

**WATER EXPORTS AND THE SAN LUIS VALLEY IN COLORADO:
UNDERSTANDING THE HISTORY AND CURRENT REGULATORY
FRAMEWORK**

NAOMI KING, CONOR MAY, MEG PARKER, VIRGINIA SARGENT, AND LUCAS SCHAFFER*

Acequia Assistance Project
Getches-Wilkinson Center for National Resources, Energy, and the Environment
University of Colorado Law School

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INTRODUCTION

Water, like most other essential resources, is subject to a dizzying range of conflicting demands. Growing cities require water to support their population just as rural communities depend on water to maintain the land's agricultural vitality. As Colorado's Front Range continues to develop, municipalities must address increasing pressures on their water supply. On the other hand, rural communities—such as those in the San Luis Valley—are fighting to protect agrarian economies. This paper provides a concise history of how water laws and regulations have evolved in the San Luis Valley to limit the export of water and addresses the present tension between export proposals and the law.

Water export first reached a flashpoint thirty years ago. A private venture called American Water Development, Inc. (AWDI) sought to export tributary groundwater—groundwater which is hydrologically connected to surface streams—to the Front Range from the San Luis Valley. In response, the local communities unified in opposition through consensus building, political maneuvering, and lawsuits, and ultimately succeeded in protecting the integrity of their water resources. On May 9, 1994, in an *en banc* ruling, the Colorado Supreme Court upheld the decision of the Division 3 Water Court, which covers the San Luis Valley, finding that AWDI's pumping proposal would diminish natural stream flow to an extent that would interfere with pre-existing water rights and downstream interstate compacts. The AWDI controversy lives on in many Valley residents' memories and through policies designed to protect the Valley's water resources in the face of increased demand and new export proposals.

After the AWDI proposal failed, and in response to severe drought coupled with aquifer depletion, the Colorado legislature and Congress responded with new laws that required regulation of groundwater withdrawals and heightened federal protections for what is now the Great Sand Dunes National Park and Preserve. However, as development on the Front Range increases and thirsty municipalities look for additional sources of water, it is likely water export proposals will continue to emerge and raise difficult questions regarding the use of water resources in the San Luis Valley. Proposed export plans today must navigate a dense regulatory landscape and comply with state obligations through the Rio Grande Compact, groundwater rules promulgated by the State Engineer, and the federal reserved water right that protects the Great Sand Dunes National Park.

To provide context for residents of the Valley, decision-makers in other parts of the State, and the general public, this paper provides background on water export issues. First, this paper explains the hydrology of the San Luis Valley and key features related to water management. Second, this paper examines the key legal concepts and regulations in effect at the time of AWDI's export plan that remain relevant today. Third, this paper provides the details of the AWDI proposal and the Colorado Supreme Court ruling that foreclosed that export proposal. Fourth, this paper looks at the legislative and regulatory framework established after AWDI and maps out the various hurdles water export proposals must surmount before coming to fruition. Last, this paper looks at recent water export proposals, considers a range of ways the San Luis Valley might prevent exports, and other options available to Front Range municipalities to meet their demands.

I. HYDROLOGY OF THE SAN LUIS VALLEY

Located at an average elevation of approximately 7,500 feet above sea level, the principal hydrological features of the San Luis Valley are the Closed Basin in the north and the Rio Grande and Conejos River systems in the south. With just eight inches of average annual precipitation, irrigation plays an essential role in the Valley.¹ The extensive development of large surface-water irrigation systems, followed by development of aquifer resources, which supplemented natural precipitation, allowed the development of a successful agricultural economy.

The Valley's groundwater system consists of both an Unconfined Aquifer and a Confined Aquifer.² The alluvial Unconfined Aquifer extends to a depth of about 100-feet from the surface and exists above relatively impermeable layers of blue clay, principally in the Closed Basin. The Closed Basin is a unique surface feature where surface water from surrounding mountains does not flow into the Rio Grande, rather it flows to a geographic low in the northern part of the Valley.³ Beneath the blue clay and distinct from the Closed Basin lies the Valley's most closely guarded treasure: the Confined Aquifer.⁴ Known as the San Luis Aquifer, the Confined Aquifer extends down to bedrock, and contains a vast amount of water. The confining layers of clay and basalt rock do not, however, exist on the perimeter (piedmont area) of the Valley, allowing surface water and precipitation to recharge the Confined Aquifer and generate artesian pressure.⁵

Originating in the San Juan Mountains to the West, the Rio Grande River flows through the San Luis Valley, down through New Mexico, and into Texas. Much of the San Luis Valley is hydrologically connected to the Rio Grande River system. However, the Closed Basin and its associated unconfined aquifer are not connected. Both the Culebra Creek Watershed and Trinchera Creek only have sporadic hydrological connections through surface flow to the Rio Grande due to longstanding irrigation patterns.⁶ The next section delves into the Rio Grande Compact and early state legislation and court decisions that shaped water management before the first major water export proposal in the Valley.

II. PRE-AWDI FRAMEWORK

The web of priorities, rules, and court decisions that impact the Valley's water rights and management began to emerge in the 20th Century through three key avenues: (1) the Rio Grande Compact, (2) the Colorado Constitution and its doctrine of prior appropriation, and (3) Colorado Supreme Court decisions. This section examines each source of law in turn.

¹ Smith, Jerd, *Aquifers in Free Fall*, WATER EDUCATION COLORADO (July 1, 2013), <https://www.watereducationcolorado.org/publications-and-radio/headwaters-magazine/summer-2013-the-rio-grande/aquifers-in-free-fall/>.

² EMERY, PHILIP. *HYDROGEOLOGY OF THE SAN LUIS VALLEY, COLORADO AN OVERVIEW – AND A LOOK AT THE FUTURE*. AL₂O₃ GEOHYDROLOGY.

³ *San Luis Valley Project*, BUREAU OF RECLAMATION (last visited Sept. 24, 2020), <https://www.usbr.gov/history/sanluisv.html>.

⁴ Chen, J., Knight, R., Zebker, H. A., & Schreüder, W. A., *Confined aquifer head measurements and storage properties in the San Luis Valley, Colorado, from spaceborne InSAR observations* 52(5), 3623-3636, WATER RESOURCES RESEARCH (2016). doi:10.1002/2015WR018466.

⁵ PHILIP, *supra* note 3.

⁶ *In Matter of Rules and Regulations Governing Use, Control, and Protection of Water Rights for Both Surface and Underground Water Located in the Rio Grande and Conejos Basins and Their Tributaries v. Gould*, 674 P.2d 914, 925 (Colo. 1983).

Rio Grande Compact

In 1938, Colorado, New Mexico, and Texas negotiated the Rio Grande Compact in order “to remove all causes of present and future controversy” and achieve the “equitable apportionment” of the Rio Grande River.⁷ Although the states ratified the Compact in 1939, decades passed before Colorado began the complex process of reconciling the terms of the Compact with individual water uses and interests along Colorado’s portion of the Rio Grande.

Article VI of the Compact gives Colorado and New Mexico some leeway in meeting their delivery obligations to their respective downstream states. The Article allows the accumulation of a debt when one of them fails to meet their obligation or a credit when one of them exceeds their obligation, specifically allowing Colorado to accumulate a debit of up to 100,000 acre-feet.⁸ By the end of 1965 however, Colorado’s accrued debt reached 939,900 acre-feet. In 1968, New Mexico and Texas challenged Colorado’s compliance with the Compact in the U.S. Supreme Court. The result was that Colorado agreed to meet its future obligations through the use of its administrative and legal powers, including curtailing water use in the Valley.⁹ Between 1969 and 1985 when Elephant Butte reservoir in New Mexico spilled and extinguished Colorado’s debt, the Colorado State Engineer devised criteria for meeting the delivery obligations to the state border to meet Colorado’s Compact obligations. In 1975, the State Engineer published the proposed rules that would apply to the San Luis Valley to satisfy Compact obligations and control the use of groundwater.¹⁰ The rules were challenged by a variety of water users and, after a lengthy trial, were disapproved by the Water Court.¹¹

Since 1975, rules concerning the use of groundwater in the San Luis Valley have changed dramatically. However, certain fundamental concepts continue to guide more recent iterations of these rules.

First in Time, First in Right

The Colorado Constitution establishes the most fundamental doctrine of the State’s water law: prior appropriation. The doctrine of prior appropriation prioritizes senior water rights, which are those with the earliest dates of legally recognized beneficial use.¹² Any specific purpose—for example, mining, agriculture, commercial, industrial, or municipal use—counts as “beneficial” for the purposes of prior appropriation. A senior water right holder can place an administrative “call” on a stream system through the Division of Water Resources to prevent those with upstream junior rights from diverting water until the senior user receives their full amount of water. Water rights can be bought or sold as real property and are severable, meaning that individuals or organizations can acquire the right to divert and use water without owning much or any of the land served by the diversion.

In addition to prior appropriation, there are concepts that the legislature and courts have developed that affect the appropriation and use of water rights. The first is “maximum

⁷ Rio Grande River Compact; C.R.S. § 37-66-101.

⁸ *Id.* at Art. VI

⁹ *Gould*, 674 P.2d at 919

¹⁰ *Id.*

¹¹ *Id.*

¹² COLO. CONS., ART. XVI, § 6.

utilization,” which as its name suggests, strives to establish a standard for the required efficiency of a diversion and its use. The second is the definition of “reasonable diversion,” and how courts balance multiple diverters’ costs and available alternatives with seniority. Lastly, there is the relationship between over-appropriation and augmentation.

In its introduction, the Water Rights and Administration Act of 1969 codified the policy of “maximum utilization” by stating that the goal of water regulation and administration was “to maximize the beneficial use of all of the waters” of Colorado¹³. In a separate section of the Act, the Colorado legislature recognized the need to preserve the natural environment, which requires preservation of water resources.¹⁴ The law further qualifies “maximum utilization” in a different section with the phrase “optimum use.”¹⁵ The Supreme Court of Colorado interpreted these various pieces of the law to mean that “maximum utilization” requires consideration of optimal use, which in turn requires consideration of both environmental and economic factors. This law assigns responsibility for establishing the rules which determine optimum use and how to distribute water accordingly to the State Engineer.¹⁶

“Reasonable diversion” is closely related to “maximum utilization,” but focuses more on considering the needs and costs of both senior and junior water rights. The purpose of this concept is to reduce the frequency of senior water right holders placing a call on a stream system that cuts off those who hold junior rights. “Reasonable diversion” recognizes that even though someone may hold a senior water right, that person is not entitled to an inefficient diversion if improvements or alternatives are available.¹⁷ However, neither a court nor the State Engineer can force a senior right holder with an unreasonable diversion to pay for improvements or alternatives beyond their means. Instead of forcing the cost onto the senior right holder, a court may require the junior appropriators to bear at least some of the expense of the improvements.¹⁸

The doctrine of prior appropriation, and the subsequent concepts of reasonable use and maximum utilization, preceded the AWDI conflict and play an important role in water exportation proposals and balancing the needs of water users.

Over-Appropriation

The Colorado Supreme Court has made a critical finding that both the Rio Grande River and its tributaries and the aquifers of the San Luis Valley are over-appropriated. This determination has led to a legal presumption that any additional diversion of water will injure senior appropriators.¹⁹ This presumption of injury in turn creates the responsibility for junior water rights users to “augment” their water use, that is, replace the water that they divert and use out-of-priority to mitigate injury to senior water rights.

When water withdrawals have the possibility of injuring the vested water rights of other users, the new appropriator must replace one hundred percent of the withdrawals unless they can show that their withdrawal will not cause injury. A new appropriator must normally adjudicate an augmentation plan in water court showing the location, time, and quantity of the intended

¹³ C.R.S. § 37-92-102(1)(a).

¹⁴ C.R.S. § 37-92-102(3).

¹⁵ C.R.S. § 37-92-501(2)(e).

¹⁶ *Gould*, 674 P.2d at 935

¹⁷ C.R.S. §37-92-102(2)(b)

¹⁸ *Id.*

¹⁹ *Id.* at 931

withdrawals, and that the appropriator is legally and physically able to provide replacement water to senior appropriators.²⁰ Even after approval, an augmentation plan may still be subject to ongoing scrutiny. Opponents to would-be appropriators may invoke the court's retained jurisdiction, which allows those suffering any injury as a result of the new appropriator to reopen the case concerning the augmentation plan.²¹

When taken together, the Rio Grande Compact, the doctrine of prior appropriation, and the finding of over-appropriation in much of the Valley formed the primary obstacle to AWDI's exportation proposal. Overall, AWDI proponents needed to prove that their export would not injure existing water users.

III. AWDI

In 1986, Maurice Strong founded American Water Development, Inc. (AWDI). Strong planned for AWDI to export 200,000 acre-feet, or approximately 65 billion gallons,²² of groundwater from the San Luis Valley every year. His proposal would require 112 wells drilled 2,500 feet deep to siphon water from 100,000 acres across two landholdings that Strong claimed to own.²³ Most wells would be sited on the larger of the two parcels in east-central Saguache County, adjacent to the northern border of what was then Great Sand Dunes National Monument. The larger parcel of Strong's land included nearly 97,000 acres known as Baca Ranch, formed after the Treaty of Guadalupe Hidalgo ended the Mexican-American War in 1848.²⁴

AWDI claimed the proposal would benefit the Valley. The claim came with support from AWDI's board, which included former U.S. Environmental Protection Agency chief William D. Ruckelshaus, Denver Tabor Center developer David Williams Jr., and former Colorado Governor Richard D. Lamm.²⁵ However, concerned citizens in the Valley, including a broad coalition of San Luis Valley ranchers, farmers, and environmentalists, vehemently opposed AWDI's plan.²⁶ With growing legal and public opposition from the Valley and elsewhere, AWDI's application to withdraw groundwater never came to pass.

In 1991, the Division 3 Water Court denied AWDI's application to withdraw the proposed groundwater because it was "tributary to natural streams."²⁷ The court found that AWDI based their groundwater model on the water levels that existed in the Valley before people started relying on groundwater in the unconfined aquifer.²⁸ Because this modeling

²⁰ *City of Aurora ex rel. Utility Enterprise v. Colorado State Engineer*, 105 P.3d 595, 607 (Colo. 2005)

²¹ *Id.* at 616

²² 1 acre-foot is equal to 325851.43189 gallons.

²³ Michael Geary, *Sea of Sand: A History of Great Sand Dunes National Park and Preserve* 164 (2016).

²⁴ Though the Treaty extinguished hostilities, it left in its wake many land disputes between Mexican and American settlers. Luis Maria Cabeza de Baca was one such settler who called for the United States to respect his 1821 land claims to nearly 500,000 acres in what is now New Mexico over which American settlers asserted competing claims. To resolve the controversy, the United States passed an Act in 1860 allowing Baca's heirs to select substitute lands throughout New Mexico and Colorado. Baca Ranch is one of the areas Baca's heirs chose. *American Water Development, Inc. v. City of Alamosa*, 874 P.2d 352, 359 (1994).

²⁵ Geary, *supra*, at 164.

²⁶ *Id.*

²⁷ *American Water Development, Inc. v. City of Alamosa*, 874 P.2d 352, 359 (1994).

²⁸ Conversation with Willem Schreuder (P.E., Ph.D., and contributor to the development of the Rio Grande Decision Support System) on April 12, 2019.

ignored the subsequent, accurate levels of the aquifer, it failed to show that AWDI's export plan would not injure existing water rights. The Water Court found the State's models more credible; the State's models reflected a nexus between AWDI's prospective groundwater withdrawals and depletion of natural stream flows in excess of allowable statutory standards.²⁹ The ruling protected agricultural interests, wetlands, and the sand dunes in the Valley that depend on groundwater.

AWDI appealed to the Colorado Supreme Court, but the ruling was upheld. Importantly, the Court pointed to the trial court's "critical finding that the groundwater in the unconfined aquifer 'is in hydraulic connection with most surface streams in the San Luis Valley'" and that the "credibility of the results predicted by the use of AWDI's computer model" had been undermined by the State's computer model.³⁰ This decision ended AWDI's water export aspirations by 1994.

The vigilance AWDI's application generated was not confined to the local or state level. In 1992, Congress amended the Colorado Wilderness Act, otherwise known as the "Wirth Amendment," in honor of its principal drafter, Colorado Senator Tim Wirth.³¹ Hundreds of thousands of acres in Colorado were added to the Wilderness Preservation System, including more than 200,000 acres in the Sangre de Cristo mountains.³² Importantly, the Act declared that wilderness areas "are not suitable for the development of new water resource facilities or the expansion of existing facilities[.]"³³ Congress defined "water resource facility" broadly, effectively blocking any new activity in wilderness areas that would use water. Irrigation works, pumps, reservoirs, aqueducts, canals, ditches, pipelines, wells, hydropower projects, and water diversion and storage projects were all prohibited.³⁴ The Sangre de Cristo Wilderness encompasses the headwaters of streams that recharge groundwater in the Valley.

IV. DEVELOPMENTS AFTER AWDI

When AWDI's plan was struck down in 1994, AWDI sold Baca Ranch, the large parcel of land at the heart of the plan, to Cabeza de Vaca with the financial backing of Farallon Capital Management. De Vaca and Farallon Capital Management began an extensive engineering investigation to revamp the AWDI plan and remedy its prior shortcomings.³⁵ The group partnered with Gary Boyce on a new water export venture called Stockman's Water.³⁶

Boyce left his hometown of Monte Vista, Colorado to acquire considerable wealth through real estate, oil, and thoroughbred equestrian investments before returning to the Valley in 1982.³⁷ Interestingly, in 1990, Boyce authored a series of essays in a self-published and short-

²⁹ *American Water Development, Inc. v. City of Alamosa*, 874 P.2d 352, 359 (1994).

³⁰ *Id.* at 368.

³¹ COLORADO WILDERNESS ACT OF 1993, PL 103-77, August 13, 1993, 107 Stat 756.

³² *Id.* at §2(a)(10).

³³ *Id.* at §8(a)(B).

³⁴ *Id.* at §8(a)(C)(3).

³⁵ Geary, *supra*, at 176.

³⁶ Ruth Heide, *Farallon roots examined, Baca's bedfellows seen*, ALAMOSA VALLEY COURIER (Jan. 16, 2002), http://hillandrobbs.com/pdf/AVC_Bacas_01-16-02.pdf.

³⁷ Charles Fisk, *The Metro Denver Water Story: a memoir*, Colorado State University Water Resources Archive, 230 (2007), <https://mountainscholar.org/handle/10217/881>.

lived newspaper called *Needles* condemning AWDI's proposal.³⁸ By 1995, Boyce had acquired significant interest in Baca Ranch with the assistance of Farallon Capital Management subsidiary Vaca Partners.

Stockman's Water Proposed Export

Boyce insisted that the Stockman's Water proposal differed from AWDI's. The Stockman's proposal purportedly sought a socially desirable solution to respect and satisfy water needs in Colorado. Boyce claimed that he would: (1) secure agreements from end-users to certify that the water had been beneficially used, (2) establish a 50,000-acre wildlife reservation and 10,000-acre wilderness area, and (3) restore nearly fifty miles of habitat within the Closed Basin.³⁹

Although Boyce was vocal about the ancillary benefits of his proposal to export 100,000 to 150,00 acre-feet of water, he never explained the details of how or where he was going to tap into the groundwater. These uncertainties fanned anxieties throughout the San Luis Valley. Tension mounted when Boyce and his backers spent nearly a million dollars on a successful petition drive to place two initiatives before Colorado voters on the 1998 ballot.⁴⁰

Both initiatives would have harmed the Valley by imposing financial obligations on water users. Amendment 15 sought to require certain water users to pay for and install flow meters. If the flow meter ceased to function, the user would have to restrict their use until the meter could be replaced. The silty terrain of the Valley threatened to make the clogging of such flow meters commonplace. Critics of the initiative argued that more economical ways to measure water use were already available, and the ballot was designed to curtail the use of downstream farmers in the Valley.⁴¹

Amendment 16 would have obligated the Rio Grande Water Conservation District to compensate for water pumped below state trust lands for the Closed Basin.⁴² The initiative jeopardized the Rio Grande Conservation District's budget and thus overall viability, especially if they needed to challenge Stockman Water Company in court.

In the end, 95% of voters in San Luis Valley counties opposed Amendments 15 and 16. Three times as many Colorado voters rejected both Amendments than those who voted for it.⁴³ Despite the failure of Boyce's proposal and the Amendments, fear of harm from a water export project lingered throughout the San Luis Valley.

Great Sand Dunes National Park Designation

The Valley's concern over future export efforts led citizens and lawmakers to push for additional safeguards. A prominent example of this pursuit was expanding environmental protections, including water protections, for the Great Sand Dunes National Monument. As the National Park Service considered various management options for the Great Sand Dunes

³⁸ *Id.* at 231.

³⁹ Geary, *supra*, at 176.

⁴⁰ Ed Quillen, *Appearing on your November Ballot: a water war*, COLORADO CENTRAL MAGAZINE (Oct. 1, 1998), <https://coloradocentralmagazine.com/appearing-on-your-november-ballot-a-water-war/>.

⁴¹ Geary, *supra*, at 177.

⁴² *Id.* at 178.

⁴³ *Id.* at 179.

National Monument, it became clear that to truly protect the Great Sand Dunes the Monument boundaries needed to extend and capture three key landscapes connected with the dunes' lifecycle: snowmelt streams from the Sangre de Cristo Mountains to the east, a wide expanse of sand to the north, and salt flats to the southwest.⁴⁴ To gain sufficient protection, advocates sought to elevate the National Monument's status to a national park—requiring Congress's approval.

The principal barrier to enlarging the monument was private ownership of the Medano-Zapata and Baca ranches. But in June 1999, The Nature Conservancy purchased the Medano-Zapata Ranch at a 40 percent discount off market price from its conservation-minded owner Hisayoshi Ota.⁴⁵ The following months proved critical for the National Park designation as momentum built through the initial efforts of then U.S. Senator Ben Nighthorse Campbell and U.S. House of Representative for Colorado's Third District Scott McInnis.

However, the momentum dissipated in December when the Saguache County Board of Commissioners issued a resolution in opposition to the change due to concern about the federal government purchasing the Baca Ranch.⁴⁶ Saguache County was concerned about the loss in tax revenues they would experience due to the transfer as well as pollution and overcrowding problems associated with the potentially more popular attraction of a National Park. Despite Saguache County's concerns, then Colorado Attorney General Ken Salazar emerged as a proponent and pushed the plan for reclassification forward. Born and raised in the Valley, the future U.S. Senator and Secretary of the Interior was a cogent and timely voice for the Valley.⁴⁷

By December 1999, Secretary of the Interior, Bruce Babbitt, promised to allocate between \$30 and \$40 million to reclassification. The Nature Conservancy had also begun negotiations to purchase Baca Ranch. Just when it seemed all the pieces would fall into place, an opponent to the reclassification appeared.⁴⁸ Colorado Springs Congressman Joel Hefley, a member of the U.S. House of Representative's Subcommittee on Natural Parks, Forests, and Public Lands, did not think the Dunes was National Park material. Hefley agreed Baca Ranch should be federally owned to control water claims, but that such ownership only required the Monument to be enlarged, not reclassified.⁴⁹

While initial attempts to persuade Hefley were made, proponents simultaneously began drafting legislation. McInnis and Senator Allard worked with Denver attorney David Robbins to develop a solution to assuage hunters and outdoor clubs. The creation of a wildlife preserve adjacent to tentative National Park boundaries would permit hunting, trapping, and fishing while reserving ownership to the federal government.⁵⁰ To ensure Saguache County did not suffer lost tax revenues, the drafters established that 36,000 acres of the Baca Ranch would be designated as

⁴⁴ Steve Chaney became the new superintendent of Great Sand Dunes National Monument in 1998. He arrived as Bill Wellman, who spearheaded the first lifecycle study of the Dunes during the AWDI saga, was exiting. Andrew Valdez, who had worked with Wellman on developing the 1994 Resource Management Strategy for the Monument, debriefed Chaney on the latest information and staff opinions. Andrew explained the importance of protecting the key landscapes to Chaney. While the idea of trying to expand the Monument's boundaries was gaining upward traction in the NPS, The Nature Conservancy was offering to purchase the Medano-Zapata Ranch. *Id.* At 187.

⁴⁵ *Id.* at 192.

⁴⁶ Fisk, *supra*, at 235.

⁴⁷ Geary, *supra*, at 198.

⁴⁸ *Id.* at 200.

⁴⁹ *Id.* at 206.

⁵⁰ David Robbins & Samuel Ebersole, *David Robbins Oral History*, COLORADO STATE UNIVERSITY WATER RESOURCES ARCHIVE (June 28, 2019), <https://mountainscholar.org/handle/10217/197196>.

a Wildlife Refuge. Under the Refuge Revenue Sharing Act of 1935, Saguache could be compensated with a percentage of revenues generated on the refuge from federal permitting and leasing.⁵¹

In October 2000, Colorado Senator Allard's bill unanimously passed in the U.S. Senate. Hefley, however, remained unconvinced and repeatedly denied McInnis's requests for hearings. McInnis predicted the bill would die in Hefley's Committee if he did not intervene. Congressman McInnis approached House Speaker Dennis Hastert and asked if Hastert would schedule the bill for floor debate, bypassing review in Hefley's Subcommittee.⁵² The House Speaker agreed and three weeks later a floor debate occurred. The following day, the Great Sand Dunes National Park and Preserve Act of 2000 passed with bipartisan support.⁵³

However, the designation was not yet official. The Nature Conservancy had to complete negotiations to purchase the Baca Ranch in order to transfer ownership to the federal government. Negotiations became somewhat complicated when crossclaims between parties with an interest in the Ranch were filed. Nonetheless, by 2004, The Nature Conservancy succeeded, and the federal government appropriated the remainder of the money to reimburse The Nature Conservancy. Great Sand Dunes National Park was officially established on September 24, 2004.⁵⁴

The Great Sand Dunes' transition from national monument to national park designation represents one of the strongest protections of the Valley's water to date. The federal government now holds in the public trust the geography essential to the Great Sand Dunes System, including the surface and subterranean waters. Title 16 of the United States Code defines Great Sand Dunes National Park water rights, declaring:

If, and to the extent that, the Luis Maria Baca Grant No. 4 [Baca Ranch] is acquired, all water rights and water resources associated with the Luis Maria Baca Grant No. 4 shall be restricted for use in the protection of resources and values for the national monument, the national park, the preserve, or wildlife refuge, fish and wildlife management and protection, and irrigation necessary to protect water resources...the Secretary [of the Department of the Interior] is specifically authorized to appropriate water under this subchapter exclusively for the purpose of maintaining ground water levels, surface water levels, and stream flows on, across, and under the national park and national preserve, in order to accomplish the purposes of the national park and the national preserve and to protect park resources and park uses.⁵⁵

Local communities and officials no longer bear sole responsibility for scrutinizing and opposing water exportation projects. As recognized by Colorado's Division 3 Water Court, the

⁵¹ Geary, *supra*, at 207.

⁵² Mike Soraghan, *Dunes move toward U.S. park status*, THE DENVER POST (October 7, 2000), <https://extras.denverpost.com/news/news1007i.htm>.

⁵³ Geary, *supra*, at 217.

⁵⁴ *Id.* at 227.

⁵⁵ 16 U.S.C.A. § 410hhh-7 (West).

federal government now has a reserved water right deriving from the Great Sand Dunes National Park.⁵⁶

V. CURRENT REGULATORY FRAMEWORK

For decades, the State Engineer for Water Division 3 had been imposing ever-stricter regulations on withdrawals in the Valley to address the increasing concern about over-appropriation and water shortages.⁵⁷ In 1972, “the State Engineer imposed a moratorium on the issuance of groundwater permits from the confined aquifer and from the unconfined aquifer outside of the Closed Basin.”⁵⁸ In 1981, this moratorium was extended to new withdrawals from the unconfined aquifer in the Closed Basin, “effectively ending new appropriations of groundwater in the Valley.”⁵⁹ In 2003, the State Engineer began requiring judicial confirmation of a finding of no material injury before issuing permits to deepen wells or otherwise enlarge use of existing groundwater rights.⁶⁰

The trend of water export proposals directed at the San Luis Valley spurred further legislative and regulatory action to protect groundwater resources. In the ensuing years, regulation of water use in the Valley expanded from the existing framework—the Rio Grande Compact, doctrine of prior appropriation, finding of over-appropriation, and federal reserved water right of the Great Sand Dunes National Park—to include three new regulatory schemes: (1) subdistricts, (2) “New Use Rules” for groundwater accompanied by the Rio Grande Decision Support System (RGDSS) Model, and (3) “Existing Use Rules” for groundwater.

Subdistrict Formation

After the San Luis Valley experienced severe drought in 2002, the driest year on record for some areas,⁶¹ the Colorado legislature passed legislation focused on San Luis Valley groundwater management to prevent further aquifer depletion.⁶² Codified at Section 37-48-108 of the Colorado Revised Statutes, the law specifically authorizes the creation of subdistricts under the Rio Grande Water Conservation District.⁶³

Subdistricts allow the consolidation of groundwater management to address over-withdrawals without putting an insurmountable burden on individual well users. Well owners in a subdistrict pay an annual fee based on the amount of groundwater pumped. The fees provide funds for retiring irrigated acres or rewarding low water withdrawals within the subdistrict. Upon formation, subdistricts must submit a water management plan to the State Engineer for approval that sets forth “a comprehensive detailed plan” for water management, improvement, and

⁵⁶ This ruling was the first, and perhaps still only, decree for an in-situ groundwater right in Colorado. In the Matter of the Application for Water Rights of the United States of America in Alamosa and Saguache Counties, 2004CW35 (Water Division No. 3, Colo. 2004).

⁵⁷ *Findings of Fact, Conclusions of Law, & Judgment* 28, No. 2004CW24 (Dist. Ct. Water Div. 3, Nov. 9, 2006)

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.* at 28-29.

⁶¹ Roger A. Pielke, Sr., et al., *Drought 2002 in Colorado: An Unprecedented Drought or a Routine Drought?*, PURE APPL. GEOPHYS. 162, 1463 (2005).

⁶² S.B. 04-222, 64th Gen. Assem. (Colo. 2004), ch. 235, 2004 Colo. Sess. Laws 777-79 (2004).

⁶³ C.R.S. § 37-48-108 (2019).

augmentation.⁶⁴ Through annual replacement plans, the subdistricts remedy any injurious groundwater depletions to protect surface water rights, ensure Colorado can meet its Rio Grande Compact obligations, and establish a sustainable water supply. Today, six subdistricts have formed or initiated the formation process within the Rio Grande Water Conservation District. A seventh subdistrict has been formed in the Trinchera Creek drainage area under the auspices of the Trinchera Water Conservancy District.

Special Improvement District No. 1. (“Subdistrict 1”) was the first to form in 2006⁶⁵ and covers “around 174,000 irrigated acres that rely primarily on groundwater wells.”⁶⁶ Several parties objected to the State Engineer’s approval of Subdistrict 1’s water management plan (“Plan”).⁶⁷ In 2011, the Colorado Supreme Court affirmed the lower court’s approval of Subdistrict 1’s Plan. The Court recognized that the “General Assembly intended that an approved, decreed, and implemented subdistrict plan with a groundwater management component would operate as an alternative means for protecting against injury to adjudicated senior water rights.”⁶⁸

The Subdistrict’s decreed Plan “represents the first attempt by water users in Colorado’s San Luis Valley to regulate groundwater use in order to achieve sustainable aquifer levels.”⁶⁹ Subdistrict 1’s Plan uses financial incentives to motivate those who withdraw groundwater to voluntarily retire irrigated acres in order to recharge the aquifer and prevent injury to senior water users. By decree, Subdistrict 1 must achieve a “sustainable unconfined aquifer level between 200,000 and 400,000 acre-feet below the level that existed on January 1, 1976.”⁷⁰ If Subdistrict 1 fails to implement the Plan as decreed, the State Engineer may curtail groundwater withdrawals.⁷¹

State Engineer Rulemaking

In conjunction with the authorization of subdistricts, the Colorado legislature passed legislation requiring the State Engineer to adopt rules that govern new groundwater withdrawals within the Confined Aquifer. In 2004, the State Engineer promulgated “New Use Rules” for Water Division 3. The New Use Rules recognize that the Confined Aquifer has been fully appropriated, initiated the Rio Grande Decision Support System (“RGDSS”) study to model and determine whether a new withdrawal will impact the Confined Aquifer, and protect against fluctuations in the artesian pressures of the Confined Aquifer.⁷² These rules function to prohibit

⁶⁴ C.R.S. § 37-48-126 (2019).

⁶⁵ No. 2006CV64 (July 2006).

⁶⁶ San Antonio, Los Pinos & Conejos River Acequia Preservation Ass’n, 270 P.3d at 933.

⁶⁷ Subdistrict 1 submitted its original Groundwater Management Plan in 2007 but it was rejected by a trial court. An amended version was submitted and approved and decreed in 2010. Several parties objected to the approved plan and appealed to the Colorado Supreme Court (*Id.* at 935).

⁶⁸ *Id.*

⁶⁹ *Id.* at 933.

⁷⁰ *Id.* at 934.

⁷¹ C.R.S. § 37-92-501(4); *Id.* at 939 (“So long as the ground water management plan meets those requirements, the State Engineer may not curtail unground water withdrawals made pursuant to the plan”).

⁷² Rules Governing New Withdrawals of Ground Water in Water Division 3 Affecting the Rate or Direction of Movement of Water in the Confined Aquifer System (June 30, 2004).

the Division/State Engineer from issuing permits for any new withdrawal unless there is a one-to-one replacement of the water detailed for the proposed withdrawal.⁷³

The RGDSS Model was developed to enhance water resources management in the Rio Grande Basin and is regularly updated and calibrated to ensure it can replicate historical conditions. To improve the existing model, the State Engineer released a rule in 2005—the “Groundwater Measurement Rule”—that enhanced the RGDSS Model by requiring wells in Water Division 3 to be equipped with a meter to measure withdrawals and mandated that all large-capacity well owners report “annual amounts of water pumped” from their wells.⁷⁴ This user-generated data provides the basis for updating the RGDSS Model.

Lastly, in 2015, the State Engineer adopted “Existing Use Rules” to govern groundwater withdrawals and define the irrigation season with the goal of “achieving and maintaining a sustainable water supply.”⁷⁵ The rules specify that injurious groundwater depletions can only occur if one of three conditions applies:

- (1) the withdrawal is covered by an approved subdistrict groundwater management plan, or
- (2) the withdrawal is authorized by an augmentation plan decreed by the water court, or
- (3) the withdrawal is pursuant to a temporary substitute water supply plan that has been approved by the State Engineer.⁷⁶

In addition, the “Existing Use Rules” assume that the RGDSS Model reliably predicts the impact of groundwater depletions and details the requirements for subdistrict groundwater management plans. A party may rebut this reliability assumption, but that party would carry the burden of showing that the model is inaccurate in a specific instance. Subdistricts must, subject to approval in annual replacement plans, remedy injurious stream depletions each year by either adding water “to the stream system” or “by means other than by providing water,” such as by contracting with the injured party to receive a monetary payment by means of a forbearance agreement.⁷⁷ After hearing a challenge to the presumed reliability of the RGDSS Model, the Division 3 Water Court approved the “Existing Use Rules” on March 15, 2019.⁷⁸

Importantly, the hydrogeology in the region known as the Costilla Plain has been difficult to model accurately, therefore, well users in this area and the other water users in southern Costilla County are not yet bound by the existing use rules.⁷⁹ However, when the RGDSS Model is able to more accurately represent this area the State Engineer will act to include these users

⁷³ *Id.*

⁷⁴ Rules Governing the Measurement of Ground Water Diversions Located in Water Division No. 3, The Rio Grande Basin (June 30, 2005).

⁷⁵ Rules Governing the Withdrawal of Groundwater in Water Division No. 3, 12 (Sept. 23, 2015).

⁷⁶ *Id.* at 10.

⁷⁷ *Id.* at 19.

⁷⁸ In the Matter of the Rules Governing the Withdrawal of Groundwater in Water Division 3 (The Rio Grande Basin) and Establishing Criteria for the Beginning and End of the Irrigation Season in Water Division No. 3 for All Irrigation Water Rights, 2015CW3024 (Mar. 15, 2019).

⁷⁹ Rules Governing the Withdrawal of Groundwater in Water Division No. 3, 13.2 (Sept. 23, 2015).

within the Rules.⁸⁰ For the rest of Water Division 3, the rules govern groundwater use today and must be satisfied by any proposed water export plans.

VI. UNDERSTANDING CURRENT AND FUTURE WATER EXPORT ATTEMPTS

Without reductions in per-capita use, municipal water requirements statewide are expected to increase by 40 to 80 percent by 2050.⁸¹ The population of the Front Range has increased by more than a million residents since the year 2000.⁸² In 2015, Colorado ranked second in the nation for overall population growth. Ninety-six percent of that growth occurred in the Front Range, with sixty-eight percent in the Metro Denver area alone.⁸³

This influx of new residents means more houses, more water taps, and more people and businesses in need of water. From 2010 to 2018, new home construction in the Front Range quadrupled.⁸⁴ Over a similar period, sales data indicates that wholesale water prices increased by 400 percent, with water prices shooting up to a high of \$58,000 per acre-foot of fully-consumable municipal water in 2018.⁸⁵ The Front Range's growing demand for water vastly outpaced growth elsewhere in the state, with prices in Southwestern Colorado increasing by only 36 percent in the same period.⁸⁶ For the Valley and other agricultural communities, these trends are unsettling.

Colorado could lose 500,000-700,000 acres of farmland by 2050 if the practice of purchasing agricultural lands and/or water rights in order to divert the water to urban areas, commonly referred to as buy-and-dry, continues at its current pace.⁸⁷ When agricultural commodity prices decline, farmers increasingly sell their water rights to municipalities to pay debts and supplement farm income.⁸⁸ Meanwhile, the San Luis Valley's groundwater resources remain at risk. Gradual, hard-won progress toward mandated aquifer levels has been augmented by wet winters like 2018-2019, as heavy snowfall delivered above-average amounts of water to the region and helped the aquifer recharge.⁸⁹ However, water levels have been devastated by

⁸⁰ *Id.*

⁸¹ Colorado Water Conservation Board, "M&SSI Water Use Methodologies" 20, *Analysis & Technical Updates*, <https://dnrweblink.state.co.us/cwcbsearch/ElectronicFile.aspx?docid=208633&dbid=0>.

⁸² COLORADO STATE DEMOGRAPHY OFFICE, *Population Estimates by Region and County, 2000-2018*, DEP'T OF LOCAL AFFAIRS (Sept. 2019).

⁸³ COLORADO STATE DEMOGRAPHY OFFICE, *Colorado's 2016 Population & Economic Overview*, DEP'T OF LOCAL AFFAIRS (Feb. 7, 2017), <https://demography.dola.colorado.gov/crosstabs/2016-overview/>.

⁸⁴ Jerd Smith, "Front Range housing boom sends water prices soaring," FRESH WATER NEWS (May 1, 2019), <https://www.watereducationcolorado.org/fresh-water-news/front-range-housing-boom-sends-water-prices-soaring/>.

⁸⁵ *Id.*

⁸⁶ Smith, *supra* note 3.

⁸⁷ Luke Runyon & Harvest Public Media, "As Thirty Cities Drive Up Water's Price, can Farms Survive on the Front Range?," KUNC (Aug. 12, 2016), <https://www.kunc.org/post/thirsty-cities-drive-waters-price-can-farms-survive-front-range#stream/0>.

⁸⁸ Luke Runyon, Matt Bloom, & Esther Honig, "Water is Leaving Colorado Farmland for the City, But Will It Ever Return?," KUNC (Jun. 13, 2018), <https://www.kunc.org/post/water-leaving-colorado-farmland-city-will-it-ever-return#stream/0>.

⁸⁹ Bruce Finley, "Developers seeking water for booming Front Range look to the San Luis Valley, where farmers already face well shut-offs," THE DENVER POST (Sep. 17, 2019); *see also* Jerd Smith, "Denver developer, former governor, make \$118 million play for San Luis Valley water," FRESH WATER NEWS (Jun. 26, 2019),

particularly dry years when aquifer recharge was below historical averages.⁹⁰ As a result of drought conditions and the effects of climate change, water rights-holders in the San Luis Valley still face a tough challenge to reduce groundwater withdrawals enough to reach state requirements by 2030.⁹¹

Given these conditions in the San Luis Valley and the Front Range, it should come as no surprise that Valley communities are wary of new export projects.

Renewable Water Resources: The Latest Attempt

Before Gary Boyce passed away in 2016,⁹² he had already begun work on a new water export proposal, which continued under a new company named Renewable Water Resources (RWR).⁹³ Sean Tonner, deputy chief of staff to former Governor Bill Owens, has been leading RWR's efforts in the San Luis Valley.⁹⁴ Tonner purchased 11,500 acres of land from Gary Boyce's former holdings, presumably to form the foundation for the new project.⁹⁵ Tonner proposed sending 22,000 acre-feet from the San Luis Valley to the Front Range. In return, he planned to buy and retire 30,000-35,000 acre-feet of water from agricultural users, returning "one for one plus" to the aquifer system.⁹⁶

In anticipation of fierce opposition, RWR adopted an approach of vigorous community engagement to win local support. In addition to the "one for one plus" proposal, the company promised to create a \$50 million community fund to pay for community needs like schools, law enforcement, and conservation easements.⁹⁷ RWR also promised to require Front Range buyers to limit the total exports from the proposed pipeline to no more than the initial capacity of 22,000 acre-feet.⁹⁸ Tonner claimed that by retiring more water rights than he would export, he would help regenerate the aquifer and save farmers from the risk of state curtailment.⁹⁹ He insisted that this was a "win-win" for buyers and communities in the San Luis Valley, and began meeting with stakeholders in 2018 to build support.¹⁰⁰

Despite these reassurances, skeptical Valley leaders were unpersuaded. Some observers, including Rio Grande Water Conservation District President Greg Higel, doubted water exports

<https://www.watereducationcolorado.org/fresh-water-news/denver-developer-former-governor-make-118m-play-for-san-luis-valley-water/>.

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² Tom MGhee, "Water Baron Gary Boyce, Whose Plans Shook the San Luis valley, dies," DENVER POST (Mar. 3, 2016).

⁹³ Ruth Heide, "Valley may face water export plan threat again," ALAMOSA NEWS (Oct. 17, 2018).

⁹⁴ Ruth Heide, "Valley export plan presented," ALAMOSA NEWS (Dec. 7, 2018).

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ Joe Purtell, "As metro Denver grows, another caller wants to tap the vast aquifer under the San Luis Valley," The Colorado Sun (Oct. 7, 2019), https://coloradosun.com/2019/10/07/sean-tonner-san-luis-valley-water-pipeline/?utm_source=Pico&utm_campaign=f1bb831e20-SunUp&utm_medium=email&utm_term=0_2e5f9a0f1b-f1bb831e20-65863253&mc_cid=f1bb831e20&mc_eid=d485439993.

¹⁰⁰ Heide, *supra* note 13; *see also, e.g.*, Teresa Bennis, "Saguache meeting set on water export plan," ALAMOSA NEWS (Dec. 7, 2018).

would be limited to 22,000 feet in the future.¹⁰¹ President Higel, upon hearing the proposal, described it as “the beginning of the end.”¹⁰² Cleave Simpson, General Manager of the Rio Grande Water Conservation District, began to line up opposition to the project by meeting with local groups and residents.¹⁰³ Simpson decried Tonner’s description of a “win-win,” believing instead that the project posed a threat to the way of life that residents had worked long and hard to preserve.¹⁰⁴

By 2019, RWR’s proposal quickly became a topic of general discussion across the San Luis Valley.¹⁰⁵ Familiar sentiments from the AWDI debate resurfaced. Some residents voiced complete opposition to the project. Other farmers acknowledged that “if the price is right, it would be very hard to say no.”¹⁰⁶ Tonner made his way around the San Luis Valley seeking sellers and drumming up support for RWR, while Simpson and other community leaders rallied opposition.¹⁰⁷

By February 2019, the Rio Grande Water Conservation District, the Conejos Water Conservancy District, the San Luis Valley Water Conservancy District, the Alamosa City Council, along with numerous other Valley entities, opposed Tonner’s proposal.¹⁰⁸ Powerful voices on the larger Colorado political stage supported both sides of the debate. Former Governor Bill Owens, former State Senator Greg Brophy, and former Colorado Department of Natural Resources Director Jim Martin backed the proposal,¹⁰⁹ while Colorado Attorney General Phil Weiser and former U.S. Senator Tim Wirth lined up in opposition.¹¹⁰ The sitting State Representative from the Valley, Rep. Donald Valdez, and the Nature Conservancy strongly opposed any water exportation.¹¹¹ Former state Attorney General, U.S. Senator, and Secretary of the Interior Ken Salazar said the project would proceed “over my dead body.”¹¹²

Legal Hurdles Facing RWR

Despite local condemnation and the opposition of well-known politicians, Tonner claimed to have secured sales from forty local farmers by mid-2019.¹¹³ However, the RWR proposal faced more than opposition from local communities and state officials.

The list of legal barriers facing water export proposals in the San Luis Valley has grown since the AWDI proposal. Backers must prove that the withdrawals will not injure the Great

¹⁰¹ Heide, *supra* note 12; Heide, *supra* note 13.

¹⁰² Heide, *supra* note 13.

¹⁰³ Ruth Heide, “Alamosa to oppose water proposal,” ALAMOSA NEWS (Feb. 28, 2019).

¹⁰⁴ *Id.*

¹⁰⁵ Heide, *supra* note 13; Bennis, *supra* note 18; Helen Smith, “Simpson shares SLV water challenges,” ALAMOSA NEWS (Jan. 9, 2019).

¹⁰⁶ Nick Bowlen, “A water ‘win-win’ in Colorado? Not so fast,” HIGH COUNTRY NEWS (Sep. 16, 2019).

¹⁰⁷ See, e.g., Bennis, *supra* note 19; Heide, *supra* note 13; see also, e.g., Bowlen, *supra* note 25.

¹⁰⁸ Heide, *supra* note 13; Heide, *supra* note 22.

¹⁰⁹ Heide, *supra* note 22.

¹¹⁰ Smith, *supra* note 9; Phil Weiser, Attorney Gen., Colorado, Prepared Remarks at the Rio Grande State of the Basin Symposium (Feb. 23, 2019).

¹¹¹ Heide, *supra* note 13; Smith, *supra* note 9.

¹¹² Smith, *supra* note 9.

¹¹³ Smith, *supra* note 9.

Sand Dunes National Park or other water rights.¹¹⁴ They also must show that withdrawals will not harm the confined or unconfined aquifer and will not prevent the area from meeting its Rio Grande Compact obligations.¹¹⁵ Advocates of the RWR plan claimed that by returning more water to the aquifer than it was sending to the Front Range, the proposal would benefit the aquifer and prevent injury to other water rights.¹¹⁶ However, Tonner and proponents of RWR would have to do more than claim this to be true in order to get their plans approved under existing law.

As Tonner fielded arguments in the court of public opinion, in March of 2019 the Division 3 Water Court approved the “Existing Use Rules,” which had been promulgated by the State Engineer in 2015.¹¹⁷ These rules divided the majority of land sitting atop the Valley’s Unconfined and Confined Aquifers into Response Areas, which generally correspond to the individual subdistrict areas.¹¹⁸ Pursuant to these new rules, the State Engineer determined the average annual withdrawals between 1978 and 2000 for each Confined Aquifer Response Area.¹¹⁹ Most of the subdistricts are now required to reduce their withdrawals to match the average withdrawals during the 1978–2000 period.¹²⁰ This new legal requirement represents the latest hurdle to export water from the San Luis Valley. It also raises a new and potentially insurmountable obstacle for RWR’s export plan.

VII. LOOKING TO THE FUTURE OF THE SAN LUIS VALLEY

As previously stated, Colorado’s population has already ballooned and is projected to nearly double by 2050, with most of the growth concentrated in Denver and the other Front Range municipalities between Fort Collins and Colorado Springs.¹²¹ The growing demand for water on the Front Range creates increasing economic and political pressure on state leaders. In response to this pressure, the state issued Colorado’s Water Plan in 2015.¹²² Meanwhile, local leaders are considering other alternative solutions.

Colorado’s Water Plan offers a variety of policies to increase the supply of water, from increased storage capacity to weather modification through cloud-seeding.¹²³ These solutions may offer an alternative to trans-basin diversions from the San Luis Valley and other parts of the state, but none come without problems. New dam and reservoir projects face frequent and vocal

¹¹⁴ Rules Governing New Withdrawals of Ground Water in Water Division Three Affecting the Rate or Direction of Movement of Water in the Confined Aquifer System (2005) 6.2.B; *see also* Simpson v. Cotton Creek Circles, LLC (In re Rules Governing New Withdrawals of Ground Water), Colo. S. Ct., 181 P.3d 252, 262 (2008); Smith, *supra* note 9.

¹¹⁵ Smith, *supra* note 9.

¹¹⁶ Smith, *supra* note 9.

¹¹⁷ Judgment & Decree, In re Rules Governing Withdrawal of Ground Water in Water District 3, Colo. Water Ct. Div. 3 2015CW3024 (Mar. 15, 2019).

¹¹⁸ Rules Governing Withdrawal of Groundwater in Water Division 3 (2015) 8.1.

¹¹⁹ *Id.* at 8.1.6.

¹²⁰ *Id.* at 6.1, 8.1.7.

¹²¹ SUMMIT ECONOMICS & THE ADAMS GROUP, *Water & the Colorado Economy*, FRONT RANGE WATER COUNCIL (Dec. 2009) 5.

¹²² COLORADO WATER PLAN, COLORADO WATER CONSERVATION BOARD (2015).

¹²³ *Id.* at 4-16–4-18.

opposition by everyone from local environmentalists to the U.S. Fish and Wildlife Service for their impacts on terrain, infrastructure, fish and wildlife.¹²⁴ For example, Northern Water’s Windy Gap Firming Project and Denver Water’s Gross Reservoir expansion are embroiled in lawsuits. Environmental groups and area residents have teamed up to try to block the projects in court.¹²⁵ More experimental proposals like cloud-seeding suffer from many uncertainties. Skeptics call its effectiveness into question, citing the potential impact on natural weather patterns, and other critics raise a host of unanswered tort and property law concerns that come from modifying the weather.¹²⁶

On the demand side of the balance sheet, local governments have instituted a wide range of water conservation programs to reduce usage. The City of Phoenix, for instance, has achieved a thirty percent drop in per capita daily water usage in the past thirty years by implementing conservation education programs and improving storage systems, wastewater treatment, and other management practices.¹²⁷ Denver Water has implemented similar community conversation measures, and claims a twenty-two percent per capita reduction in the last ten years.¹²⁸ California jurisdictions offer a variety of rebates for water conservation measures, rebates that are not subject to state taxes.¹²⁹

San Luis Valley communities could also consider other potential legal obstacles to water export projects. For instance, a state law enacted in 1974 allows local governments to regulate development projects that may have a significant impact on the surrounding community.¹³⁰ So-called 1041 regulations (named for H.B. 74-1041, which created them) have been used by numerous counties to block or regulate water export projects by requiring exporters to obtain a county permit before proceeding.¹³¹ Prospective exporters have challenged these regulations’ ability to regulate water projects intended for use outside the county, but the regulations have

¹²⁴ See, e.g., Grace Hood, “Aspen’s Proposed Dams, Reservoirs Near the Maroon Bells Draw Opposition,” CPR NEWS (Dec. 22, 2016), <https://www.cpr.org/2016/12/22/aspens-proposed-dams-reservoirs-near-the-maroon-bells-draw-opposition/>; Moe Clark, “Controversy over Denver Water’s Gross Reservoir expansion offers a glimpse into the water woes of the West,” COLORADO SUN (Jul. 10, 2019), <https://coloradosun.com/2019/07/10/gross-dam-expansion-water/>.

¹²⁵ Clark, *supra* note 133; “Confronting Short-sited Colorado River Diversion Project,” WILD EARTH GUARDIANS (last visited Feb. 22, 2020), <https://wildearthguardians.org/legal-cases/confronting-short-sighted-colorado-river-diversion-project/>.

¹²⁶ See, e.g., Tarek Majzoub, et al., “*Cloud Busters*”: Reflections on the Right to Water in the Clouds and a Search for International Law Rules, 20 COLO. J. INT’L ENVTL. L. & POL’Y 321 (2009); Jessica Brown, “Cloud seeding: Should we be playing god and controlling the weather?,” INDEPENDENT (Jan. 17, 2018), https://www.independent.co.uk/news/long_reads/cloud-seeding-weather-control-manipulate-effects-chemicals-climate-change-a8160146.html.

¹²⁷ WATER RESOURCES & CONSERVATION FAQs, CITY OF PHOENIX (last visited Feb. 24, 2020), <https://www.phoenix.gov/waterservices/resourcesconservation/faqs>; see also WATER STEWARDSHIP, CITY OF PHOENIX (last visited Mar. 17, 2020), <https://www.phoenix.gov/sustainability/water>.

¹²⁸ EFFICIENCY PLAN, DENVER WATER (last visited Mar. 17, 2020), <https://www.denverwater.org/your-water/water-supply-and-planning/efficiency-plan>.

¹²⁹ See, i.e., California Water Conservation Rebates, Rainbird (last visited Feb. 24, 2020), https://www.rainbird.com/sites/default/files/media/documents/2019-09/RB_Rebates_California_NORCAL_2018.pdf; “Potential Federal Tax on Water Conservation Rebates,” Contra Costa Water District (last visited Feb. 24, 2020), <https://www.ccwater.com/743/Potential-Tax-on-Water-Conservation-Reba>.

¹³⁰ C.R.S. 24-65.1-201 (1974).

¹³¹ Amy Stengel, “Water Projects & Colorado’s 1041 Regulations,” Colorado Riparian Association (Sep. 19, 2009), <https://www.coloradoriparian.org/water-projects-and-colorados-1041-regulations/>.

been upheld by the Colorado Supreme Court.¹³² In the San Luis Valley, both Saguache County and Alamosa County require permitting of industrial and municipal water projects in their 1041 regulations,¹³³ and could potentially use these requirements to block export projects. Eagle County successfully blocked Homestake II, a proposed export project to Colorado Springs and Aurora, and Valley counties could attempt to follow suit.

Alternatively, San Luis Valley could adopt AWDI's strategy from more than twenty years ago and pursue a ballot initiative. Ballot campaigns in Colorado are costly and difficult, but if successful, an initiative could alter state law to specifically prohibit exporting water from the San Luis Valley.

The Need for Alternatives

All proposed avenues for resisting exports have their drawbacks, but one need only look to eastern Colorado to see the dangers of buy-and-dry. From 1968 to 1985 farmers and ranchers in Crowley County sold over 90 percent of their shares in the Colorado Canal operations—the main source of water for irrigation in that county—to pay off debts following the collapse of the sugar beet industry. The sale retired over 90 percent of irrigated land in Crowley County and led to enormous ecological and social consequences.¹³⁴ The resulting lack of water in the Colorado Canal system made it extremely difficult to deliver water to the remaining farmers who were legally entitled to it. Other consequences included dry lands, weeds, range fires, dust storms, population decline, and the loss of employment, resources and skills. Today, Crowley County is home to less than 30 farms.

The region did learn from the situation. Beginning in 2002 the Arkansas Valley from Pueblo County to Prowers County, facing similar problems, formed the Lower Arkansas Valley Water Conservancy District, which helped farmers incorporate the Lower Arkansas Valley Super Ditch Company in 2007.¹³⁵ The Company's mission is to keep agriculture viable in the Arkansas River Basin by leasing water to meet municipal needs on a grand scale. Agriculture to municipal water leasing is part of an emerging set of so-called "alternative transfer methods" (ATMs). This leasing mechanism was not yet permitted by state law at the time Crowley County irrigators were selling their water rights. Since then, alternative transfer methods (ATMs) are considered a promising substitute to "buy and dry."¹³⁶ The benefits of ATMs are often drowned out by the complications caused by water court proceedings, engineering and legal fees, and administrative obstacles. Nonetheless, ATMs merit serious consideration due to the negative consequences of other alternatives on rural communities.

Communities Have the Power to Drive Solutions

As described above, the legal bulwarks against water export in the San Luis Valley have grown since AWDI. The sparse regulatory framework that governed water in 1990 has grown

¹³² Denver by Bd. of Water Comm'Rs v. Bd. of County Comm'Rs, 782 P.2d 753 (Colo. S. Ct. 1989).

¹³³ See GUIDELINES AND REGULATIONS FOR AREAS AND ACTIVITIES OF STATE INTEREST Ch. 3, COUNTY OF ALAMOSA (Jun. 24, 2009); RESOLUTION NO. 2012 LU-29 Ch. 12, SAGUACHE COUNTY (Dec. 4, 2012).

¹³⁴ Devine, B., & Crow, D. A., *Moving waters: The legacy of buy-and-dry and the challenge of lease-following in Colorado's Arkansas River Basin* (2015), Ann Arbor: ProQuest Dissertations & Theses.

¹³⁵ *Id.*

¹³⁶ Colorado Water Conservation Board. (2015). Colorado's Water Plan. Chapter 6, Section 6.4.

into a dense network of rules designed to protect the aquifer, the Great Sand Dunes, existing water users, and Colorado's Rio Grande Compact obligations. These rules provide communities in the Valley with a clear set of tools to protect local water interests. By understanding the legal tools currently available and what new protections could be created, local communities can continue to act as a check on water export projects.

Communities play a crucial role in guiding the future of water use in Colorado. The conflicting needs of Colorado's urban development and agricultural viability make easy or simple solutions elusive. However, local activism and frank community discussions push administrators and politicians to explore and adopt frameworks that protect community interests, including their invaluable water resources.

APPENDIX: TIMELINE OF THE VALLEY, ITS WATER, AND TIME

The Valley,
its Water,
and Time

