The Transfer and Transportation of Water in Arizona
An AMWUA Staff Analysis
Revised March 12, 2018

I. Executive Summary

Historically, water transfers in Arizona have often been controversial, especially when they involve Colorado River entitlements or groundwater. It was the transportation of groundwater that led to the 1980 Groundwater Management Act. Later, in 1991, the Arizona Legislature barred the transportation of groundwater from most rural groundwater basins to the state's Active Management Areas (AMAs). More recently, proposed transfers of rights to use mainstem Colorado River Water for use in other parts of the state have engendered opposition.

As Arizona grapples with strategies to meet projected statewide water needs, the Arizona Department of Water Resources (ADWR) has pointed out:

> A comprehensive analysis of water transfers is needed in Arizona. Evaluation of long-term versus short-term transfers may actually provide insight into how water transfers can be developed to protect or even benefit local communities. Lessons from other western states that have adopted more market-based water right transfer models may be worthy of review as part of this analysis.[1]

In light of the continuing debate over water transfers, AMWUA staff has prepared this analysis to highlight the major types of transfers currently contemplated and the issues involved. This paper addresses three broad categories of transfers: (1) Transfers of entitlements to use Colorado River mainstem water, (2) Transfers involving transportation of groundwater, and (3) Transfers of in-state surface water rights.

(1) Colorado River Mainstem Transfers: To date, large-scale transfers of entitlements to use mainstem Colorado River water for use in other parts of Arizona have been rare. When such transfers have occurred, they have been part of congressionally approved tribal settlements. Transferring a mainstem Colorado River entitlement is subject to the dual oversight of the Arizona Department of Water Resources (ADWR) at the state level, and the Bureau of Reclamation at the federal level. Although the Secretary of Interior and Bureau of Reclamation ultimately oversee the allocation of Colorado River water, they have historically given significant deference to the recommendations of the ADWR Director in determining intrastate allocations. A transfer of Colorado River water involving the Central Arizona Project canal will also require a wheeling agreement pursuant to the CAP System Use Agreement.

(2) Groundwater Transportation: Another type of transfer is the transportation of groundwater from one location to another. The Arizona Groundwater Transportation Act of 1991 limits or prohibits the transportation of groundwater to another basin or sub-basin or to an AMA. The primary purpose behind the groundwater transportation restrictions was to protect rural economies by ensuring that local groundwater primarily goes to local uses.

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[1] ADWR, *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability* 18 (2014).

(3) Transfers of In-state Surface Water: State law allows a surface water right to be severed from land to which it is appurtenant for use elsewhere. Generally, the quantity of water that can be transferred is limited to the amount historically consumed. Although the framework exists for severances and transfers to occur, in certain cases they can be challenging to implement. Severances and transfers are further complicated by the fact that the relative priority and extent of Arizona's in-state surface water rights are uncertain as a result of the General Stream Adjudication. These factors significantly increase the complexity of transferring in-state surface water rights.

II. Introduction

In January 2014, the Arizona Department of Water Resources (ADWR) developed a document entitled *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability*. The purpose of that document was to identify strategies to meet Arizona's projected statewide water needs.[2] That report discussed water transfers as one possible means to address future supply needs over the next 20 to 100 years, including the needs of rural areas of the state.[3] The report noted that while transfers are possible under existing law, current law creates high transaction costs limiting the usefulness of transfers.[4] Furthermore, history has shown that water transfers can be very controversial.[5]

This controversy is demonstrated by the recent proposal of the Central Arizona Groundwater Replenishment District (CAGRD) to acquire 2,200 acres of farmland with entitlements to use Colorado River water in Mohave County.[6] The rhetoric around the issue is heated. In a letter to the CAWCD Board, the chair of the Mohave County Board of Supervisors wrote that the transfer is "part of a continual attack on the water rights and economy of rural Arizona."[7] As a result of this and other recent events, the water transfer issue will likely be an issue of interest to legislators.

This paper explores three broad categories of transfers and the issues involved. These categories are: (1) Transfers of entitlements to use Colorado River mainstem water, (2) Transfers involving the transportation of groundwater, and (3) Transfers of in-state surface water rights.

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[2] *Id.* at 9-10.
[3] *Id.* at 51.
[4] *Id.* at 57-58.
[5] *Id.*
[6] CAWCD Board Meeting Brief, *Discussion and Consideration of Action to Approve on Behalf of CAGRD a Purchase and Sale Agreement to Acquire Water Rights and Land in Mohave Valley Irrigation and Drainage District* 2 (October 5, 2017). CAWCD staff conservatively estimates that approximately 5,500 AF of the total diversion right would be transferable based on quantification estimates and assuming 50 percent of the land is fallowed in any given year.
[7] D.K. McDonald, *Central Arizona Project Seeks Transfer of Mohave Valley Water Rights,* Mohave Valley Dailey News (October 23, 2017).

III. Background

Arizona law permits several types of arrangements to transfer water.[8] However, the legal barriers and transaction costs to implementing transfers can be significant. As ADWR pointed out in the 2014 Strategic Vision, current laws and policies related to transfers are designed to protect local interests and water right holders, and these protections make transfers hard to do.[9] The specific barriers for any given transaction largely depend on the type of transfer and the impacts it will have on other right holders. Additionally, one person's barriers serve as another person's protections.

There are inherent advantages and disadvantages to water transfers. What follows is an outline of some of these considerations.[10]

Advantages

Voluntary: Water transfers are usually voluntary transactions between willing buyers and sellers, and thus utilize market forces. Issues that arise between the principal parties can be resolved through negotiation.

Flexible Uses of Water: Water transfers can facilitate flexible uses of water to meet current and future needs.

Incentivize Conservation: Water transfers can incentivize conservation of water. In some cases, it may make economic sense for a farmer to invest in increased water efficiency or plant water efficient crops if the saved water can be marketed or leased. Transfers of conserved in-state surface water would be very difficult to do in Arizona as a result of current laws that give certain downstream right holders the ability to veto water transfers.[11]

Market-based Transactions: Water transfers can utilize market forces to allocate water supplies. This can lead to economically efficient allocations of water. While utilizing market forces may lead to economically efficient allocations, it may also have negative impacts on certain industries and smaller communities that may not have the resources to compete for limited water supplies. Moreover, Arizona policy leaders have historically rebuffed efforts to make it easier for the private sector to acquire and market water supplies.

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[8] ADWR, *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability* 58 (2014).
[9] *Id.* at 57.
[10] Western Governors' Association & Western States Water Council, *Water Transfers in the West* ix-x (2012). The listed advantages and disadvantages are derived from a report issued by the Western Governors' Association in 2012 that was based on extensive stakeholder feedback from state water administrators, NGOs, farmers, academics, and water resource professionals.
[11] *See* A.R.S. § 45-172(A); M. Byron Lewis, Arizona State University Morrison Institute for Public Policy, *New Era of Arizona Water Challenges* 5 (May 2014). As an example, state statute essentially gives any downstream irrigation district the authority to veto a sever or transfer within the same watershed or drainage area. A.R.S. § 45-172(A)(5). This provision significantly increases the transaction costs of any sever and transfer and may practically make such transfers unfeasible. Susanna Eden et al., *Agricultural Water to Municipal Use: The Legal and Institutional Context for Voluntary Transactions in Arizona* 20, The Water Report (Dec. 15, 2008).

Disadvantages

Impacts on Other Right Holders and River Flows: Transferring surface water can impact other water right holders and in-stream environmental flows. A prime example is a farmer who diverts water that is not 100 percent consumed by crops, infiltration, or evaporation, and thus flows back to the river. This return flow is water that benefits downstream users and flows in the river. If this water is transferred to another diversion point that decreases return flow to the river, it will have impacts to other right holders and the river system. Under Arizona law, a transfer of in-state waters must not harm or interfere with another party's water right.[12] Consumptive use and return flows can be quantified to determine how much can be transferred while protecting downstream users, but this can be a difficult process.

Complex Institutional Considerations: Many water rights are not held by individual parties, but by institutions such as irrigation districts. For example, if an in-state surface water right is tied to lands within an irrigation district, the decision to transfer a water right must be approved by the irrigation district board.[13] In some cases, irrigation districts have authority to veto any upstream transfer within the same watershed even if the water right is tied to lands outside of the district.[14]

Impact on Local Economies: Transfers often involve the movement of water from rural to urban locations. In some cases, transfers can impact rural economies and diminish their prospects for future growth.

In 2012, the Western Governors' Association noted that "[p]erhaps the greatest challenge for water transfers involves the key role water plays in rural economies."[15] This is because many rural areas rely on irrigated agriculture, and less water can mean fewer crops and cash flow into the local economy.[16] This not only impacts local economic activity, but also the tax base for local governments. For example, one of the primary concerns expressed by Mohave County with CAWCD's proposed transfer is that the 2,200 acres CAWCD would acquire would not be subject to property taxes.[17] CAWCD staff has stated that it is willing to work with the County to discuss ways to minimize impacts of CAWCD land ownership.[18] Regardless, the issue of decreasing the tax base is a concern for rural communities.

Transfers that provide some benefits not only for the transacting parties, but also impacted communities may facilitate implementation. For example, some agricultural districts have water tables that are too high and must pump drainage water from the ground in order to

[12] A.R.S. § 45-172(A)(2).
[13] A.R.S. § 45-172(A)(4).
[14] A.R.S. § 45-172(A)(5).
[15] Western Governors' Association & Western States Water Council, *Water Transfers in the West* 13 (2012).
[16] *Id.* at 23.
[17] *Public Comment of Supervisor Gary Watson*, CAWCD Board Meeting, Omni Tucson National Resort, Tucson, Arizona (October 5, 2017).
[18] CAWCD Board Meeting Brief, *Discussion and Consideration of Action to Approve on Behalf of CAGRD a Purchase and Sale Agreement to Acquire Water Rights and Land in Mohave Valley Irrigation and Drainage District* 2-3 (October 5, 2017).

grow crops. It is not difficult to imagine scenarios where some of this drainage water could be used for transfers or exchanges of water.

In other states, some entities desiring to transfer water have funded formal mitigation efforts for local communities. In California, the Metropolitan Water District of Southern California (MWD) and Palo Verde Irrigation District have a compensated fallowing program in place that transfers between 30,000 to 120,000 acre-feet of water annually over a 35-year period. In addition to payments made to farmers, MWD established a $6 million mitigation fund that pays for workforce training programs and small business development.[19] The program has been called a "model of how cities and farming areas can work together to stretch water supplies further while keeping agriculture alive."[20] However, tensions between the two entities remain as Palo Verde Irrigation District recently sued MWD over its purchase of thousands of acres within the irrigation district.[21]

In 2013, proposed legislation introduced by then House Speaker Andy Tobin raised issues involving transfers. House Bill 2338 would have enabled public and private entities in urban and rural areas to voluntarily form regional water augmentation authorities for the purpose of financing water projects as well as acquiring water supplies.[22] Despite support for the concept from the Water Resources Development Commission organized by Governor Jan Brewer, the bill's language proved controversial. Several Yuma area water users, the Cattlemen's Association, and other entities representing rural interests opposed the bill, viewing it as a water grab. As one prominent rural representative commented, "this bill has started a war" and the bill posed a threat "to agriculture in the Yuma area."[23] Despite a personal plea from the Speaker to move the bill out of committee, the bill was held after a heated 2 ½ hour hearing.

While water transfers are often framed as a means of increasing urban water supplies, they benefit rural areas as well. One recent example is a water transfer between Salt River Project and the Town of Payson. The Town will transport an average of 3,000 acre-feet per year of surface water from Salt River Project's C.C. Cragin Reservoir located north of the Town.[24] This arrangement will allow the Town to access a renewable water supply from the watershed as soon as this year, allowing the Town to augment its supplies and protect its groundwater.

IV. Colorado River Mainstem Transfers

A. History

Large-scale transfers of rights to use mainstem Colorado River have been rare. This is due to the many legal, policy, and institutional barriers to such transactions. When transfers have occurred, they have been part of congressionally approved tribal settlements. One example

[19] Western Governors' Association, *Water Transfers in the West* 53 (2012).
[20] Ian James, *A New Fight Over Water in the California Desert, with Echoes of 'Chinatown',* Desert Sun (Sept. 28, 2017).
[21] *Id.*
[22] H.B. 2338, 51st Leg, 1st Reg. Sess. (Ariz. 2013).
[23] *Public Comment of Wade Noble*, Arizona Legislature, House Agriculture and Water Committee (Feb. 19, 2013).
[24] *See* ADWR, In the Matter of the Application to Partially Sever and Transfer a Certain Water Right Evidenced by Revised Certificate of Water Right No. 3696.0001, No. ST-10-001 (March 15, 2010).

occurred in the late 1980s when the United States acquired 22,000 acre-feet from the Wellton-Mohawk Irrigation and Drainage District to settle water claims of the Salt River Pima-Maricopa Indian Community.[25] Although the irrigation district eventually approved the transaction in exchange for federal concessions, the deal was controversial among local farmers.[26] Another transfer occurred as part of the 1984 congressional revisions to the Ak-Chin water settlement. Congress allocated 50,000 acre feet of unused water from the Yuma Mesa Division of the Gila Project.[27] The state of Arizona unsuccessfully opposed the transfer, taking the position that the water should be allocated to CAWCD.[28]

Other water users have shown interest in transferring Colorado River water. Although to date the Central Arizona Groundwater Replenishment District (CAGRD) has not yet acquired the rights to non-CAP Colorado River water to wheel through the Central Arizona Project, the Arizona water community has known for years that this is a possibility.[29]

B. Process for Transferring a Colorado River Contract Entitlement

Transferring a mainstem Colorado River contract right is subject to the dual oversight of ADWR at the state level, and the Bureau of Reclamation at the federal level.[30] Each agency has its own process for analyzing and recommending or approving a transfer. As a result of this duel authority, buyers and sellers should not be surprised by delays or extensive consulting and legal costs.[31]

Although the Secretary of Interior and Bureau of Reclamation ultimately oversee the allocation of Colorado River water, Reclamation tends to give some measure of deference to the recommendations of the ADWR Director in determining intrastate allocations.[32]

The first step is submitting an application to ADWR requesting the Director recommend that the Bureau of Reclamation approve the transfer.[33] ADWR requires extensive documentation in an application, including quantification of the existing diversion and consumptive use of water, as well as documenting the proposed use and management of the water after the transfer.[34] In considering the proposed transfer, the ADWR Director will consider the impacts on other right holders, water quality repercussions, return flow impacts, and the United States' treaty obligations to Mexico.[35] ADWR will facilitate an extensive public notice and comment process

[25] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 238 (2007).
[26] *Id.* at 238-240.
[27] *Maricopa-Stanfield Irrigation & Drainage District v. U.S.,* FN 7 (Oct. 14, 1998).
[28] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 242 (2007).
[29] CAGRD, *Plan of Operation* 46-47 (2004); CAGRD, *Plan of Operation* 4-11, 12 (2015).
[30] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 245 (2007).
[31] *Id.*
[32] *Id. See* A.R.S. § 45-107.
[33] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 246 (2007).
[34] *Id.* at 5-6.
[35] *Id.* at 2, 4, 6.

before the Director makes a recommendation.[36] Based on the timelines in ADWR's formal policy, any transfer decision from the Director will take several months at a minimum, and perhaps much longer.

In addition to ADWR's review, any transfer must be approved by the Bureau of Reclamation. The end goal of the transfer process is Reclamation's issuance of what is known as a new "Section 5" contract.[37] A Section 5 contract is a contract with the Secretary of Interior for the use of Colorado River water pursuant to Section 5 of the Boulder Canyon Project Act. Upon submission of a transfer application with supporting documentation, Reclamation will list the proposed transfer in the federal registrar and enter into a contract with the parties to cover Reclamation's administrative costs.[38] Reclamation will review the proposed transfer to ensure it complies with federal law, including Reclamation law and the National Environmental Policy Act (NEPA). With respect to transfers completed to date on the Colorado River, the NEPA process has generally involved the less intense Categorical Exclusion process, but in some cases can involve an Environmental Assessment or a more expensive Environmental Impact Statement.[39] Reclamation also considers any impacts of the transfer on third parties, including the tribes for which the United States government has trust obligations. Reclamation's process also consists of a public notice and comment period wherein stakeholders can weigh in on the proposed transfer and new entitlement contract.[40] If Reclamation approves the transfer, it issues a new Colorado River contract to the transferee.[41] To date, most transfers of Colorado River water that require the issuance of a new contract have been for relatively modest amounts of water and taken a few months to process.[42]

One particular challenge in transferring mainstem Colorado River water is quantification of the amount of the entitlement that may be transferred.[43] This issue is a challenge because many times water that is diverted on the Colorado River is not all consumptively used, creating return flows to the River that other users rely upon.[44] Gathering the necessary data to quantify historical consumptive use and return flows can be expensive and time consuming.[45]

There are two basic types of Colorado River entitlements: (1) Consumptive use, and (2) Diversion entitlements. A consumptive use entitlement limits the amount of water that the right

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[36] *Id.* at 7.
[37] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 246 (2007).
[38] Phone Conversation with Reclamation Staff, Boulder Canyon Office (Nov. 2017).
[39] *Id.*
[40] *Id.*
[41] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 246 (2007).
[42] Phone Conversation with Reclamation Staff, Boulder Canyon Office (Nov. 2017).
[43] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 245 (2007).
[44] ADWR, Substantive Policy Statement CR8, *Policy and Procedure for Transferring an Entitlement of Colorado River Water* 4-5 (Jan. 17, 2014).
[45] Western Governors' Association, *Water Transfers in the West*, 35, 57 (2012).

holder can consume or actually use.[46] ADWR's policy for this type of entitlement is to limit any transfer to the maximum amount of the entitlement.[47] Diversion entitlements limit the amount of water that can actually be diverted from the River, with the understanding that often there are return flows from the use of that water.[48] Diversion entitlement transfers are slightly more complicated. If the transfer will result in the same amount of return flow, the full entitlement may be transferred.[49] However, if the new use results in decreased return flows, the transferable amount is limited to the actual consumptive use.[50] For example, a farmer with a diversion right of 5,000 acre feet with 1,500 acre feet of historical return flows would only be able to transfer 3,500 acre feet.

A transfer of Colorado River water that will require the use of the Central Arizona Project canal to deliver the water will also require a wheeling agreement pursuant to the CAP System Use Agreement. Obtaining a wheeling contract will require the transferee to contribute funds towards system improvement projects that increase the operational capability of the canal to carry wheeled water.[51] In addition, the transferee will be required to pay certain CAP annual costs, such as an equivalent fixed OM&R rate, pumping energy rate, and a capital charge equivalent.[52] Furthermore, any introduction of wheeled water must be approved by Reclamation and undergo environmental review under the NEPA process.[53]

C. Recent Proposed Colorado River Transfers

In recent years, water users have actively discussed several potential transfers of Colorado River water. What follows are summaries of some notable examples of proposed transfers. To date, none of the examples have been implemented.

Quartzite & CAWCD

In June 2017, the CAWCD board signed a lease agreement with the Town of Quartzite for the town's Colorado River water entitlement of 1,070 acre feet. The purpose of the lease is to

[46] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 245 (2007); ADWR, Substantive Policy Statement CR8, *Policy and Procedure for Transferring an Entitlement of Colorado River Water* 4 (Jan. 17, 2014).
[47] ADWR, Substantive Policy Statement CR8, *Policy and Procedure for Transferring an Entitlement of Colorado River Water* 4 (Jan. 17, 2014).
[48] Robert Glennon & Michael J. Pearce, *Transferring Mainstem Colorado River Water Rights: The Arizona Experience*, 49 Ariz. L. Rev. 235, 245 (2007).
[49] ADWR, Substantive Policy Statement CR8, *Policy and Procedure for Transferring an Entitlement of Colorado River Water* 4 (Jan. 17, 2014).
[50] *Id.* at 4-5.
[51] CAWCD Staff Presentation to Board, *Draft System Use Agreement* (December 1, 2017). References to System Improvement Fees were removed in later drafts of the System Use Agreement, and issues related to funding of system improvement projects will be discussed in a future stakeholder process. *Id.* However, it is clear that System Improvement Projects will be funded by wheeling parties. *Id.*
[52] § 14 Standard Form of CAWCD Wheeling Contract, Exhibit B, CAP System Use Agreement Between the U.S. and the CAWCD, Contract No. 17-XX-30-W0622 (February 2, 2017).
[53] Amended Master Repayment Contract § 8.18, Contract No. 14-o6-w-245 (November 28, 1988); CAP System Use Agreement Between the U.S. and the CAWCD § 6, Contract No. 17-XX-30-W0622 (February 2, 2017).

provide water for the benefit of CAGRD.[54] As the town is located 20 some miles away from the River, the town does not have the financial ability to directly use its Colorado River water. As a result, this water has historically gone to the CAP excess pool.[55]

The term of the lease is for two successive 25-year terms, with either party having the right to not renew the second term. The agreement also gives CAWCD a first right of refusal on any lease or sale of the entitlement for five years after the lease expires. CAWCD would pay the town $1,700 per acre foot to lease the water for the first 25 years, and $2,470 per acre foot if the second 25-year lease period is enacted.[56]

Although the CAWCD Board approved this transaction unanimously, the lease is not without controversy. At the June 2017 board meeting, an attorney for the Mohave County Water Authority spoke against the proposed lease. She argued that this arrangement essentially is a permanent water transfer because of the right of first refusal. She also argued that when Colorado River water was set aside for the Central Arizona Project, it was agreed that 10 percent of the amount set aside would remain available to on-River users, and that this arrangement disrupts that balance.[57] In November 2017, ADWR held three meetings throughout the state to receive public comment on the proposed transfer. ADWR has not yet made any recommendation on the proposed transfer.

CAWCD & Mohave Valley Irrigation District

In October 2017, the CAWCD board entered into a contract to purchase farmland in the Mohave Valley Irrigation and Drainage District with the plan of transferring water for the benefit of CAGRD.[58] The land includes 2,203 acres with 13,936 acre-feet of diversion rights at a purchase price of $34 million.[59] CAWCD staff has proposed a rotational fallowing program to implement the transfer, and estimates that it could transfer 5,508 acre-feet each year as a result.[60]

The contract includes several closing contingencies that must be met for the deal to go through, including a requirement that the Mohave Valley Irrigation and Drainage District approve the assignment or issuance of a Colorado River water contract to CAWCD.[61] This contingency is key because the contract rights CAWCD is seeking to acquire are held by the irrigation district, not the landowner.

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[54] CAWCD Board Meeting Brief, *Discussion and Consideration of Action to Approve on Behalf of CAGRD a Water Right Lease Agreement between the Town of Quartzsite and Central Arizona Water Conservation District* 2 (June 8, 2017).
[55] *Id.*
[56] *Id.* at 3.
[57] *Public Comment of Maureen George*, CAWCD Board Meeting, Phoenix, Arizona (Jun. 8, 2017). Specifically, the representative for the Mohave County Water Authority was making this argument with respect to the 164,652 AF of water contracted subsequent to September 30, 1968 that shares a co-equal priority with CAP Project Water pursuant to section 8.7(c) of the 1988 Amended CAWCD Master Repayment Contract.
[58] CAWCD Board Meeting Brief, *Discussion and Consideration of Action to Approve on Behalf of CAGRD a Purchase and Sale Agreement to Acquire Water Rights and Land in Mohave Valley Irrigation and Drainage District* 2-3 (October 5, 2017).
[59] *Id.*
[60] *Id.*
[61] *Id.*

The proposed deal has engendered a great deal of controversy. Interests that are generally supportive of CAGRD such as the development and the homebuilding industries have largely spoken in favor of the proposal. Mohave County and other rural interests have either spoken against or expressed concerns with the proposal. Like the Quartzite transfer, representatives from Mohave County have argued that when Colorado River water was set-aside for the Central Arizona Project, the parties agreed that 10 percent of the amount set aside would remain available to on-River users.[62] Another issue of concern for Mohave County is the potential for lost tax revenues as CAWCD is not required to pay property taxes, an issue CAWCD staff is open to discussing.[63] Regardless, as a lobbyist for Mohave County has publically stated, the primary concern of the County's elected officials is not lost tax revenue, but the impact of the transfer on the region's economic future.[64]

Salt River Project & the Colorado River Indian Tribes

In the fall of 2017, the Arizona news media reported that in 2015 and 2016 Salt River Project (SRP) held closed-door discussions with the Colorado River Indian Tribes (CRIT), Governor's Office, CAWCD, and federal officials about the concept of leasing 150,000 acre-feet of the CRIT's water for use across the state.[65] SRP envisioned this water going to a new power generation facility, Prescott, Sierra Vista, West Valley cities, and Superstition Vistas. The CRIT holds a present perfected right to divert about 662,000 acre feet of water each year of Arizona's Colorado River entitlement. After return flows and other losses, the CRIT's consumptive use has historically been in the range of 350,000 acre feet per year. Although the parties discussed concepts that involved MWD and the GRIC, it is unclear if representatives from either entity were involved in these discussions.

An early version of the concept envisioned an interstate component whereby some of Arizona's apportioned Colorado River water would be forborne by CAWCD and go to MWD in California. The proposed transaction was very complex and involved a number of parties. In August 2016, the Governor's Office informed SRP that the state did not support the interstate aspect of the concept due to concerns about selling Arizona's water to California. CAWCD shared these concerns.

The proposal to transfer some of CRIT's Colorado River water has led to an effort to recall the CRIT Tribal Council. According to the *Parker Pioneer*, the proponents of a recall allege that the "Tribal Council has not taken steps to explore alternative uses for water, and

[62] *Public Comment of Maureen George*, CAWCD Board Meeting, Omni Tucson National Resort, Tucson, Arizona (October 5, 2017).
[63] *Public Comment of Supervisor Gary Watson*, CAWCD Board Meeting, Omni Tucson National Resort, Tucson, Arizona (October 5, 2017); CAWCD Board Meeting Brief, *Discussion and Consideration of Action to Approve on Behalf of CAGRD a Purchase and Sale Agreement to Acquire Water Rights and Land in Mohave Valley Irrigation and Drainage District* 2-3 (October 5, 2017).
[64] *Public Comment of Patrick Cunningham*, CAWCD Board Meeting, Phoenix, Arizona (Dec. 7, 2017).
[65] Tony Davis, *Water Bailout? Colorado River Tribes Pose Statewide Leasing Idea*, ARIZONA DAILY STAR, Tucson.com (Sept. 24, 2018).

instead is attempting to market our only viable natural resource without the full support of membership."[66]

V. Groundwater Transportation

Another type of transfer is the transportation of groundwater from one location to another. In the aftermath of the 1980 Groundwater Management Act, in the mid-1980s the cities of Phoenix and Mesa purchased farms outside of the Phoenix AMA to use as a water supply to meet the Act's requirements.[67] For a variety of reasons, neither city ever actually transported groundwater from the farms, and both have either sold or are currently under contract to sell the farms.[68] In addition, certain land speculators bought farms during this time period with the expectation of transporting groundwater.[69]

The purchase of these "water farms" in the 1980s created a backlash in parts of rural Arizona that feared the mining and export of local groundwater.[70] As a result of this backlash and after several years of discussion, the Arizona legislature passed the Groundwater Transportation Act in 1991.[71] The Act restricted the right to transport groundwater.[72] The primary purpose behind the groundwater transportation restrictions was to protect distinct groundwater basins and rural economies by ensuring that local groundwater primarily goes to local uses.[73]

The statutes that govern the transportation of groundwater are complex and scenario-specific. However, the general rule with respect to transporting groundwater from outside an AMA into one of the initial AMAs is clear—unless a limited exception in statute applies, it cannot be done.[74] The authorized exceptions cover five distinct areas of the state, with different conditions applying to each area.[75] Some of these restrictions make transfers challenging to execute, and thus limit their utility for augmenting supplies.[76]

One example of a permissible groundwater transportation involves the City of Scottsdale. The City acquired approximately 1,200 acres in the Harquahala Irrigation Non-Expansion Area that are eligible to be irrigated. The City's purpose in acquiring this farmland was to retire the irrigation use and pump groundwater to meet the CAGRD requirements of a Water Availability Status member, however, Scottsdale does not rely on CAGRD for its 100-

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[66] *Statements on Tribal Council Recall Effort*, PARKER PIONEER, parkerpioneer.net (Jan. 17, 2018).
[67] Paul Bergelin, *Moderating Power: Municipal Interbasin Groundwater Transfers in Arizona* 17, 62-73, Arizona State University Master's Thesis (Oct. 2013).
[68] *Id.* at 149.
[69] *Id.* at 87-90.
[70] *Id.* at 91-92, 102-03.
[71] *Id.* at 93.
[72] M. Byron Lewis, Arizona State University Morrison Institute for Public Policy, *New Era of Arizona Water Challenges* 19 (May 2014).
[73] ADWR, *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability* 58 (2014).
[74] A.R.S. § 45-551. Arizona's statutes contain extensive provisions and restrictions involving the transportation of groundwater outside of Active Management Areas. *See* A.R.S. § 45-544.
[75] These five areas are the Yuma Basin (A.R.S. § 45-547); McMullen Valley Basin (A.R.S. § 45-552); Butler Valley Basin (A.R.S. § 45-553), Harquahala INA (A.R.S. § 45-554), and the Big Chino Sub-basin (A.R.S. § 45-555).
[76] ADWR, *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability* 57 (2014).

year Assured Water Supply needs.[77] The relevant groundwater rights will allow the City to pump approximately 3,600 acre feet of groundwater per year that will be delivered ("wheeled") through the Central Arizona Project.[78] The City is currently working on the design and construction of the necessary infrastructure, environmental NEPA compliance, and satisfying other requirements to wheel the groundwater through the CAP system pursuant to the CAP System Use Agreement.[79] The City is continuing to work with CAWCD staff, Bureau of Reclamation, and other stakeholders in an attempt to address water quality issues relating to the introduction of non-Colorado River water into the Central Arizona Project.

VI. Severance & Transfer

A third type of water transfer is called a "severance and transfer." A severance and transfer is defined as a severing of an in-state surface water right from land for use elsewhere.[80] These types of transfers can occur subject to the limitations and conditions in statute.[81] Among other things, the law states:

- No severance and transfer is effective unless approved by the ADWR Director.[82]
- Existing surface water rights must not be "affected, infringed upon nor interfered with." This is sometimes referred to as the "no injury rule."[83]
- The water rights must be valid, and not forfeited or abandoned.[84]
- Consent and approval for the transfer is usually needed from affected irrigation districts or other entities.[85]
- The ADWR Director must publish notice of the application stating that any interested person can file objections to the proposed transfer. The Arizona Supreme Court has defined an interested person as essentially an affected party that has an interest protected by the relevant statute. The Director may hold a public hearing and consider objections.[86]

Although the Director has significant discretion in considering severance and transfer applications, the Director may deny an application only for the reasons identified in statute, which include the reasons listed above.[87] Generally, the quantity of water that may be transferred is limited to the amount historically consumed, i.e. diversion minus return flows.[88] This is

[77] Scottsdale City Council Report, Agenda Item 27A (July 1, 2015).
[78] Chris Hassert, Scottsdale Water Planning & Engineering Director, Presentation to CAWCD Water Quality Task Force, *Harquahala Valley Groundwater Wheeling* (June 6, 2017).
[79] *Id.*
[80] A.R.S. § 45-172.
[81] A.R.S. § 45-172(A).
[82] A.R.S. § 45-172(A)(1).
[83] A.R.S. § 45-172(A)(2).
[84] A.R.S. § 45-172(A)(3).
[85] A.R.S. § 45-172(A)(4)-(6). For example, if an in-state surface water right is tied to lands within an irrigation district, the decision to transfer a water right must be approved by the irrigation district board. In some cases, irrigation districts have authority to veto any upstream transfer within the same watershed even if the water right is tied to lands outside of the district.
[86] A.R.S. § 45-172(A)(7); *ADWR v. McClennen*, No. CV-15-0223-SA, 2, 9, 11 (Nov. 12, 2015).
[87] *ADWR v. McClennen*, No. CV-15-0223-SA, 2 (Nov. 12, 2015).
[88] Susanna Eden et al., *Agricultural Water to Municipal Use: The Legal and Institutional Context for Voluntary Transactions in Arizona* 10, The Water Report (Dec. 15, 2008).

because changing the location of the diversion in many cases will impact the amount of return flows going back to the river that downstream users rely upon.[89] As severances and transfers can impact downstream users, ADWR has shown hesitancy in granting applications when there are objections from right holders.[90]

Thus, although the framework exists for severances and transfers to occur, they can result in controversy that puts ADWR in politically challenging situations.[91] Severances and transfers are further complicated by the fact that the relative priority and extent of Arizona's in-state surface water rights are uncertain as a result of the General Stream Adjudication litigation.[92] These factors significantly increase the transaction costs of transferring surface water rights.

One recent example of a severance and transfer occurred in 2015. The process began in 2011 when Freeport-McMoRan bought land with water rights from the City of Scottsdale known as Planet Ranch near the Bill Williams River in western Arizona.[93] During the course of negotiations, Freeport applied to sever and transfer the water rights to a wellfield that would supply water to a copper mine.[94] For a variety of reasons, the Hualapai Tribe, Department of Interior, and Arizona Game and Fish objected to the transfer, leading to a series of negotiations that resulted in a series of 2013 settlement agreements.[95] Congress approved these settlement agreements as part of the Bill Williams River Water Rights Settlement Act of 2014.[96] One of the conditions that had to be met as part of the settlement was a final decision by ADWR to grant Freeport's severance and transfer application.[97]

ADWR published notice of the transfer, and Mohave County objected on the grounds that the transfer would affect the County's water supply and tax revenue.[98] The case made its way to the Arizona Supreme Court, which upheld ADWR's decision to approve the application. The court held that Mohave County could not object as an "interested person" as that term is used in the statute because the county did not have "an interest that is protected by [the relevant statute] that would be affected by the application for severance and transfer."[99]

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[89] *Id.*
[90] *Id.* at 11; Mark A. McGinnis & R. Jeffrey Heilman, *Don't Be Left Out to Dry: Recognizing and Addressing Water Supply Issues in Arizona Real Estate Transactions*, 46 Ariz. St. L.J. 577, 594 (2014).
[91] M. Byron Lewis, Arizona State University Morrison Institute for Public Policy, *New Era of Arizona Water Challenges* 18 (May 2014).
[92] Rhett Larson & Kelly Kennedy, *Bankrupt Rivers*, 49 U.C. Davis L. Rev. 1335, 1367 (2016).
[93] Janet M. Howe, *Arizona Water Law: A Parched Public Interest*, 58 Ariz. L. Rev. 541, 546 (2016).
[94] *Id.* at 546-547.
[95] *Id.*
[96] *ADWR v. McClennen*, No. CV-15-0223-SA, 3 (Nov. 12, 2015).
[97] *Id.*
[98] *Id.*
[99] *Id.*

VII. Conclusion

ADWR has stated that over the next 20 to 100 years, Arizona may need to develop an additional 900,000 to 3.2 million acre-feet of water.[100] One of ADWR's priorities from its 2014 Strategic Vision is evaluating the role of in-state water transfers:

> A source of significant controversy across the State, in-State water transfers have been the focus of much debate throughout Arizona's history. A comprehensive analysis of water transfers is needed in Arizona.[101]

ADWR's proposal for a comprehensive analysis of this issue is worth pursuing. While water transfers have the potential to aid the state in addressing future water demands, care must be taken to protect existing right holders and rural economies. Transfers that offer these protections are more likely to be successful in the long run.

In the coming years, Arizona faces a number of questions about how the state will manage its water in support of economic prosperity while facing the uncertainty of continuing drought. With this challenge on the horizon, the State and water users should consider all available tools to meet projected future water needs. One key question for Arizona's future is what role water transfers and the transportation of water should play.

[100] ADWR, *Arizona's Next Century: A Strategic Vision for Water Supply Sustainability* 51 (2014).
[101] *Id.* at 18.