture the full value of their water rights, enhance water management flexibility through expanded market activity, and improve regional resiliency to protracted drought and growing water demand.



The combination of regional water scarcity and mandatory reductions in water use has amplified the need for water markets to encourage conservation and redirect water to its highest-value uses. With some of the most extensive and senior water rights in the West, the potential influence of Native American tribes over water markets and trajectories of future water use cannot be overstated. The Colorado River Basin's 29 federally recognized tribes hold combined rights to 3.6 million acre-feet (AF) of water, or roughly 25 percent of the Colorado River's annual flow. This share could increase by up to 0.5 million AF as remaining basin tribes settle their water rights—just as off-reservation water users face additional curtailments.<sup>3</sup>

Despite clear benefits of tribes marketing water to off-reservation users, federal law severely restricts them from doing so. Tribes are prohibited from marketing water off reservation without ad hoc authorization from Congress. Even then, additional barriers limit how tribes can market water. These obstacles to water marketing reduce potential gains from trade, deprive tribes of significant revenues and decision-making power, generate uncertainty for other water users, and entrench water use in relatively low-value, low-efficiency activities. Reforms that remove such barriers would not only give tribes the autonomy they deserve when it comes to their water rights, but they would also benefit the tribes and off-reservation water users who participate in water marketing.

## Recommendations

- ▶ Congress should pass legislation to uniformly authorize tribes to lease water rights off reservation if they choose to do so.
- ▶ Contingent on tribal support, water settlements should include financial and administrative support for tribes to develop water markets.

## Tribal Water Rights and Use

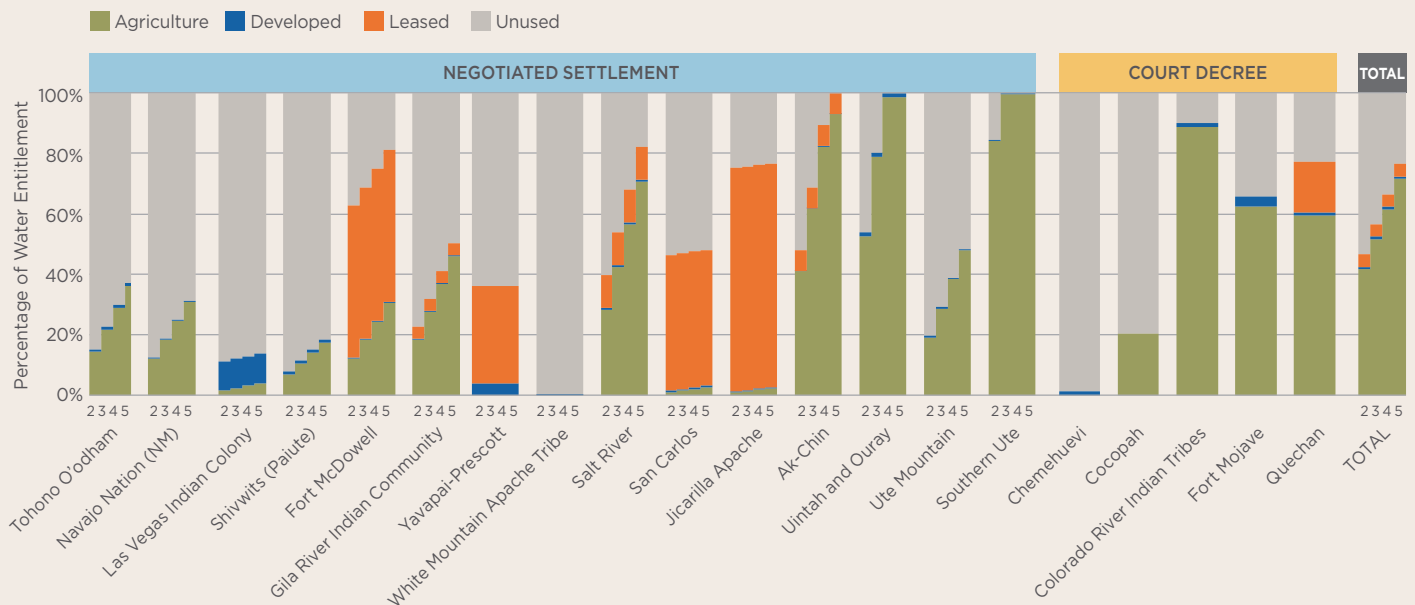
Surface water in western states is governed by the prior appropriation doctrine. Water rights are established based on a “first in time, first in right” chronological priority system and maintained through continuous beneficial use. The first prior appropriation water rights were assigned to irrigated agriculture between 1850 and 1920, just as tribes were relegated to reservations, and are administered under state law.

Tribes have federally reserved water rights that exist alongside prior appropriation rights. The federal government implicitly reserved water rights for tribes through reservation treaties. They trace their origins to the 1908 U.S. Supreme Court ruling in *Winters*

*v. United States*, which established that tribes are entitled to a volume of water to fulfill their reservation homeland needs, with a priority date of when the reservation was established. Because reservation treaties remove federally reserved water from the public domain, reserved water rights cannot be forfeited through nonuse. However, the ruling did not quantify or establish tribes’ water rights, so they remained unenforceable as surface water across the West was fully allocated to off-reservation water users.

As water scarcity has increased in recent decades, a growing number of tribes have sought legal titles to their long-unresolved water rights. Tribes can quantify their water rights through judicial rulings or settlement agreements negotiated between tribes

### Tribal Water Use Estimates



Colorado River Basin tribes have a great deal of water entitlements that remain unused by them—and are therefore available for free use by more junior appropriators. The figure above shows estimates of tribal water use in 2012 for agricultural use, developed land use, and off-reservation water leasing. Agricultural and developed water use on reservations with negotiated settlements are estimated based on reservation land use derived from the U.S. Conterminous Wall-to-Wall Anthropogenic Land Use Trends (NWALT) geospatial data. Estimates assume use of 0.25 AF per acre for developed land and 2, 3, 4 or 5 AF per acre for agricultural land use, as depicted along the x-axis. Figure depicts actual water use for reservations with court decreed rights.

**Sources:** Data on negotiated settlement water use are available from Leslie Sanchez et al., *The Long-Term Outcomes of Restoring Indigenous Property Rights to Water*, Minneapolis Federal Reserve Bank, Center for Indian Country Development, Working Paper (2021). Data on court-decreed water use are available from the Bureau of Reclamation, Colorado River Basin Ten Tribes Partnership Tribal Water Study, Chapter 5: Assessment of Current Tribal Water Use and Projected Future Water Development (2018).

and neighboring water users. Both strategies provide legally enforceable water rights, which are a precondition for formal water marketing. But whereas court rulings merely create the tribe's water rights, settlements typically include funding for the tribe to develop them, address the extent to which tribes can market water off reservation, and require an act of Congress.

Even so, actually securing federal settlement funding and then planning and constructing water infrastructure on reservations can take decades. In aggregate, the 20 basin tribes with deeded water rights have roughly 1 to 2 million AF of tribal water entitlements that remain unused—available for free use by more junior appropriators until the tribes can divert and use that water on reservation. In a basin where annual water withdrawals exceed inflows by 1.2 million AF, the opportunity costs to tribes of not leasing water off reservation may be billions of dollars.<sup>4</sup> In 2020, for example, Imperial Irrigation District in Southern California leased approximately 190,000 AF of its senior Colorado River water rights to the San Diego Conservation Water Authority for \$679 per AF.<sup>5</sup> At that price, basin tribes' unused water rights amount to annual lost leasing revenues of \$563 million to \$1.3 billion, or between \$3,200 and \$7,300 for every person residing on these reservations.

## Barriers to Tribal Water Marketing

Despite the clear mutual benefits of water marketing between tribes and off-reservation water users, federal law restricts tribes' abilities to market their water rights. Tribes cannot lease water off reservation without congressional authorization, which is granted on a case-by-case basis.<sup>6</sup> Even once authorized, most tribes face additional, settlement-specific barriers that restrict how they can lease water and often delay leasing agreements. Such obstacles to water marketing reduce potential efficiency gains from trade, deprive tribes of a significant revenue stream, generate uncertainty for off-reservation

water users, and entrench water use in relatively low-value, low-efficiency activities.<sup>7</sup>

The Nonintercourse Act, a series of statutes passed in the 1790s and early 1800s, bars tribes from transferring Indian trust assets without an act of Congress.<sup>8</sup> Because tribal water rights are held in trust by the federal government, leasing those rights off reservation requires congressional authorization. As of 2020, 23 of the 34 congressionally enacted settlement agreements that defined water rights for tribes also allow some form of tribal water marketing. Tribes with court-decreed water rights must request permission to lease outside of the adjudication process. Restrictions on tribal water marketing limit the efficacy of water markets to flexibly reallocate water to its highest-value use.

The high costs of this policy are especially evident in the Lower Colorado River Basin. In 1963, 15 years before other tribes settled their water rights, five reservations located along the mainstem of the Colorado River on the border of California and Arizona received the senior-most rights to 952,000 AF—more than some states—through a Supreme Court ruling. The ruling and decrees that followed it mandated that water be used on the reservations and did not authorize water leasing.

While the reservations are located just upstream from major cities, such as Phoenix and Los Angeles, capital constraints severely limit economic diversification away from relatively low-value, flood-irrigated agriculture. Disparities in the marginal value of water use on and off reservation highlight the forgone benefits of water marketing. For instance, more efficient irrigation systems could enable the tribes to continue farming while also generating conserved water to lease off reservation. But absent authorization to lease water, they lack both the economic incentive and the capital to conserve water. Meanwhile, water users facing mandatory water curtailments in Arizona and Nevada lack options to lease water from the tribes.



## Leasing Restrictions in Negotiated Settlements

In the context of settlement negotiations, tribes must bargain for permission to lease water off reservation. Because water access on reservations is severely limited and insecure before adjudication, other negotiating parties, such as cities, irrigation districts, and state and federal agencies, have had the power to dictate the terms of tribal water marketing.

Several settlements restrict tribal water marketing opportunities to leases approved in the settlements themselves. For instance, the Salt River Indian Community's water settlement limits water marketing to a set of 99-year lease agreements with specified cities in Arizona.<sup>9</sup> Other settlements restrict leases to specific water sources and are geographically bound. For example, the Yavapai-Prescott Indian Tribe's settlement restricts water marketing to effluent generated on reservation.<sup>10</sup> The Tohono O'odham's 1988 settlement initially limited leasing to water users in the Tucson active management area.<sup>11</sup>

All settlements prohibit tribes from selling their water rights, but long-term leases up to 100 years are possible. Most settlements contain leasing agreements between tribes and cities for this amount of time.<sup>12</sup> Still, other settlements limit tribal water marketing to only 99-year lease agreements specified in the individual agreements. While these long-term leases are undertaken to facilitate settlement agreements, they are not the same as affording ongoing flexibility to tribes via the ability to engage in short-term leasing agreements for other tribal water.

Tribal water rights cannot be marketed across state lines. Where reservations are geographically remote, disconnected from regional water infrastructure, or adjacent to a state line, these restrictions reduce the pool of potential lessees, raise transaction costs associated with market development, and erode the market power of tribes as they negotiate leases.

Transaction costs associated with marketing water in the West are notoriously high, with one analysis placing them at 20 percent of the market

price of water.<sup>13</sup> While there are no systematic analyses of the transaction costs associated with tribal water marketing, anecdotal evidence suggests that federal oversight raises transaction costs by delaying leasing agreements.

Even after Congress has authorized tribal water marketing, most settlements stipulate that individual leases by tribes require approval by the secretary of the interior.<sup>14</sup> For example, the San Carlos Reservation's proposed lease to the City of Gilbert in Arizona was delayed by 10 years because the Bureau of Reclamation opposed the leasing terms.<sup>15</sup> Likewise, reconciling jurisdictional differences between federally reserved water and state rights to water as its use moves off reservation is legally complicated, particularly as tribal water marketing is relatively new and some legal aspects are unclear.<sup>16</sup>

## Implications for Water Use

Although tribes never forfeit their paper water rights, doubts remain about whether such water will be made available to tribes or whether their unexercised water rights will be ultimately enforced once off-reservation populations come to rely on them. As such, without viable leasing options, tribes have an incentive to use their full water entitlements. Darryl Vigil, the Chairman of the Ten Tribes Partnership, a coalition of tribes in the Colorado River's Upper and Lower Basins, testified before a 2013 Senate subcommittee that "the Ten Tribes are very concerned that while they struggle to put their water to use, others with far more political clout are relying on unused tribal water supplies and will seek to curtail future tribal use to protect their own uses."<sup>17</sup> To combat this, tribes have expanded irrigated agriculture on reservations, diverting the water as a de facto legal protection against future competition from off-reservation water users.

More broadly, capital constraints on reservations and the federal government's historic underinvestment in reservation irrigation systems have meant that on-reservation agricultural water use is relatively inefficient.<sup>18</sup> More so than off-reservation farms,

which have seen shifts to more efficient sprinkler and drip irrigation systems, reservation agriculture uses flood and furrow irrigation.<sup>19</sup> Thus, barring tribes from leasing water rights further entrenches water use in relatively low-efficiency agriculture and limits tribes' access to capital to invest in more efficient irrigation systems and productivity-boosting farm technologies.

Per prior appropriation rules, unused tribal water can be diverted by the next right holder in the priority order. Currently, off-reservation water users are benefiting from the free use of tribes' unexercised water rights. While the inability to lease water deprives tribes of a vital revenue stream, in the long term, it may also generate uncertainty for off-reservation water users who are relying on unused tribal water. As tribes gradually secure settlement funding and construct water delivery infrastructure, on-reservation water use will likely increase over time, thus reducing the volume of their unexercised water rights currently in use off reservation. Without the ability to enter into formal leasing agreements, tribes are limited to using water on reservation, while off-reservation water users remain uncertain about when their water access will be curtailed.

## Recommendations

**Congress should pass legislation to uniformly authorize tribes to lease water rights off reservation if they choose to do so.**

Authorizing tribes to lease water off reservation would expand market activity, enable tribes to capture the full value of their water rights, and direct water to sectors where it is needed most. Federal legislation already authorizes tribes to lease other natural resources (e.g., minerals, oil, and gas), which demonstrates the political feasibility of passing similar legislation for water leasing.<sup>20</sup>

The piecemeal approach to authorizing tribal water marketing is shortsighted. First, growing

water scarcity—and corresponding increases in water prices—may eventually prompt tribes with court-decreed water rights to pursue federal legislation, but this will likely only happen after water users incur substantial losses. Colorado River Indian Tribes acquired water rights in 1963 via court decree but only called for the introduction of federal legislation to authorize water marketing in 2020. In December 2021, Arizona's U.S. senators introduced federal legislation to authorize the Colorado River Indian Tribes to lease water rights off reservation.<sup>21</sup> The legislation, however, only applies to the Colorado River Indian Tribes and neglects potential leasing opportunities with others who have adjudicated water rights but are unauthorized to lease. Waiting to pass 13 individual pieces of legislation for each of the 13 tribes in western states with court-decreed water rights undermines the ability of water users in the region to respond to drought and manage water more responsibly. Rather than such a piecemeal approach, a bill that uniformly authorizes all reservations to market water would remove bureaucratic inequities that inhibit tribes from fully benefiting from their water rights while also enhancing regional resiliency to drought.

Second, such legislation would free tribes from having to bargain for permission to lease water as part of the process of securing their water rights. Most limitations on tribal water marketing are concessions made by tribes whose water access requires approval of off-reservation water users. Restricting water marketing to long-term agreements may benefit individual parties to water settlements, but it reduces overall efficiency gains and limits the capacity of water markets to address future water needs.

This is not to say that bargaining parties cannot reach water marketing agreements in the context of a settlement negotiation. In fact, many settlements rely on market mechanisms through which cities finance more efficient water systems for irrigation districts, which reallocate conserved water to tribes, who then lease portions of their newly acquired water rights to cities. However, a default ban on



water marketing limits tribes' bargaining power in settlement negotiations and again as they negotiate individual leases later on.

Tribes should have sovereign authority to use water according to their own diverse and evolving needs and priorities. For many, farming and food sovereignty are important water use goals, which have been maintained and expanded even when water is marketed off reservation.<sup>22</sup> The option to lease provides tribes with more autonomy over water use decisions, generates revenue to reinvest in agriculture if that is a priority, supports economic diversification, and boosts tribes' influence in regional water policy and planning efforts. The voluntary nature of water markets means that tribes who oppose leasing water can opt out.

### **Contingent on tribal support, water settlements should include financial and administrative support for tribes to develop water markets.**

Settlements contain federal funding for tribes to develop water conveyance infrastructure and for economic development.<sup>23</sup> However, financing and building infrastructure can take decades, while returns to water marketing are realized more quickly.<sup>24</sup> Funding to develop water market platforms that enable local water users to participate in a meaningful way could offset federal spending obligations, expedite benefits to tribes, and encourage market activity. Providing administrative and financial support for tribes to develop water marketing platforms, develop a customer base, and navigate the jurisdictional challenges that arise when federally reserved and appropriative water rights converge in a market could streamline the leasing process.

For instance, the Gila River Indian Community and Salt River Project in Arizona created a limited liability corporation in 2019 through which the community banks and then markets water rights to off-reservation municipal, industrial, and residential water users in Arizona.<sup>25</sup> By banking its unused water, the Indian Community accrues long-term

storage credits that it can use once the water infrastructure on the reservation is completed. Relatedly, by storing groundwater for the Central Arizona Groundwater Replenishment District in a managed aquifer recharge site on the reservation, the Gila River Indian Community has revitalized streamflow on the reservation. Voluntarily abiding by Arizona's aquifer recharge and recovery regulations has enabled it to bank and lease groundwater credits both on and off reservation.

The Gila River Indian Community's water banking activities highlight the complexities of building successful water marketing platforms. Institutions that manage and mitigate transaction costs are fundamental to water market success.<sup>26</sup> Still, water markets tend to be highly localized, and institutions may not be scalable.<sup>27</sup> As such, supporting tribes as they build institutional capacity to market water in complex jurisdictional contexts may mean trading higher upfront costs of establishing water marketing institutions for lower transaction costs associated with individual transactions in the long term. While more research is needed, financial and administrative support for tribes to develop water marketing programs may facilitate quicker responses to changes in water supply and demand.

## **Conclusion**

One of the primary benefits of water markets is that participation is voluntary. Tribes, like appropriative right holders, should be able to opt in or out of the market as they please. Restrictions on tribal water marketing violate tribal sovereignty, erode the value of tribes' water rights, and perpetuate inefficient and inequitable water use. Federal legislation and financial and administrative support are critical to reducing barriers to tribal water marketing.

## Endnotes

1. While the Gila River Indian Community banks water in Lake Mead through a leasing agreement, the Colorado River Indian Tribes do not have authority to lease water. Instead, the group has entered into a forbearance agreement—a de facto lease, but technically not a lease—through which it agrees to fallow previously farmed acreage and bank conserved water in Lake Mead. The forbearance agreement terms are slightly more onerous than a lease. The reservation must verify that fallowed acreage was previously farmed and ensure that the land no longer consumptively uses water. Moreover, the agreement is possible because the reservation's unique location almost immediately downstream from Lake Mead means that it can forgo water use and bank conserved water in Lake Mead without the risk that other water users will divert it. Alden Woods, *Phoenix, Feds Will Pay Tribes to Leave Their Water in Lake Mead, Help Prevent Shortage*, AZcentral (2017), <https://www.azcentral.com/story/news/local/arizona-water/2017/06/14/gila-river-indian-community-phoenix-water-conservation-colorado-river/394830001/>. See also Tony Davis, *Water Bailout? Colorado River Tribes Pose Statewide Leasing Idea*, Arizona Daily Star (2018), [https://tucson.com/news/local/water-bailout-colorado-river-tribes-pose-statewide-leasing-idea/article\\_123c5436-ad56-53e3-abc6-0536fb7c3644.html](https://tucson.com/news/local/water-bailout-colorado-river-tribes-pose-statewide-leasing-idea/article_123c5436-ad56-53e3-abc6-0536fb7c3644.html).
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12. *Salt River Pima-Maricopa Indian Community Agreement*, supra n. 9. See also *San Carlos Apache Tribe Water Rights Settlement Agreement* (Mar. 30, 1999), <https://digitalrepository.unm.edu/cgi/viewcontent.cgi?article=1045&context=nawrs>. See also *Fort McDowell Indian Community Water Rights Settlement of 1990 Act*, PL 101-628, 104 Stat. 4469, 4480, <https://digitalrepository.unm.edu/cgi/viewcontent.cgi?article=1020&context=nawrs>.

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