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## The Political Cultures of Irrigation and the Proxy Battles of Interstate Water Litigation

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## THE POLITICAL CULTURES OF IRRIGATION AND THE PROXY BATTLES OF INTERSTATE WATER LITIGATION

### ABSTRACT

*Groundwater depletion ignores the political boundaries of western states, the legal boundaries of western water codes, and the jurisdictional boundaries of western water federalism. In the wake of the groundwater revolution, it is becoming apparent that certain interstate lawsuits derive essentially from deeper conflicts rooted in the clash between surface-water and groundwater irrigation communities—and their respective political cultures. The interstate divide may be yielding to the hydrological divide.*

*This article attends to that deeper relationship between irrigation agriculture and political culture across the Great Plains. Part I provides a brief history of its surface-water irrigation communities, to compose a recognizable image of their political culture: one that is rooted in classical western water law and cooperative water federalism, and depends upon interstate compacts and federal irrigation projects. Part II surveys the groundwater revolution and the distinct political culture it has generated: one that doubts the merits of classical western water law, and suspects the power of western water federalism.*

*Part III describes a revealing theater of the conflict between these political cultures: the Republican River Basin. On the surface, the conflict is a legal casus belli between sovereign states. But beneath that conflict lies a deeper and more intractable conflict, where interstate litigation becomes recognizable as a proxy battle between surface-water and*

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*groundwater irrigation communities. How the states and the United States resolve this deeper conflict may determine the future of water federalism across the Great Plains—and the fate of the rivers upon which its communities depend.*

## INTRODUCTION

*Organized selfishness is more potent than unorganized consideration for the public interests.*

—Elwood Mead<sup>1</sup>

All farmers get their water from somewhere. In the East, water just falls from the sky, but across the arid West, farmers must get it elsewhere. For centuries it has come with difficulty from the West's sparse and irregular river systems, which depend upon variable, but annual, melt from mountain snowpack, local precipitation, and reservoirs. Since the 1950s, however, most irrigation water has come dependably from the ground, from shallow alluvial systems and deeper aquifers, first in deceptively increasing volumes, but now in permanently decreasing ones, as groundwater levels decline for good. The depletion of the West's groundwater is a national problem of high order.<sup>2</sup> Geologists have sounded alarms.<sup>3</sup> Policy wonks have prescribed legal and technocratic solutions.<sup>4</sup> Washington has sent emissaries asserting jurisdiction and money promising relief; the West has welcomed the latter.<sup>5</sup> Western politicians have issued platitudes and published water plans.<sup>6</sup> But obscured behind all of this credentialed, politicized, and often-posturing expertise is a simple, hard, but useful fact: it matters a great deal where western irrigators get their water.

It matters because the source of that irrigation water largely defines the political culture of the community that depends on it.<sup>7</sup> The relationship between

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1. ELWOOD MEAD, IRRIGATION INSTITUTIONS: A DISCUSSION OF THE ECONOMIC AND LEGAL QUESTIONS CREATED BY THE GROWTH OF IRRIGATED AGRICULTURE IN THE WEST 87 (1903).

2. See, e.g., Laura Parker, *To the Last Drop*, NAT'L GEOGRAPHIC, Aug. 2016, at 86-111.

3. V. L. MCGUIRE, U. S. GEOLOGICAL SURVEY, WATER-LEVEL CHANGES IN THE HIGH PLAINS AQUIFER, PREDEVELOPMENT TO 2007, 2005-06, AND 2006-07, 1 (2009); LEONARD F. KONIKOW, U.S. GEOLOGICAL SURVEY, GROUNDWATER DEPLETION IN THE UNITED STATES (1900-2008), at 5 (2013); Stephanie L. Castle et al., *Groundwater Depletion during Drought Threatens Future Water Capacity of the Colorado River Basin*, 41 GEOPHYSICAL RES. LETTERS 5904-11 (2014).

4. See, e.g., ROBERT GLENNON, UNQUENCHABLE: AMERICA'S WATER CRISIS AND WHAT TO DO ABOUT IT (2009); THE WATER PROBLEM: CLIMATE CHANGE AND WATER POLICY IN THE UNITED STATES (Pat Mulroy ed., 2017).

5. For a recent rebuke of the federal emissaries, see Proposed Directive on Groundwater Resource Management, Forest Service Manual 2560, 80 Fed. Reg. 35,299 (June 19, 2015). For federal subsidies which retire farm ground from irrigation, see 16 U.S.C. §§ 3831-3835 (2012) (creating the Conservation Reserve and Enhancement Program).

6. See, e.g., COLO. WATER CONSERVATION BD., COLORADO'S WATER PLAN (2015); KANSAS WATER OFFICE, A LONG-TERM VISION FOR THE FUTURE OF WATER SUPPLY IN KANSAS (2015).

7. See, e.g., WILLIAM DUBUYS & ALEX HARRIS, RIVER OF TRAPS: A NEW MEXICO MOUNTAIN LIFE (1990); JOSÉ A. RIVERA, ACEQUIA CULTURE: WATER, LAND AND COMMUNITY IN THE SOUTHWEST (1998) (describing the role which local, community-based acequias play in the political cultures of

irrigation and political culture is an ancient one.<sup>8</sup> Across the nineteenth-century West, surface-water irrigation communities established most of western water law, built (or had built for them) most of the West's irrigation infrastructure, and framed most of the legal and regulatory systems that still secure property rights in water.<sup>9</sup> John Wesley Powell and Elwood Mead, two of the most influential proponents of federal irrigation in the American West, believed that the relationship between irrigation and political culture was as real as western aridity itself, and should guide the development of irrigation projects on a basin-wide scale.<sup>10</sup> During the 1940s, 1950s, and 1960s, western states and the United States, largely through the Bureau of Reclamation (Reclamation) and the U.S. Army Corps of Engineers (Corps), built dams, reservoirs and surface-water irrigation projects across the Great Plains. These projects remained steadfast to Reclamation's essentially technocratic vision of rural society, where citizen irrigators would own modest farms organized around the projects' reservoirs, canals, and irrigated lands.<sup>11</sup>

Due to their basin-wide designs, these projects supply water to irrigators in different states. The Corps built John Martin Reservoir in the lower Arkansas River Basin of eastern Colorado, to assist in the management of long-established canal systems constructed according to state law in both Colorado and Kansas.<sup>12</sup> Within comparatively undeveloped basins such as the Republican River Basin (Basin), the Corps and Reclamation built reservoirs such as Harlan County Lake to supply the Bostwick Project, which straddles the Nebraska-Kansas state line.<sup>13</sup> These surface water irrigation works depend largely on the governance structures of cooperative federalism. The states protected both their respective water supplies and their respective state law water regimes through the federalist medium of the interstate compact. The United States built the projects, and provided important technical and administrative assistance as well.

These irrigation projects also depend upon the rivers themselves; yet they became operational during a pivotal period in western irrigation. Starting in the 1950s, the development of groundwater supplies across the Great Plains fundamentally transformed agriculture in the region—and groundwater irrigators

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Spanish-American communities in the Upper Rio Grande Basin in New Mexico and Colorado). *See also* Reclamation literature cited *infra* note 132 and accompanying text.

8. *See generally* IRRIGATION CIVILIZATIONS: A COMPARATIVE STUDY (Julian Haynes Steward ed., 1955) (describing a collection of monographs exploring the relationship between irrigation and society in ancient China and Mesopotamia, and pre-Columbian Peru and Mesoamerica).

9. *See* DONALD PISANI, FROM THE FAMILY FARM TO AGRIBUSINESS: THE IRRIGATION CRUSADE IN CALIFORNIA AND THE WEST, 1850–1931 (1984); NORRIS HUNDLEY JR., THE GREAT THIRST: CALIFORNIANS AND WATER: A HISTORY (University of California Press: Berkeley and Los Angeles, California, rev. ed. 2001).

10. John Wesley Powell, *Report on the Lands of the Arid Region of the United States: With a More Detailed Account of the Lands of Utah*, in THE ARID LANDS, 33–36 (Wallace Stagner ed., repr., Lincoln: University of Nebraska Press, rev. ed. 2004) (1879)); MEAD, *supra* note 1, at 41.

11. DONALD WORSTER, UNDER WESTERN SKIES: NATURE AND HISTORY IN THE AMERICAN WEST 62 (1992).

12. Arkansas River Compact, ch. 155, 63 Stat. 145 (1949) (asserting that a major purpose of the compact is to share in the benefits of John Martin Reservoir).

13. BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, BOSTWICK DEFINITE PLAN REPORT 5 (1953).

developed their own distinctive political culture in the process. Groundwater and its political culture have since assumed a dominant position across the Great Plains, where as much as 90 percent of irrigation water comes from beneath the ground.<sup>14</sup> That dominance has challenged and transformed western water law, threatened western water infrastructure, and frustrated the regulatory systems of most western states, regardless of their distinct water law codes. The groundwater revolution promised emancipation from the governance systems of Reclamation projects and the allocation limits of interstate compacts.<sup>15</sup> Like many revolutions, it temporarily made the past obsolete.<sup>16</sup> But seven decades on, the revolution has produced a revolution's typical excesses, conjuring the real specter of permanent groundwater depletion.<sup>17</sup> Falling groundwater levels have crippled wells and dried up formerly perennial streams across the Great Plains, desiccating Major Powell's "arid lands" even further.<sup>18</sup>

As pumping caused declines in streamflows, reservoir supplies, and groundwater levels across the West during the 1970s, conflicts emerged between states dependent on interstate water supplies. The effective governance of these supplies by interstate compact administrations began to break down, and the groundwater revolution ultimately forced a series of interstate "water wars" litigated under the Supreme Court's original jurisdiction.<sup>19</sup> Texas sued New Mexico to restrain its excessive upstream groundwater pumping in the Pecos River Basin, pursuant to the Pecos River Compact.<sup>20</sup> Kansas sued Colorado to reduce similarly excessive pumping in Colorado's portion of the Arkansas River Basin, pursuant to the Arkansas River Compact.<sup>21</sup> And Kansas sued Nebraska twice, to do the same in Nebraska's portion of the Republican River Basin, pursuant to the Republican River Compact (Compact). The first round of the Republican River litigation had the effect of integrating groundwater pumping explicitly within the Compact's administration of those supplies, by accounting for depletions to

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14. This figure is for Kansas. CHARLES A. PERRY, U.S. GEOLOGICAL SURVEY, EFFECTS OF IRRIGATION PRACTICES ON WATER USE IN THE GROUNDWATER MANAGEMENT DISTRICTS WITHIN THE KANSAS HIGH PLAINS, 1991–2003, 1 (2006).

15. JAMES AUCOIN, WATER IN NEBRASKA: USE, POLITICS, POLICIES 39 (1984); *see infra* note 208 and accompanying text.

16. *See generally* CRANE BRINTON, THE ANATOMY OF REVOLUTION (1965) (characterizing "uniformities" across the landmark English, American, French, and Russian Revolutions).

17. *See* Castle et al., *supra* note 3, at 5909–10.

18. Kan. Geological Survey, *Major Perennial Stream Changes from 1961 to 2009*, KAN. HIGH PLAINS AQUIFER ATLAS, [http://www.kgs.ku.edu/HighPlains/HPA\\_Atlas/Aquifer%20Basics/#Perennial\\_Stream\\_Changes\\_1961\\_to\\_2009.jpg](http://www.kgs.ku.edu/HighPlains/HPA_Atlas/Aquifer%20Basics/#Perennial_Stream_Changes_1961_to_2009.jpg) [<https://perma.cc/DB3D-X9HN>].

19. *See e.g.*, Texas v. New Mexico, 462 U.S. 554 (1983). The media overuses this metaphor, but the Supreme Court depends upon it. The Court only accepts interstate water lawsuits if the "dispute between States [is] of such seriousness that it would amount to *casus belli* if the States were fully sovereign." *Id.* at 571 n.18 (1983) (citing North Dakota v. Minnesota, 263 U.S. 365, 372–74 (1923), and Missouri v. Illinois, 200 U.S. 496, 519–21 (1906)).

20. *See* Texas v. New Mexico, 462 U.S. 554 (1983) (No. 65, Orig.); *see also* Texas v. New Mexico, 482 U.S. 124 (1987) (No. 65, Orig.). Litigation lasted from 1974 through 1990.

21. Kansas v. Colorado, 533 U.S. 1 (2001) (No. 105, Orig.). Litigation lasted from 1985 through 2009.

streamflow.<sup>22</sup> The second round enforced the Compact against Nebraska's repeated violations caused by excessive groundwater pumping.<sup>23</sup> In all of these cases, groundwater was held to be an integral part of the interstate water supplies allocated under their respective compacts.<sup>24</sup>

Like the interstate lawsuits of the earlier period (1902–1945), these legal wars pitted one state against another for sound legal reasons. The Constitution assigns the litigation of interstate disputes to the original jurisdiction of the Supreme Court.<sup>25</sup> The Court's jurisprudence regarding interstate water controversies makes clear that wronged downstream irrigators cannot fight wars on their own; their parent state must fight them on their behalf.<sup>26</sup> And the Court's interstate compact jurisprudence similarly makes clear that irrigators are bound to the allocation limits imposed by interstate compacts, because those limits are federal law and trump prior state-law water rights.<sup>27</sup> Across both major periods of interstate litigation, none of these textbook truisms are controversial; indeed, they are wise and necessary rules of water governance, given the interstate nature of basin-wide water conflicts.

Yet like water itself, wars over water do not respect legal boundaries, the political boundaries of western states, or the jurisdictional boundaries of western water federalism. In the turbulent wake of the groundwater revolution, it is becoming increasingly apparent that certain interstate lawsuits derive essentially from deeper internecine conflicts within the party states themselves; and these conflicts are rooted in the intractable clash between surface-water and groundwater irrigation and their respective political cultures. The interstate divide may be yielding to the hydrological divide. The most fitting example of this problem is the spate of litigation which has troubled the Compact since 1998—at the Supreme Court, but perhaps more importantly, in the telling aftermath of the Court's decisions in those cases, as surface-water irrigators in both Nebraska and Kansas have fought to protect themselves against Nebraska's groundwater-driven Compact compliance policies. Within this larger landscape, the interstate litigation becomes recognizable as a proxy battle, part of a larger conflict between surface and groundwater interests.

The Supreme Court decides interstate lawsuits as a matter of course, but it does not necessarily resolve their underlying causes.<sup>28</sup> There are defensible

22. Final Settlement Stipulation at 32-34, C1-C114, *Kansas v. Nebraska*, 123 S.Ct. 1898 (Apr. 16, 2003) (No. 126, Orig.) (accounting procedures established to evaluate the impact of groundwater pumping on the states' respective allocations).

23. *Kansas v. Nebraska*, 135 S. Ct. 1042 (2015).

24. First Report of the Special Master at 37, *Kansas v. Nebraska*, 538 U.S. 720 (Jan. 28, 2000) (No. 126, Orig.).

25. U.S. CONST. art. III, § 2. Interstate jurisdiction is exclusive. 28 U.S.C. § 1251(a).

26. *Colorado v. Kansas*, 322 U.S. 708 (1944) (enjoining Kansas irrigation ditch companies from prosecuting further their federal cases against Colorado ditch companies upstream on the Arkansas River). However, the Court occasionally allows non-state parties to intervene in original actions. *See, e.g., South Carolina v. North Carolina*, 558 U.S. 256, 267–68 (2010).

27. *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92, 108–09 (1938).

28. *See, e.g., Kansas v. Colorado*, 206 U.S. 46, 117–18 (1907) (asserting the principle of equitable apportionment but declining to so apportion the waters of the Arkansas River between Colorado and

federalist reasons for such reticence. The Court is rarely willing to interfere with the states' state-law based interstate compliance regimes.<sup>29</sup> However vaguely, federal water law, especially reclamation law, largely defers to state water law.<sup>30</sup> This default of deference in resolving interstate water disputes has allowed the deeper conflict between surface-water and groundwater irrigation communities to survive, which raises a serious problem. For the future of many interstate river basins, especially Great Plains basins which depend principally on groundwater, may not depend so much upon *whether* upstream states comply with their interstate legal obligations, but rather upon *how* they comply with them—by reducing their groundwater pumping, by reducing their surface-water diversions, by importing water from somewhere else, or by some combination of all three. These choices matter a great deal. They may determine the hydrological integrity of the rivers themselves.

Who will make these choices? Across the Great Plains, the contrasts and conflicts between surface-water and groundwater irrigation communities raise hard but unavoidable questions about the public. What is this public: a regional, basin-wide, and therefore interstate public? Is it a statewide public, and therefore determined by political borders that are blind to the course of western drainages? Or is it—at least at its most intensely felt level—a local public, and one limited to those who hold water rights? For unlike natural resources such as hard-rock minerals or oil and gas, water in the West is typically dedicated to the people as a public resource, subject to the appropriation and beneficial use that create a private property water right.<sup>31</sup> And unlike other natural-resource use rights, such as timber leases in national forests or grazing rights on federal land, most water rights are state-law real property rights, insulated from federal jurisdiction.<sup>32</sup> Water can thus be the most public but the least publicly protected of all western resources.<sup>33</sup> As these irrigation communities continue their internecine conflicts within their federal and state theaters, and western states make policy choices concerning how to comply with their interstate water obligations, they are increasingly negotiating among these competing and often divergent concepts of the public. The concept of the public that prevails determines those policy and governance choices, and those

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Kansas); *see also* *Colorado v. Kansas*, 320 U.S. 383, 399–400 (1943) (declining to award relief to Kansas).

29. Report of the Special Master at 112–19, *Kansas v. Nebraska*, 134 S.Ct. 981 (Nov. 15, 2013) (No. 126, Orig.).

30. The nature and extent of this deference has been frequently litigated concerning Section 8 of the Reclamation Act. Reclamation Act of 1902, ch. 1093, § 8, 32 Stat. 390 (codified in part at 43 U.S.C. §§ 372, 383 (2006)). For useful commentaries on Section 8, see Amy Kelley, *Staging a Comeback: Section 8 of the Reclamation Act*, 18 U. CAL. DAVIS. L. REV. 97, 99–125 (1984); Reed Benson, *New Adventures of the Old Bureau: Modern-Day Reclamation Statutes and Congress's Unfinished Environmental Business*, 48 HARV. J. ON LEGIS. 137, 158 (2011).

31. *See, e.g.*, KAN. STAT. ANN. § 82a-706 (2015) (dedicating all of the waters of the State of Kansas to the public, subject to the rights of prior appropriation).

32. *Id.* § 82a-701(g).

33. *Sporhase v. Nebraska*, 458 U.S. 941, 951 (1982) (describing, in a commerce clause case, the state's ownership of its waters as “a fiction expressive in legal shorthand of the importance to its people that a State have power to preserve and regulate the exploitation of an important resource” (citations omitted)).

choices will in turn decide the future of rivers that—for now at least—still run across the Great Plains.

Because these choices lie with the states and not the Supreme Court, we must refocus our attention on the relationship between irrigation agriculture and political culture across the Great Plains. This article is an attempt toward renewing that focus. It surveys the way irrigation agriculture has created two distinct communities and political cultures across the Great Plains: the older communities based on surface-water irrigation projects which depend upon river flows; and the younger communities based on groundwater pumping, whose connection to Great Plains river systems is both hydrologically variable and legally contested.<sup>34</sup> While scholars and other experts have long studied the political culture of irrigation, they have paid far less attention to this important distinction.<sup>35</sup>

Part I of this Article provides a brief history of surface-water irrigation communities across the Great Plains, to compose a recognizable image of their political culture. Between the 1859 Colorado Gold Rush and 1960 or so, these communities developed first as private enterprises, and then as state and federal projects. Concentrated in the river valleys and near the irrigation systems that made their farms viable, they developed a political culture inseparable from the water law they helped to establish, the water-related infrastructure they helped to build, and the governmental largesse upon which they have long depended. Great Plains surface water irrigation communities are clustered around their projects and organized along corporate lines; they fully intend to be permanent. They are also legally conservative communities: they generally perceive their interests as compatible with the laws and regulations which protect their water supply, and they have traditionally perceived these interests to be compatible with those of the wider public. Likewise, the public has traditionally supported these communities, through state laws giving them quasi-public powers and through the federal fisc, with funds diverted, stored, released, and applied by Reclamation and the Corps.

Groundwater irrigation communities occupy a hydrological and legal terrain that is markedly different than their surface-water counterparts. Part II of this Article provides a survey of the groundwater revolution, to show how it generated its own political culture across the Great Plains. Starting in the 1950s, groundwater irrigation revolutionized Great Plains agriculture. Groundwater was not burdened by the necessities and limitations which have long defined surface water projects: their dams, reservoirs, canals, and laterals; their high capital costs; their need for corporate coordination; and perhaps most importantly, the longstanding structures of water rights, state regulation, and federal supervision.

Groundwater irrigators exploited these advantages, and in the process have generated a distinct and powerful political culture, one that is also inseparable from their water supply. They are dispersed across regional aquifers, rather than nucleated around surface water projects. They are comparatively impermanent, even as they are closely connected to their local economies, which are dominated

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34. See *supra* text accompanying note 24.

35. For example, see NAT'L RESEARCH COUNCIL, A NEW ERA FOR IRRIGATION (1996); and HUNDLEY, *supra* note 9, at 69–75, describing the political culture of miners during the California Gold Rush.



by the irrigation of feed crops for beef and dairy cattle. Because groundwater irrigators depend upon their individual and legally independent wells, groundwater irrigation communities are defined by a common aversion to regulation, rather than by a common water-supply system. They are dubious, rather than defensive, about the merits of established western water law. Perhaps most importantly, they are pressured between two incontrovertible but incompatible facts—that of groundwater's present economic dominance, and that of its permanent depletion. Protective of their individual access to water and of their local control over water regulation, groundwater irrigation communities perceive their interests as distinct and generally incompatible with state control, and as separate from the concerns of the public beyond their own water neighborhoods. State governments, water agencies, and the public have often returned the favor, by providing politically unacceptable proposals to stem excessive groundwater pumping.<sup>36</sup>

Part III of this Article describes an especially revealing theater of the conflict between surface-water and groundwater irrigation communities: the basin of the Republican River, a quintessential Great Plains river whose tributaries and mainstem gather groundwater supplies across northeastern Colorado, southern Nebraska, and northern Kansas. Since the 1980s, the conflict has manifested itself most prominently at the interstate level, as Kansas has twice sued Nebraska to enforce the Compact. The first case (1998–2003) resolved that the states would have to account for the effects of groundwater pumping on their respective Compact allocations; and the states, with important technical assistance from the United States, developed a groundwater model to calculate those effects and to assist in Compact accounting.<sup>37</sup> Kansas brought the second case in 2010, to enforce the Compact against Nebraska's noncompliance in 2005 and 2006. The Court resolved that case by awarding Kansas monetary damages for Nebraska's noncompliance, but also by ordering a modification of the accounting that Nebraska had sought; both Kansas and Nebraska could claim partial victories in the interstate litigation.<sup>38</sup>

Yet to focus on the high level of Supreme Court litigation is to miss the larger, lower, but more important legal landscape, one dominated by Nebraska's policy to comply with the Compact by subordinating its surface-water irrigation communities to those which depend upon groundwater. Groundwater irrigation communities in Colorado and Nebraska have taken control of the relevant water law and policy in their portions of the Basin, largely to forestall forced reductions in groundwater pumping. That policy has produced a situation where the political boundaries between the compacting states have begun to matter less than the operative legal and hydrological boundaries between surface water and groundwater. Irrigators' allegiances to their parent state are becoming less important than their connection to their water supply.

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36. See John C. Peck, *Property Rights in Groundwater: Some Lessons from the Kansas Experience*, 12 KAN. J. L. & PUB. POL'Y 493, 501, 505–06 (2002) (describing how political opposition to sustainability killed the “two-pool approach” espoused by the Kansas Water Office in 2001).

37. Final Report of the Special Master with Certificate of Adoption of RRCA Groundwater Model at 6–7, *Kansas v. Nebraska*, 538 U.S. 720 (Sept. 17, 2003) (No. 126, Orig.) [hereinafter Final Report].

38. *Kansas v. Nebraska*, 135 S. Ct. 1042, 1057, 1059–64 (2015).

Threatened and vulnerable, surface-water irrigation communities are looking beyond their state governments to find other means to protect themselves. During the Supreme Court litigation, Nebraska surface-water irrigation interests supported Kansas and its surface-water irrigators. At the same time, they have engaged in multiple lawsuits against Nebraska to obtain relief from its compliance approach, which they believe threatens their very existence. Reclamation has consistently announced its disapproval of Nebraska's approach, but it has yet to defend its irrigation districts in court. Since the interstate litigation concluded in 2015, the Republican River Compact Administration (RRCA) has worked to resolve some of the causes of the interstate dispute, but its peacemaking is transforming the operation of the Compact itself. The Compact was originally intended as a means to secure Reclamation irrigation and flood-control projects for the compacting states, consistent with both the principles of cooperative federalism and the purposes of Reclamation itself. Yet as groundwater pumping has increasingly dominated the Basin, the states' administration of the Compact has taken a distinctly anti-federal turn, and the RRCA has achieved interstate comity largely by opposing Reclamation. As a consequence, surface water irrigators within the Basin, but especially Nebraska, find themselves caught between two hostile parents: the state-law compliance policies of their parent states, which they must obey, and Reclamation's response to these policies, upon which they depend.

## I. SURFACE WATER IRRIGATION COMMUNITIES AND THEIR POLITICAL CULTURE

### A. Western Peculiarity and the Prior Appropriation Doctrine

The political culture of Great Plains surface-water irrigation communities begins with their claim to water, and that claim is rooted in a longstanding sensibility about how westerners should govern their water supplies—primarily through the prior appropriation doctrine. The doctrine combines the rule of capture with the rule of priority. Under the rule of capture, a person who diverts and captures unclaimed water from its source and puts that water to a recognized beneficial use obtains a property interest in the use of that water, a water right.<sup>39</sup> A prior appropriation right may be severed from the riparian or other water-bearing land from which the water is diverted, allowing the water to be used elsewhere. Under the rule of priority, first in time is first in right. In dry years, there is no equitable sharing of a water shortage—as there is in the eastern doctrine of riparian rights—because this sharing would make all users so short of water that no one could make productive use of his share.<sup>40</sup> Rather, a senior water right receives its full allocation before a junior right receives any. Prior appropriation rights can be conveyed separately from appurtenant land, and the priority of the right transfers with the conveyance.<sup>41</sup>

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39. For an early explanation of the rule of capture applied to water, see *Acton v. Blundell* (1843) 152 Eng. Rep. 1223; 12 M. & W. 324 (Exch. Chamber).

40. *Armstrong v. Larimer County Ditch Co.*, 27 P. 235, 237 (Colo. App. 1891).

41. See, e.g., KAN. STAT. ANN. § 82a-701(g) (2015).

This is not the place, and this place lacks the space, to provide an extended history of the general doctrine.<sup>42</sup> That is just as well. Most readers of the *Journal* are probably familiar with the doctrine and with the longstanding debates over its efficacy and worth.<sup>43</sup> The doctrine also varies significantly in its application across the Great Plains states, which undercuts the utility of an extensive treatment of the general doctrine anyway.<sup>44</sup> For the purposes of this article, three aspects of the doctrine require emphasis.

First, the prior appropriation doctrine largely derives from the widely held belief that the West was a peculiar place. Western territories were established with the assumption that they would be best governed through the received Anglo-American common law.<sup>45</sup> With water, however, such a belief was turned on its head. Prospectors entering the Sierra Nevada foothills of Alta California in the 1840s were soon understood to be entering a wilderness bereft of law, an act which “was itself a breach of precedent. They left behind them much of the established law of real property.”<sup>46</sup>

The peculiarity of the West’s natural conditions affirmed its historical peculiarity, further undercutting Anglo-American legal precedents founded upon received assumptions of plentiful, accessible water supplies. It is a well-known fact that the West’s severe aridity effectively prohibits agriculture without irrigation; the region’s meteorological and topographical conditions make matters worse.<sup>47</sup> In the mountains and their foothills, most annual precipitation falls as snow, which typically melts into spring torrents too early for use during the West’s shorter growing season.<sup>48</sup> On the Great Plains, precipitation occurs mostly during the growing season, but sporadically and variably, posing similar problems for making

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42. For older surveys of the development of the prior appropriation doctrine, see MEAD, *supra* note 1 (a largely critical treatment from a water management perspective); SAMUEL C. WIEL, *WATER RIGHTS IN THE WESTERN STATES* (1905); for more recent surveys, see DONALD J. PISANI, *TO RECLAIM A DIVIDED WEST: WATER, LAW, AND PUBLIC POLICY, 1848–1902* (1992); 1 WELLS A. HUTCHINS, *WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 226–650* (1971); HUNDLEY, *supra* note 9, at 60–63.

43. See, e.g., David H. Getches, *The Metamorphosis of Western Water Policy: Have Federal Laws and Local Decisions Eclipsed the States’ Role?* 20 STAN. ENVTL. L. J. 3 (2001) (focusing on federal environmental law and state law modifications to the doctrine); Gregory J. Hobbs, Jr., *Priority: The Most Misunderstood Stick in the Bundle*, 32 ENVTL. L. 37 (2002) (defending the utility of the doctrine largely based on federal environmental law and Colorado state court decisions); Reed D. Benson, *Alive but Irrelevant: The Prior Appropriation Doctrine in Today’s Western Water Law*, 83 U. COLO. L. REV. 675, 690–704 (2012) (discussing an assortment of state law cases).

44. Compare NEB. CONST. ART. XV, § 6 (1920) (explicitly espousing a use hierarchy and protecting certain uses above others, a hierarchy which has been repeatedly enforced) and *In re 2007 Administrations of Appropriations of Niobrara River*, 820 N.W.2d 44 (Neb. 2012), with KAN. STAT. ANN. § 82a-707(b) (appearing to state a use hierarchy, but repudiating it at the same time).

45. See e.g., Act of 1855, ch. 96, Kan. Sess. Laws 469; Act of Mar. 16, 1855, 1855 Neb. Laws 328 (adopting the common law of England in the territories of Kansas and Nebraska).

46. WIEL, *supra* note 42, at 2.

47. Powell, *supra* note 10, at 12–13; MEAD, *supra* note 1, at 14–15.

48. MEAD, *supra* note 1, at 48.

effective use of the rains that do fall.<sup>49</sup> Topographically, the West's greatest water supplies are stored in mountain snowpack distant from the lower, fertile, and more temperate lands which are most amenable to cultivation.<sup>50</sup>

These historical and natural peculiarities raised hard and “novel questions” for the courts, which struggled to apply the riparian doctrine to conflicts growing out of the “peculiar enterprises in which many of the people of this state are embarked”—most prominently placer mining, which required that water be diverted away from streams and rivers and put to use elsewhere.<sup>51</sup> In working these water-intensive mining claims, usually beyond the reach of state and federal authorities, miners had applied mining customs to water: the first to divert and use water from a stream had an exclusive right to use that water, even if the site of that use was distant from the point of diversion.<sup>52</sup> These rules clearly conflicted with common law riparianism, especially its requirement that water be used on the site of its diversion, thus prohibiting severance of the water right's place of use from its point of diversion. Because the riparian doctrine frustrated the beneficial use of water in much of the West, its legitimacy went increasingly unrecognized.

The combined force of these peculiarities eventually convinced the courts. In 1855, the case of *Irwin v. Phillips* provided a convenient opportunity to do so. Like earlier cases, it pitted a riparian landowner against a prior appropriator; but because the conflict took place on public land, the California Supreme Court did not consider itself to be constrained by riparian statutes nullifying the legal effect of the miners' customs.<sup>53</sup> That opening allowed the court to give those customs the sanction of the common law. Stressing a common law maxim—that “courts are bound to take notice of the political and social condition of the country, which they judicially rule”—the court then departed from common law riparianism. It held that the right of the prior appropriator to divert water from a stream, convey it to another site, and use it there was a superior claim to that of a rival whose land bordered the stream, and who would otherwise have prevailed as a riparian owner under the common law.<sup>54</sup> As it had in *Eddy v. Simpson*, the court stressed “the peculiar condition” of the mining camps and their legal customs, which recognized and protected property rights in an orderly and fair manner.<sup>55</sup> Just two years after

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49. H.A. RICE & ROGER C. RICE, U.S. GEOLOGICAL SURVEY, *THE RELATION OF THE KANSAS WATER COMMISSION TO THE FLOOD PROBLEM OF KANSAS* 9 (1918) (precipitation over the Kansas portion of the Great Plains is of the “plains type,” which mostly falls during the growing season).

50. MEAD, *supra* note 1, at 70–71.

51. *Eddy v. Simpson*, 3 Cal. 249, 253 (1853).

52. WIEL, *supra* note 46, at 2–4; HUTCHINS, *supra* note 42, at 164.

53. *Irwin v. Phillips*, 5 Cal. 140, 146 (1855). This finding drew the accusation of judicial activism, and the court later defended itself against this charge by explaining that taking judicial notice of local customs was an established precept of the very common law the legislature had statutorily adopted at statehood. See *Conger v. Weaver*, 6 Cal. 548 (1856).

54. *Irwin*, 5 Cal. at 146.

55. *Hoffman v. Stone*, 7 Cal. 46, 48 (1857). The Supreme Court of the United States later agreed, blessing the pioneers as “emphatically the law-makers, as respects mining, upon the public lands in this State.” *Jennison v. Kirk*, 98 U.S. 453, 457–58 (1879).

*Irwin*, the California Supreme Court stated that the doctrine had become “too long settled to admit of any doubt or discussion at this time.”<sup>56</sup>

The confidence of such a judicial statement raises the second relevant aspect concerning prior appropriation: it enjoyed the status of an established, legitimate, and widely recognized custom and practice well before the courts accepted it. Across the West, the prior appropriation doctrine rapidly attained the status of official legal orthodoxy with similar rapidity. Federal mining legislation enacted soon after the Civil War expressly protected water rights obtained under the doctrine.<sup>57</sup> The 1859 Gold Rush brought the doctrine to Colorado, where it soon collided with pre-existing water doctrines, especially in the San Luis Valley, which had been settled by Spanish-American and Mormon farmers irrigating from the Rio Grande since the 1840s.<sup>58</sup> Spanish and Spanish-American water law allocated short water supplies according to need, rather than temporal priority.<sup>59</sup> Mormon legal customs assumed collective rather than individual rights to use water.<sup>60</sup> In 1861, the territorial legislature endorsed the principle of rotating water rights in times of shortage.<sup>61</sup> It also made water rights inseparable from the appurtenant land, raising the same doctrinal conflict which had recently been resolved in California by *Irwin v. Phillips*.<sup>62</sup>

Colorado enshrined the prior appropriation doctrine in its constitution at statehood in 1876, protecting water rights so secured; but because the constitutional provisions did not repudiate the earlier riparian doctrines, the potential for doctrinal conflict remained.<sup>63</sup> The claims of a riparian landowner (and appurtenant water user) whose land patent preceded the diversion claims of a prior appropriator might still prevail.<sup>64</sup> Concerned to protect the water rights of irrigation companies secured by prior appropriation, the Colorado Supreme Court repudiated riparianism in 1882.<sup>65</sup> Specifically, it discredited the issue of doctrinal pluralism prior to 1861. Prior appropriation was the exclusive rule in Colorado, not only because the state constitution recognized it, but also because it had “existed from the date of the

56. *Hill v. King*, 8 Cal. 336, 338 (1857). Advocates for common law riparianism vigorously contested *Irwin*. See *Crandall v. Woods*, 8 Cal. 136, 141–42 (1857). However, later cases failed to overturn *Irwin*. See, e.g., *McDonald v. Bear River Co.*, 13 Cal. 220 (1859); *Logan v. Driscoll*, 19 Cal. 623 (1862).

57. See, e.g., Mining Act of 1866, ch. 262, § 9, 14 Stat. 253 (codified at 30 U.S.C. § 51); Placer Act of 1870, ch. 235, § 17, 16 Stat. 218, (codified at 30 U.S.C. § 52).

58. VIRGINIA MCCONNELL SIMMONS, *THE SAN LUIS VALLEY: LAND OF THE SIX-ARMED CROSS* 219–224 (2nd ed. 1999).

59. MICHAEL C. MEYER, *WATER IN THE HISPANIC SOUTHWEST: A SOCIAL AND LEGAL HISTORY, 1550–1850*, at 20–23, 147–64 (1996); see also JOHN O. BAXTER, *DIVIDING NEW MEXICO’S WATERS, 1700–1912* (1997).

60. MEAD, *supra* note 1, at 42–44, 233.

61. *Id.* at 144.

62. See Act of Nov. 5, 1861, 1861 Colo. Sess. Laws 67, § 1; Act of Aug. 15, 1862, 1862 Colo. Sess. Laws 48, § 13. Mead noted the 1861 laws that required water rights to be permanently fixed to the lands where they were used; similar laws were adopted in Wyoming in 1876. See MEAD, *supra* note 1, at 83.

63. COLO. CONST. art. XVI, §§ 5, 6 (1876)

64. *Lux v. Haggin*, 10 P. 674 (Cal. 1886).

65. *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443, 447 (1882).

earliest appropriations of water within the boundaries of this state.”<sup>66</sup> Conjectural history proved to be as powerful in Colorado as it had been in California: in a territory “without law,” each prospector “brought with him the principles of equity and justice,” establishing the rules of prior appropriation, which later corporations and settlers would eventually recognize.<sup>67</sup> Influenced by these precedents, Kansas recognized prior appropriation in 1876.<sup>68</sup> Nebraska followed in 1889 and incorporated the doctrine in its constitution by amendment in 1920.<sup>69</sup>

Ethnic conflict between Anglo-Americans and Spanish Americans, as well as the cultural imperialism of Anglo-American common law, certainly played a role in the triumph of prior appropriation, especially on the upper Rio Grande.<sup>70</sup> That underscores the third relevant aspect concerning prior appropriation: a powerful justification for the doctrine was that of reliance. The dominant irrigation culture of the West in 1885 or so—Anglo-American surface-water irrigation interests—had invested heavily in water rights secured under the doctrine, and had constructed reservoirs and irrigation and delivery systems which depended on the doctrine’s swift deployment during times of water shortage. Frank Trelease memorably wrote that in the West, “priority is equity,” as opposed to the methods of equitably apportioning short supplies under riparian doctrines.<sup>71</sup> Wider notions of fairness and the contemporary political context also played important roles, supplementing the historical, meteorological, and topographical arguments for prior appropriation. Given the politically powerful concerns about land and water monopolies, appropriation rights became severable from land.<sup>72</sup> Given the need for diligence and concerns about speculation, water rights became subject to abandonment.<sup>73</sup>

Yet there is that other equity, defined not as fairness but as capital investment, which was arguably more compelling. Given the difficulty and expense

66. *Id.* at 446. For a fuller discussion of this apparent contradiction, see Gregory A. Hicks & Devon G. Peña, *Community Acequias in Colorado’s Rio Culebra Watershed: A Customary Commons in the Domain of Prior Appropriation*, 74 U. COLO. L. REV. 387, 400 (2003).

67. *Armstrong v. Larimer County Ditch Co.*, 27 P. 235, 237 (Colo. App. 1891).

68. Act of Mar. 4, 1876, ch. 58, 1876 Kan. Sess. Laws 153.

69. Act of Mar. 27, 1889, ch. 68, 1889 Neb. Laws 503; NEB. CONST. art. XV, § 6 (1920) (“The right to divert unappropriated waters of every natural stream for beneficial use shall never be denied except when such denial is demanded by the public interest”).

70. See MALCOLM EBRIGHT, *LAND GRANTS & LAWSUITS IN NORTHERN NEW MEXICO* 11–54 (1994).

71. Frank J. Trelease, *State Water and State Lines: Commerce in Water Resources*, 56 U. COLO. L. REV. 347, 349 (1985).

72. DAVID SCHORR, *THE COLORADO DOCTRINE: WATER RIGHTS, CORPORATIONS, AND DISTRIBUTIVE JUSTICE ON THE AMERICAN FRONTIER* 104–38 (2012). Mead opposed severability, on the grounds that it promoted speculation and monopoly. See MEAD, *supra* note 1, at 290. For the parallel problem of split estates in land and water rights, see *infra* text accompanying note 99.

73. SCHORR, *supra* note 72, at 116–17. Without appropriation and use, there is no industry, and so the right disappears; this is the logic behind the so-called “use it or lose it” principle, which holds that unused rights are forfeited or abandoned. See e.g., KAN. STAT. ANN. § 42-308 (2012) (rights not used for three years forfeited). Modern abandonment statutes are less severe. See *id.* § 82a-718 (2015) (rights not used for five years “without due and sufficient cause” deemed abandoned, but multiple and lenient exceptions exist to prevent forfeiture); see also *Frick Farm Props. v. Kansas Dept. of Agric.*, 190 P.3d 983 (Kan. Ct. App. 2008).

of diversion works, the law needed to afford clear and immediate protections to senior rights during times of shortage. Given the distance between upstream storage reservoirs and downstream irrigation and municipal uses, storage rights and irrigation ditches required legal protections and privileges.<sup>74</sup> Buyers and sellers also relied also on the very numeracy of prior appropriation. The priority date of a water right transferred with its sale; and quantified diversion amounts provided (or at least appeared to provide) values not necessarily available under the riparian doctrine's reasonableness approach.<sup>75</sup> Courts could employ these numbers in assessing damages for unauthorized or out-of-priority diversions; buyers and sellers could use them (along with the priority of the right) to measure the right's worth. Constitutional provisions and statutory enactments did not introduce the doctrine but rather recognized it, acknowledging its political and cultural authority, and the imperative need to protect the property rights it had secured.

### B. Irrigation, Disposition, and Reclamation

During the second half of the nineteenth century, surface-water irrigation communities developed across the Great Plains. In Colorado, that development began along the South Platte and the Cache la Poudre Rivers, assisted by favorable conditions on the Front Range.<sup>76</sup> In 1870, the Union Colony's Greeley Irrigation Company began its community irrigation system, which watered thirty thousand acres along the Cache la Poudre. Similar projects developed along the South Platte and Arkansas Rivers. By 1884, Colorado had developed more than a million acres of irrigated land.<sup>77</sup> In western Kansas, the five main irrigation canals on the Arkansas River had been developed by the 1880s, irrigating approximately 65,000 acres.<sup>78</sup> Surface-water irrigation communities also sprang up in the valleys of more remote basins, such as the North Fork Republican River in Colorado, the South Platte in Nebraska, and even the Cimarron River Valley in southwestern Kansas.<sup>79</sup>

Prior appropriation gained legal approval largely through a benevolent view of how miners and irrigators created property rights in water beyond the grasp of government.<sup>80</sup> The disposition of the public domain over the same period reveals a darker aspect to how claimants obtained water rights within government—especially the federal government's ham-fisted attempts to promote irrigation by granting millions of acres of public land on unrealistic terms.

74. MEAD, *supra* note 1, at 290-91 (discussing Nebraska).

75. *Id.* at 145-59 (describing quantifiability problems in Colorado).

76. *Id.*, at 63.

77. *Id.* at 144.

78. JAMES EARL SHEROW, *WATERING THE VALLEY: DEVELOPMENT ALONG THE HIGH PLAINS ARKANSAS RIVER, 1870-1950*, at 79-92 (1991). Irrigation districts in western Kansas and Nebraska also enjoyed substantial legal privileges. *See, e.g.*, Act of Feb. 27, 1866, ch. 57, 1866 Kan. Sess. Laws 124-38; Act of Mar. 6, 1923, ch. 144, 1923 Kan. Sess. Laws 205; Act of Feb. 19, 1877, 1877 Neb. Laws 168 (classifying canals as internal improvements and granting irrigation corporations the power to condemn rights of way).

79. *See* Erasmus Haworth, *Underground Waters of Southwestern Kansas*, in *WATER SUPPLY AND IRRIGATION PAPERS OF THE UNITED STATES GEOLOGICAL SURVEY NO. 6*, at 62-63 (1897).

80. *See supra* text accompanying notes 53-56 and 65-66.

The first tranche of federal disposition acts did not concern water directly. The Preemption Act<sup>81</sup> and the Homestead Act<sup>82</sup> provided for land patents to settlers from the United States, while railroad disposition acts used railroad companies as intermediaries.<sup>83</sup> Irrigation was not a necessary condition for patents under these acts; but land so obtained did enable homesteaders to secure water rights under state law. Given aridity and federal incentives such as the Timber Culture Act (1873), these federal acts indirectly promoted appropriation claims by increasing the demand for water across the West.<sup>84</sup>

The second tranche placed irrigation at the center of federal disposition. The Desert Land Act (1877) granted right of entry on condition of three years of irrigation, but invited fraud by not requiring proof of actual cultivation.<sup>85</sup> It set arbitrary boundaries, enabling claimants to secure state law-based appropriation rights in some states but not others.<sup>86</sup> And it granted far too much land—640 acres on top of the other claims available to the homesteader.<sup>87</sup> This was far more land than any settler could cultivate, much less irrigate. Speculation soon displaced settlement, and fraud and failure delivered most holdings into the portfolios of corporations. Ninety-five percent of the final proofs of irrigation and settlement under the Desert Land Act were fraudulent.<sup>88</sup>

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81. Preemption Act of 1841, ch. 16; 5 Stat. 453 (1841) *repealed by* Land Revision Act of 1891, ch. 561, 26 Stat. 1095.

82. Homestead Act of May 20, 1862, 43 U.S.C. §§ 161–164, *repealed by* Act of Oct. 21, 1976, Pub. L. No. 94-579, 90 Stat. 2787.

83. See, e.g., WILLIS DRUMMOND, JR., *Land Grants in Aid of Internal Improvements*, in *THE ARID LANDS*, *supra* note 10, at 178–95. In Kansas, grants to railroads amounted to more than eight million acres, roughly halved between direct federal grants to the railroads and federal grants to Kansas for subsequent transfer to the railroads—nearly one-sixth the area of the state as a whole. HOMER E. SOCOLOFSKY & HUBER SELF, *HISTORICAL ATLAS OF KANSAS* 31 (2d. ed. 1988).

84. The Timber Culture Act of 1873, Pub. L. No. 42-277, 17 Stat. 605c, sought to humidify the Great Plains by allowing settlers to obtain 160 additional acres on the condition that they plant trees on at least 40 of them. It was sponsored by Senator Phineas W. Hitchcock of Nebraska, and predicated on the belief that “as civilization extends westward, the fall of rain increases from year to year.” See Robert Manley, *Land and Water in 19th Century Nebraska*, in *FLAT WATER: A HISTORY OF NEBRASKA AND ITS WATER* 17 (Charles A. Flowerday ed. 1993) (quoting Samuel Aughey, a professor of natural sciences at the University of Nebraska in 1873, and “Nebraska’s foremost scientific promoter”).

85. Act of Mar. 3, 1877, ch. 107, 19 Stat. 377; see also 43 U.S.C. § 321 (2012). The act still defines “desert land” as “all lands exclusive of timber lands and mineral lands which will not, without irrigation, produce some agricultural crop,” a fact ascertained either by the sworn testimony of two credible witnesses or the secretary of the interior or his designee. See 43 U.S.C. § 322 (2012). The vague and ambiguous language made fraud inevitable and has been repeatedly ridiculed by all commentators.

86. See Act of Mar. 3, 1877, ch. 107, 19 Stat. 377; see also 43 U.S.C. § 322. While Colorado fell within the Desert Land Act’s scope in 1891, Kansas and Nebraska never did, even though the western regions of these two states have basically the same climate as eastern Colorado. See Act of Mar. 3, 1891, ch. 561, 26 Stat. 1095, 1097.

87. After 1877, a patentee could use the Preemption, Homestead, Timber Culture, and Desert Land Acts to obtain 1,120 acres—nearly two sections, more than half of that allegedly irrigated. Chastened, Congress restricted the Desert Land Act to 320 acres and repealed the Preemption and Timber Culture Acts. See Act of Mar. 3, 1891, ch. 561, 26 Stat. 1095, 1097.

88. MEAD, *supra* note 1, at 17; MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* 44 (New York: Penguin Books rev. ed. 1993).



The Carey Act (1894) sought to reform these flaws. It made between one and three million acres of federal land available to the western states on the condition that the receiving state, whether directly or through private companies, develop irrigation canals and works; the state would then sell off the irrigated land in quarter sections.<sup>89</sup> Unfortunately, it adopted the same arbitrary, state-line boundaries as its infamous predecessor, the Desert Land Act, and likewise had no provisions for constructing irrigation works in western states with less unclaimed public land.<sup>90</sup> The act sought to reduce speculation by requiring that water rights be attached to the irrigated land, and it promoted better irrigation projects by requiring the state to supervise their design and construction.<sup>91</sup> These improvements had limited success in Wyoming, Idaho, and Utah, but most projects failed because the Carey Act's reforming initiatives—especially its virtue of appurtenance—were too costly.<sup>92</sup> Irrigators faced mortgages that combined their land purchases with the high costs of developing the irrigation project, and few could make their payments.<sup>93</sup>

By 1900, most of the West's land had been claimed—and thanks to the laws of western water and federal disposition, more than ten times its water supply.<sup>94</sup> The federal disposition acts were predicated on a largely Jeffersonian, and therefore a largely Lockean, vision of the pioneers as yeoman farmers, creating society out of the desert wilderness through their individual industry, civic virtue, and pluck.<sup>95</sup> But individual initiative was almost never enough to produce viable irrigation. As Mead described the Desert Land Act, “[i]f there was an independent water supply for each 320 acres, or if every man's canal could begin and end on his own land, then this law would be an admirable institution,” but no such situation existed.<sup>96</sup> Corporate initiatives could and did work. They worked in the Mormon colonies on the Wasatch Front in Utah, in the utopian cooperatives and irrigation colonies along the Cache la Poudre in Colorado, and in irrigation projects without

89. See Act of Aug. 18, 1894, ch. 301, 28 Stat. 372, 422; see also 43 U.S.C. §§ 641–48 (2012).

90. The Carey Act excluded Kansas and Nebraska, but included Colorado. See 43 U.S.C. § 645 (2012). Colorado was allowed up to two million acres, including the treaty lands formerly held by the Uncompahgre and White River Utes. See 43 U.S.C. §§ 645, 647; see also Act of Aug. 21, 1911, 37 Stat. 38–39; Act of Feb. 24, 1909, ch. 178, 35 Stat. 644; Act of Mar. 1, 1907, ch. 2922, 34 Stat. 1056. Nevada was allowed two million acres. See 43 U.S.C. § 645; Act of Mar. 4, 1911, ch. 285, 36 Stat. 1417. Wyoming was also allowed up to two million acres. See 43 U.S.C. § 645; Act of May 27, 1908, ch. 200, 35 Stat. 347. Idaho was allowed up to three million acres. See 43 U.S.C. § 645; Act of May 25, 1908, 35 Stat. 577 (1908); Act of May 27, 1908, ch. 200, 35 Stat. 347. Arizona and New Mexico became eligible for Carey Act grants in 1909. See 43 U.S.C. § 646; Act of Feb. 18, 1909, ch. 150, 35 Stat. 638.

91. 43 U.S.C. § 641.

92. MEAD, *supra* note 1, at 24–27. Mead's optimistic view of Carey Act projects in Wyoming was based on his appreciation for the state's administrative regulations for water in general, which he largely authored. *Id.* at 247–74.

93. *Id.* at 345. Corruption was almost certainly a factor in this distress. See Transcript of Remarks of Spencer L. Baird, Attorney for the Bureau of Reclamation, at Conference of the Governor's Committee on the Appropriation of Water in Kansas, Topeka, October 16–17, at 6 (1944) (on file with the author).

94. MEAD, *supra* note 1, at 145–59 (regarding Colorado).

95. SCHORR, *supra* note 72, at 156–57.

96. MEAD, *supra* note 1, at 22.

such utopian ends.<sup>97</sup> They worked in the handful of projects that succeeded under the Carey Act. Yet on the whole, the success of these enterprises owed little to federal acts of disposition.

Despite federal support, large-scale irrigation across the Great Plains faced three difficult obstacles. The first concerned the legal structure of ownership: land titles derived from the federal government, but water rights came from the states. The result was a split estate, where one party, often an irrigation company, held the water rights under state law, while another party, usually the homesteader or an assignee, obtained the federal land patent.<sup>98</sup> In contrast to those who promoted the severability of a water right from its appurtenant land, Powell and Mead stressed that split estates had promoted water monopolies and other speculative abuses, and that successful irrigation required combining land titles with water rights.<sup>99</sup>

But overcoming this obstacle produced a second one: private irrigation companies usually lacked the engineering and financial resources to build effective irrigation projects, even under the Carey Act.<sup>100</sup> Successful projects needed experts to design and build them on a large and efficient scale, and they required financing on a scale that could insulate irrigators from speculative pressures to sever their water rights.<sup>101</sup>

The final obstacle was the doctrine of prior appropriation itself. It had produced vague, mistaken, and grossly excessive claims to water, far more than western streams could provide even in wet years.<sup>102</sup> Because many reservoirs had storage water rights that were junior to most of the irrigation rights on a stream, prior appropriation made it difficult to store water in dry years, when it was most needed and valuable.<sup>103</sup> Lawyers and litigation discredited the doctrine's founding justifications—that it established clear and quickly enforceable property rights, and that it was well suited to manage western waters for orderly irrigation.<sup>104</sup> Yet by 1900, the doctrine was deeply anchored in state law, and millions of acres of irrigated land relied upon it.

Driven by the belief that only federal supervision could resolve these obstacles, Congress responded with the Reclamation Act of 1902.<sup>105</sup> It made the federal government, through the newly created Reclamation Service, the creditor, designer, and builder of large-scale irrigation projects. Federal financing came from a fund generated by the sale of public lands. The act directed the Secretary of the Interior to survey, locate, and build irrigation projects and then open these

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97. Powell, *supra* note 10, at 21. Mead stressed that the success of private irrigation projects in Colorado and Utah was largely due to the favorable conditions of the Front Range and the Wasatch Front respectively, which enabled irrigators to build small-scale projects at low cost. MEAD, *supra* note 1, at 63.

98. The potential conflict between federal and state law worried Mead as much as the split estate itself. MEAD, *supra* note 1, at 62.

99. *Id.* at 22–23; Powell, *supra* note 10, at 53–55.

100. SHEROW, *supra* note 78, at 79–92; MEAD, *supra* note 1, at 310 (regarding Idaho).

101. MEAD, *supra* note 1, at 19, 27. *See also infra* text accompanying note 107.

102. *Id.* at 145–59 (regarding Colorado).

103. *Id.* at 169–71.

104. *Id.* at 299, 307.

105. Reclamation Act of 1902, ch. 1093, 32 Stat. 388 (codified in part at 43 U.S.C. §§ 372, 383 (2006)).

improved public lands to settlement under the homestead laws. Resident farmers would irrigate small tracts whose water supply was ensured by federal projects; they would then repay the government for its investment at heavily subsidized rates. Through this structure (which was also applied to private, already-settled lands), Reclamation's finance and design would resolve the problems of undercapitalized and poorly designed projects. As for the speculative dangers of severable water rights, the split estate, and prior appropriation, the act required water rights for Reclamation projects to be fused with land and explicitly devoted to irrigation.<sup>106</sup> Supreme in finance, expertise, and law, Reclamation would establish and protect irrigation communities across the West.<sup>107</sup>

That was the plan, at least; but Reclamation's technocratic and federal formula generated immediate opposition from western states. As both the governance limitations and the water-management shortfalls of local and state-based systems had become apparent during the 1890s, irrigation experts had divided into two general camps. The first camp consisted of what might be called irrigation federalists, who generally championed Reclamation: Powell, Mead, and Frederick Newell, the first chief of the Reclamation Service (renamed the Bureau of Reclamation in 1923). Their advocacy for interstate, basin-based irrigation projects undergirded bold federal claims both to unappropriated water supplies and of federal jurisdiction during the first decades of the twentieth century. To protect unappropriated water supplies for subsequent downstream use, the Department of Interior (Interior) imposed embargoes against Colorado on the Upper Rio Grande, against Wyoming on the North Platte River, and against Arizona on the Salt River, preventing upstream water appropriations on the public domain.<sup>108</sup> The second camp, led by anti-federalists such as Delph Carpenter, understandably viewed these federal water claims as invasions of the western states' sovereign right to control their water supplies.<sup>109</sup>

The conflict between federalists and anti-federalists played a critical role during the seminal period of interstate water litigation between 1902 and 1945.<sup>110</sup>

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106. *Id.* § 8 (codified in part at 43 U.S.C. § 372 (2006)). In this regard, the Reclamation Act follows the Carey Act, which also requires appurtenance: *see supra* text accompanying note 91.

107. Between politics and the realities of financing reclamation projects, the act has been regularly and significantly amended. The standard legal discussion of the Reclamation Act is Amy K. Kelley & Reed D. Benson, *Federal Reclamation Law*, in 2 *WATERS AND WATER RIGHTS* § 41 (Amy K. Kelley ed., 3d ed. 2015). *See also* Joseph Sax, *Selling Reclamation Water Rights: A Case Study in Federal Subsidy Policy*, 64 *MICH. L. REV.* 13 (1965); Kelley, *supra* note 30; LAWRENCE J. MACDONNELL, *FROM RECLAMATION TO SUSTAINABILITY: WATER, AGRICULTURE, AND THE ENVIRONMENT IN THE AMERICAN WEST* (1999); Benson, *supra* note 30.

108. DOUGLAS R. LITTLEFIELD, *CONFLICT ON THE RIO GRANDE: WATER AND THE LAW, 1879–1939*, at 170–74, 183–87 (2008); *see also* Donald J. Pisani, *State vs. Nation: Federal Reclamation and Water Rights in the Progressive Era*, in *WATER, LAND AND LAW IN THE WEST: THE LIMITS OF PUBLIC POLICY, 1850–1920*, at 38–49 (1996).

109. *See* DANIEL TYLER, *SILVER FOX OF THE ROCKIES: DELPHUS E. CARPENTER AND WESTERN WATER COMPACTS 4–9*, 75–76 (2003).

110. Relevant cases decided in this period include: *Kansas v. Colorado*, 206 U.S. 46 (1907) (representing a decision in litigation that lasted from 1902 through 1907); *Colorado v. Kansas*, 320 U.S. 383 (1943); *Wyoming v. Colorado*, 259 U.S. 419 (1922) (representing litigation that lasted from 1911 through 1940); *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938); *Nebraska v. Wyoming*, 325 U.S. 589 (1945).

Indeed, while most of these suits were formally cast as conflicts between states, the conflict over the federal government's role in interstate water management figured prominently. Consistent with Interior's embargoes, Reclamation asserted the legal right to all unappropriated water in the Arkansas River Basin during *Kansas v. Colorado* (1902–1907),<sup>111</sup> and made the same claim on the North Platte River Basin as late as 1945, in *Nebraska v. Wyoming*.<sup>112</sup> Understandably alarmed, Colorado asserted sovereign ownership over all of the waters originating in the state during the same period; moreover, it claimed, all of the waters of the Arkansas River had been claimed by Colorado appropriators, leaving none for Kansas.<sup>113</sup> Colorado made similar claims in *Wyoming v. Colorado*.<sup>114</sup> Kansas made its own uncompromising claim upon a different doctrinal basis: its riparian doctrine entitled it to the full flows of the Arkansas River.<sup>115</sup>

The decisions in these cases made clear the Court's powers to apportion interstate rivers, but they produced uneven results. The Court's 1907 assertion of its powers to equitably apportion interstate rivers in *Kansas v. Colorado* did not actually produce an apportionment decree.<sup>116</sup> (Nor did its subsequent decision regarding the Arkansas River in 1944.<sup>117</sup>) But the Court's interstate application of the prior appropriation doctrine in *Wyoming v. Colorado* (1922) did produce a decree—to the great alarm of upper-basin states, especially in the Colorado River Basin.<sup>118</sup>

To protect their waters from federal incursion by judicial apportionment and from claims based on prior appropriation and development by downstream states, western states negotiated early interstate compacts, most notably the Colorado River Compact (1922) and the La Plata River Compact (1925).<sup>119</sup> The

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111. *Kansas v. Colorado*, 206 U.S. 46, 56 (1907).

112. *Nebraska v. Wyoming*, 325 U.S. 589, 611–12 (1945).

113. *Kansas v. Colorado*, 206 U.S. 46, 57 (1907); *Wyoming v. Colorado*, 259 U.S. 419, 457 (1922). For more on Colorado's claims, see James S. Lochhead, *An Upper Basin Perspective on California's Claims to Water from the Colorado River—Part I: The Law of the River*, 4 U. DENV. WATER L. REV. 290, 295 n.17 (2001); Stephen C. McCaffrey, *The Harmon Doctrine One Hundred Years Later: Buried, Not Praised*, 36 NAT. RESOURCES J. 725 (1996).

114. *Wyoming v. Colorado*, 259 U.S. 419, 457 (1922).

115. *Kansas v. Colorado*, 206 U.S. 46, 57, 85, 98 (1907). Although western Kansas followed the prior appropriation doctrine as early as 1876, recognized in Act of Mar. 15, 1876, ch. 58, 1876 Kan. Sess. Laws 153, a state court decision in 1905 complicated Kansas's claim. See *Clark v. Allaman*, 80 P. 571, 572–74 (1905) (noting the lack of understanding of the prior appropriation doctrine and declining the legislative suggestion to broaden it).

116. *Kansas v. Colorado*, 206 U.S. at 117–18.

117. *Colorado v. Kansas*, 320 U.S. 383 (1944).

118. *Wyoming v. Colorado*, 259 U.S. 419 (1922). For a discussion of the context in which the Colorado River Compact was negotiated, see NORRIS HUNDLEY, JR., *WATER AND THE WEST: THE COLORADO RIVER COMPACT AND THE POLITICS OF WATER IN THE AMERICAN WEST* (2d ed. 2009).

119. Colorado River Compact, ch. 42, 45 Stat. 1057 (1928) (negotiated 1921–22). That legislation did not include the text of the compact it enacted; in this regard the Colorado River Compact is unique. The text of the Colorado River Compact first occurs at 70 CONG. REC. 324–25 (1928). The Colorado River Compact was the first interstate water allocation compact to be negotiated by the states, but it did not become effective until 1929. See Boulder Canyon Project Act, 46 Stat. 3000 (1929). The first interstate compact to gain congressional consent was the La Plata River Compact between Colorado and New Mexico. See La Plata River Compact, ch. 110, 43 Stat. 796 (1925).

Court's decision in *Hinderlider v. La Plata River & Cherry Creek Ditch Co.* (1938) clearly placed the states' federal compact obligations over the claims of prior state appropriation rights, affirming the power of state engineers to administer those rights accordingly.<sup>120</sup> Secured by the Court's defense of the compact mechanism in *Hinderlider*, western states entered into numerous interstate water allocation compacts between 1939 and 1949.<sup>121</sup> The Court soon stated its approval of that mechanism: in 1943, it invited Colorado and Kansas to negotiate their longstanding conflict over the Arkansas River "pursuant to the compact clause of the Federal constitution."<sup>122</sup>

The Court was less clear, however, on federal claims to unappropriated water supplies.<sup>123</sup> The Court's reticence raised few problems, largely because Reclamation did not have a substantial presence across the Great Plains for several decades, aside from the North Platte Project in Wyoming and Nebraska (1905). Indeed, the first three decades of the twentieth century seemed to make irrigation less critical as Great Plains agriculture entered its second manic phase—the "great plow up." Steam- and gasoline-powered tractors, pulling deep plows and mechanized farm equipment, vastly and recklessly expanded cultivated acreage across the region. For a time, farming was both productive and profitable because of an anomalous combination of unusually wet and temperate weather, high wartime wheat prices, and the speculative excesses of the Roaring Twenties.<sup>124</sup>

The Great Depression and the disasters of the "dirty thirties" destroyed that fragile anomaly, and brought Reclamation to the region as a whole. The "great plow up" had destabilized Great Plains soils, which blew away during the Dust Bowl era and buried farms during the Republican River flood of 1935.<sup>125</sup> These disasters, together with the security afforded by interstate compacts after *Hinderlider*, motivated the states and Reclamation to plan a comprehensive system of multipurpose reservoirs to supply irrigation water and control flooding. Local boosters immediately embraced what Powell, Mead, and the Reclamation Act had recognized a generation earlier: only federal means and power could build such infrastructure. Unlike drainages such as the South Platte and the Rio Grande, where

120. *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938) (holding that the Colorado State Engineer could administer adjudicated state-law appropriation rights predating the La Plata Compact (1925) to honor Colorado's obligations under that compact).

121. Interstate water allocation compacts enacted in this period include the following: Rio Grande Compact, ch. 151, 53 Stat. 785 (1939) (among Colorado, New Mexico, and Texas); Republican River Compact, ch. 104, 57 Stat. 86 (1943) (among Colorado, Nebraska, and Kansas); Belle Fourche River Compact, ch. 64, 58 Stat. 94 (1944) (between South Dakota and Wyoming); Upper Colorado River Basin Compact, ch. 48, 63 Stat. 31 (1949) (among Arizona, Colorado, New Mexico, Utah, and Wyoming); Arkansas River Compact, ch. 155, 63 Stat. 145 (1949) (between Colorado and Kansas); and Pecos River Compact, ch. 184, 63 Stat. 159 (1949) (between New Mexico and Texas).

122. *Colorado v. Kansas*, 320 U.S. 383, 392 (1943).

123. See *Nebraska v. Wyoming*, 325 U.S. 589, 611–12 (1945). The Court did not directly address these claims, describing them in 1945 as "largely academic so far as the narrow issues of this case are concerned." *Id.*

124. See generally DONALD WORSTER, *DUST BOWL: THE SOUTHERN PLAINS IN THE 1930S* (1979); TIMOTHY EGAN, *THE WORST HARD TIME: THE UNTOLD STORY OF THOSE WHO SURVIVED THE GREAT AMERICAN DUST BOWL* (2006).

125. WORSTER, *supra* note 124, at 17.

numerous private irrigation ditches predated the Reclamation Act, most of the rivers of the Great Plains were relatively undeveloped. This fact encouraged planners to consider the region's river basins as a whole, unimpeded by the complexities of extensive, preexisting irrigation projects and their water rights. This situation was ideal for Reclamation's focus on river basin planning and accounting.<sup>126</sup>

The legal resolution achieved by interstate compacts, together with the natural and man-made disasters of the Dust Bowl, produced a decade of cooperative federalism, with federal water projects and state water planning operating in tandem across the Great Plains. On the federal side, the most important piece of legislation was the 1944 Flood Control Act, which planned the development of the entire Missouri River Basin through a series of irrigation, flood-control, and navigation projects.<sup>127</sup> On the state side, the 1940s produced the Republican River Compact of 1943 and the Arkansas River Compact of 1949. These compacts established federal guarantees that the states' water allocations and Reclamation's irrigation projects would be protected at the same time.<sup>128</sup>

Secured by the Compact and enabled by the Flood Control Act, private irrigation districts expanded within the Basin, and Reclamation built new irrigation districts during the following decades. See Figure 1. These are classic works of civil engineering, built for irrigator-citizens who populate a recognizable community of private farms within a federal irrigation project. Within the Basin alone, federal money and expertise built nine dams and reservoirs and thousands of miles of canals and laterals to subsidize—often at substantial cost—complex irrigation and flood-control projects. The region had long been characterized by demographic and natural extremes that militate against an enduring public—the booms of original settlement and the “great plow up,” the depopulating droughts of the late 1880s and the Dust Bowl, and finally the flood of 1935.<sup>129</sup> Given this tumultuous natural and demographic history, Reclamation's projects promised a

126. REISNER, *supra* note 88, at 134–36. The general lack of large-scale hydropower opportunities in most Great Plains projects distinguishes them from those in the Colorado and Columbia River Basins, where Reclamation could use revenue forecasts from electricity generation to conceal the high costs and comparatively low benefits of the irrigation projects. For the Columbia, see RICHARD WHITE, *THE ORGANIC MACHINE: THE REMAKING OF THE COLUMBIA RIVER* (1996).

127. Act of Dec. 22, 1944, ch. 663, 58 Stat. 887 (1944); 33 U.S.C. §§ 701–709c (2012). See MARIAN E. RIDGEWAY, *THE MISSOURI BASIN'S PICK-SLOAN PLAN: A CASE STUDY IN CONGRESSIONAL POLICY DETERMINATION* (1955); HENRY C. HART, *THE DARK MISSOURI* (1957); JOHN E. THORSON, *RIVER OF PROMISE, RIVER OF PERIL: THE POLITICS OF MANAGING THE MISSOURI RIVER* (1994).

128. President Franklin D. Roosevelt vetoed the 1941 version of the Republican River Compact because it contained language curtailing federal jurisdiction and did not “specifically reserv[e] to the United States all of the rights and responsibilities which it now has in the use and control of the waters of the basin.” H.R. DOC. NO. 690, at 2 (1942) (veto message). In this and earlier versions of the Compact, the states had sought a declaration that the river was not navigable and thus largely immune from federal jurisdiction. The states and Congress addressed the president's concerns by adding Articles X and XI to the Compact, which contain the specific reservations of federal rights, power, and jurisdiction that he had demanded. Congress passed this version, and the president signed the amended compact into law. See Act of May 26, 1943, ch. 104, 57 Stat. 86.

129. Great Plains populations ballooned during the 1880s, briefly sustained by the unusually wet years of 1879–1882 in Kansas and those of 1883–1885 in Nebraska. When these anomalies ended and the law of averages returned, drought cut the population of western Kansas almost in half by 1897. See

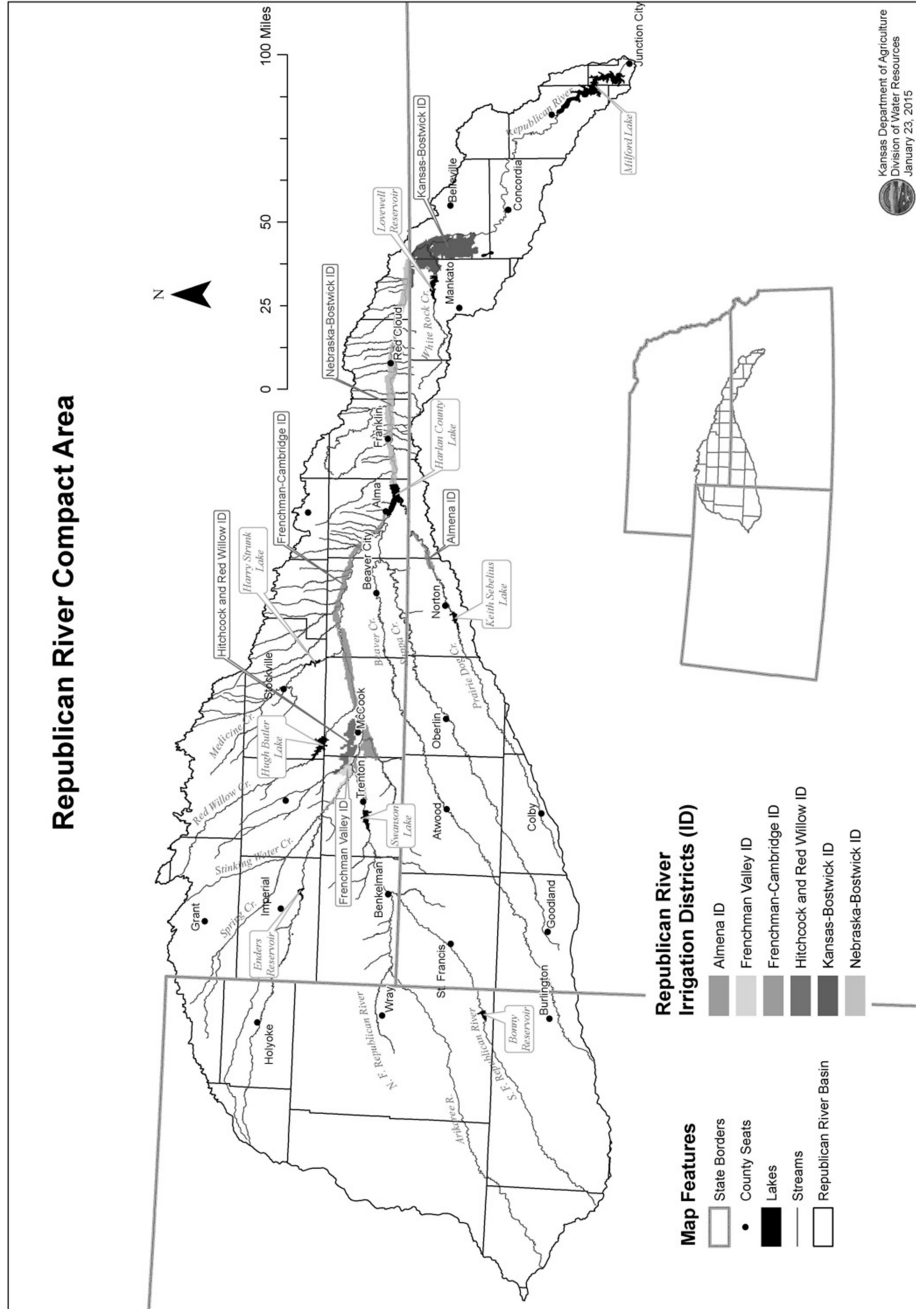


Figure 1: Republican River Compact Area and Irrigation Districts

RICHARD WHITE, RAILROADED: THE TRANSCONTINENTALS AND THE MAKING OF MODERN AMERICA 209–11 (2011).

stability predicated upon this allocated, engineered, and regulated water supply.<sup>130</sup> Here and elsewhere, Reclamation projects also enhanced the water supplies of preexisting irrigation communities, by providing supplemental storage and delivery infrastructure. As a result, few surface-water irrigation communities across the Great Plains could claim they were separate or independent from the public beyond their boundaries—both the wider national public which largely financed their irrigation projects, and the cooperative federalism which had built them in the first place.<sup>131</sup>

### C. The Political Culture of Surface Water Irrigation Communities

Compared to its projects farther west, such as those in the Colorado and Columbia River Basins, but especially in California, Reclamation's projects across the Great Plains have received little attention, probably because they are not stupendous. Sited in wide and shallow valleys, these projects serve comparatively modest irrigation districts. This seems a mundane point, but given the conflicting and sometimes hyperbolic judgments that Reclamation has provoked, some earthiness might just be in order.<sup>132</sup> Whether heroic or villainous, Reclamation built irrigation communities across the Great Plains that have enjoyed a mostly stable water supply for more than sixty years. For all of the political machinations that went into their construction, these irrigation communities have largely endured at a time when many rural communities are under significant pressure to survive.

This is not a mundane point. Compared to groundwater irrigation communities across the Great Plains, surface-water irrigation communities have existed a fairly long time, and their present state carries the stamp of the social and civil engineering that made them possible. It is important, and fairly easy, not to

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130. MEAD, *supra* note 1, at 35–36.

131. On the Republican River, the Frenchman Valley and H & R W Irrigation Districts were integrated into the Frenchman-Cambridge Irrigation District, a Reclamation project in Nebraska. See About FCID, FRENCHMAN-CAMBRIDGE IRRIGATION DIST., <http://www.fcidwater.com/about.html> [<https://perma.cc/N5F6-EGF5>]. Pre-Reclamation irrigation districts within the Arkansas River Basin have also grown to depend upon federal irrigation and flood-control projects. These include the Colorado ditch companies downstream from Trinidad and Pueblo Reservoirs and the Associated Ditches of Garden City, Kansas, which have diverted water from the Arkansas River since the nineteenth century. The Kansas ditches largely depend upon releases from John Martin Reservoir in Colorado—a United States Army Corps of Engineers project operated in conjunction with the administration of the Arkansas River Compact, ch. 155, 63 Stat. 145 (1949); see also *supra* text accompanying note 12.

132. That literature mostly reflects Reclamation's largest and most ambitious (but sometimes disastrous) projects. The writers include boosters and statist champions: BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, LAKE POWELL, JEWEL OF THE COLORADO (1965); MICHAEL ROBINSON, WATER FOR THE WEST (1979); career apologists: HENRY J. TEBOW, MY LOVE AFFAIR WITH THE BUREAU OF RECLAMATION (1985); academic critics: DONALD WORSTER, RIVERS OF EMPIRE: WATER, ARIDITY, AND THE GROWTH OF THE AMERICAN WEST (Oxford Univ. Press reprt. 1992) (1985); LAWRENCE J. MACDONNELL, FROM RECLAMATION TO SUSTAINABILITY: WATER, AGRICULTURE, AND THE ENVIRONMENT IN THE AMERICAN WEST (1999); WHITE, *supra* note 126; KARL BOYD BROOKS, PUBLIC POWER, PRIVATE DAMS: THE HELLS CANYON HIGH DAM CONTROVERSY (2009); crusading journalists: REISNER, *supra* note 88, at 111–19; BLAINE HARDEN, A RIVER LOST: THE LIFE AND DEATH OF THE COLUMBIA (rev. ed. 2012); and dark, but funny, novelists: EDWARD ABBEY, THE MONKEY WRENCH GANG (Harper Perennial Modern Classics repr. 2006) (1975).



romanticize these communities. But it is equally important, and less easy, to recognize their distinct political culture, which has five principal characteristics.

First, surface-water irrigation communities such as those across the Basin are still mostly recognizable as communities, clustered around their projects on a local and visible scale. Reclamation's visionaries wanted to build nucleated communities composed of small holdings, irrigated and intensively farmed. As Mead put it, "Where farmers live in villages, they are able to realize a happy combination of town and country life, and to dwell under conditions which are favorable to a growth of the best forms of civilization."<sup>133</sup> While not even Floyd Dominy, the unrepentant, steamrolling commissioner of Reclamation during its high imperial phase, could plausibly describe these districts as full of happy villagers, they do remain largely populated by resident farmers.<sup>134</sup> For most of the twentieth century, the Reclamation Act required the owners of irrigated lands to reside on those lands or nearby.<sup>135</sup> They were also subject to the acreage limitations of the homestead laws, which set a floor of 40 and a ceiling of 160 acres.<sup>136</sup>

The residency requirement and the acreage limitation sought to reverse the nineteenth-century trend of social dispersion, where settlers' desire to obtain as much land as possible frustrated the formation of schools, churches, and social life. The United States Supreme Court repeatedly reaffirmed that goal, to ensure that the "enormous expenditure" for Reclamation projects "will not go in disproportionate share to a few individuals with large land holdings. Moreover, it [the Reclamation Act] prevents the use of the federal reclamation service for speculative purposes."<sup>137</sup> These rules lasted for eighty years, until the abolition of the residency requirement and significant relaxation of the acreage limitation in 1982.<sup>138</sup> Nonetheless, surface-water irrigation communities across the Great Plains largely remain residential, nucleated communities.

The Kansas Bostwick Irrigation District (KBID) is a representative example. It supplies irrigation water to 244 owners of district lands, who farm nearly 43,000 acres in north-central Kansas—an average farm is 176 acres. The acreage limitations in the district applied until the Reclamation Reform Act of 1982, and Reclamation enforced them, requiring owners to sell their excess land. The residency requirement also applied, as did Kansas laws forbidding the

133. MEAD, *supra* note 1, at 382–83.

134. Dominy was fully aware of the divide between the yeoman-farmer intentions of the Reclamation Act and its subsequent abuses, especially in California. "Congress never faced up to revising the law [the Reclamation Act of 1902 and the Reclamation Reform Act of 1982], so we ended up watering private-land developers instead of subsistence farmers." Tom Wolf, *Mr. Dominy, Are You a Hero or a Villain?*, HIGH COUNTRY NEWS, Oct. 26, 1998, <http://www.hcn.org/issues/141/4583> [<https://perma.cc/SW27-XDWB>].

135. *See* Reclamation Act of 1902, ch. 1093, § 5, 32 Stat. 388 (codified in part at 43 U.S.C. § 431 (2012)).

136. *See id.* §§ 3, 5. The acreage requirement was later relaxed to allow a married couple jointly to claim 320 acres. *See* Act of Sept. 2, 1960, Pub. L. No. 86-684, 74 Stat. 732 (codified at 43 U.S.C. § 423h (2012)). Kelley & Benson, *supra* note 107, at § 41.03(a), n.84.

137. *Ivanhoe Irrigation Dist. v. McCracken*, 357 U.S. 275, 297 (1958).

138. *See* Reclamation Reform Act of 1982, Pub. L. No. 97-293, §§ 204, 211, 96 Stat. 1263, 1265, 1269 (codified at 43 U.S.C. §§ 390dd, 390kk (2012)); *see also* Kelley & Benson, *supra* note 107, at § 41.03(c).

corporate ownership of farmland; as a result, about half of the local residents still farm their own land or district land owned by other local residents, or they are retired from farming and live nearby.<sup>139</sup> These numbers stand modestly in contrast to the gaudy corruptions of California, where corporate ownership of farmland and Reclamation's neglect of its own laws have combined to distort the social vision of the Reclamation Act beyond all recognition.<sup>140</sup>

Second, surface-water irrigation communities are organized along corporate lines, where a corporate entity mediates between the water supply of the district as a whole and the individual owners of irrigated land within the district. This corporate structure characterizes both private irrigation companies, such as those on the Arkansas River in Colorado and Kansas, and Reclamation districts, such as the Bostwick Irrigation District on the Republican River in Nebraska and Kansas. The ditch or the district, not the individual landowners, typically holds the water right under which lands for the entire district are irrigated.<sup>141</sup> Districts make corporate decisions about system maintenance and the irrigation calendar.

At the operational level, individual landowners make daily calls for water from the reservoir or main canal headgate during the irrigation season, and district managers and ditch riders respond to those calls, route water deliveries, and account for them. The operational realities of surface-water irrigation require a high degree of coordination to ensure that water is delivered efficiently and on a timely basis. This coordination takes place among individual irrigators within one district and among adjacent districts as well. The Associated Ditches of Kearny and Finney Counties in Kansas, which irrigate from the Arkansas River, provide a good example of coordination among legally distinct, but hydrologically connected, surface-water irrigation companies. For all of their internecine battles, they have operated under a series of consent decrees dating back to the nineteenth century, which include provisions for routing water through each other's ditches.<sup>142</sup>

Third, surface-water irrigation communities are intended to be permanent. They hold water rights that are real property rights. The high capital costs of building and maintaining surface-water irrigation projects could not be justified if their water supply was not dependable over time. That is especially the case with

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139. E-mail from Kenneth Nelson, Superintendent, Kan. Bostwick Irrigation Dist., Courtland, Kansas, to author (Nov. 26, 2014) (on file with author).

140. For example, the Southern Pacific Railroad controlled more than 100,000 acres of the Westlands Water District in 1979, where less than three percent of all farms controlled 31 percent of the land. Kelley & Benson, *supra* note 107, at § 41.03(a) n.71.

141. For example, the Republican River Compact recognized the rights of the Pioneer Irrigation Ditch on the North Fork of the Republican River. That became necessary because the Pioneer Ditch diverted water within Colorado, but put it to beneficial use in Nebraska; the Compact recognized the decision in *Weiland v. Pioneer Irrigation Co.*, 259 U.S. 498 (1922), granted to Colorado the exclusive power to regulate diversions from the ditch, and allocated to Nebraska the amount of those diversions. Republican River Compact, ch. 104, 57 Stat. 86, 89 (1943); see also TYLER, *supra* note 109, at 105–108. The priority date of KBID's water right was formally recognized by the compacting states in 2002. See Final Settlement Stipulation, *supra* note 22, at 25–26; see also *infra* note 246.

142. See generally *Arkansas River Surface Water Distribution Plan*, KAN. DEP'T AGRIC., <http://agriculture.ks.gov/divisions-programs/dwr/interstate-rivers-and-compacts/kansas-colorado-arkansas-river-compact> [<https://perma.cc/9ZSM-XNTZ>] (expand "Arkansas River Surface Water Distribution Plan" menu).

Reclamation projects, which stress their permanent irrigation and flood-control benefits to justify their substantial subsidies.<sup>143</sup> Alongside that fiscal reality is the requirement that irrigated land be forever tied to its water rights, despite the efforts of speculators to sever them.<sup>144</sup> While this requirement lapsed for private irrigation districts long ago, it remains valid for Reclamation projects.<sup>145</sup>

Fourth, surface-water irrigation communities tend to be legally conservative. They support the fundamental principles of classic western water law, primarily because they hold senior water rights in their water neighborhoods. Likewise, they tend to oppose legal changes that may undermine their ability to exercise the priorities and other rights they enjoy. The entrance of Reclamation did not substantially alter this conservatism, because the Reclamation Act has consistently deferred to state water law. Indeed, Reclamation projects effectively made the federal government a guarantor of the districts' water supply.<sup>146</sup>

Finally, surface-water irrigation communities are under threat across the Great Plains because they have become vulnerable to both the hydrologic impact and the political power of groundwater irrigation. The reservoir inflows upon which they depend have gradually declined over the last several decades due to excessive groundwater pumping, despite the senior priority of their water rights. Moreover, groundwater irrigators have purchased and retired part or all of the water rights of many ditch companies and irrigation districts, while those that remain have been unevenly protected by state engineers.<sup>147</sup>

## II. GROUNDWATER IRRIGATION COMMUNITIES AND THEIR POLITICAL CULTURE

### A. The Groundwater Revolution

Reclamation applied a progressive social vision to the ancient technology of surface-water irrigation. By contrast, groundwater irrigation communities owe their existence to modern technology—the high-capacity, centrifugal water pump, propelled by electricity or internal combustion, which can pump thousands of gallons per minute from the vast and previously unexploited aquifers of the West,

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143. In describing the benefits of its projects, Reclamation usually makes a point that its reservoirs have saved hundreds of millions of dollars in flood damage. As of 1998, for example, Reclamation calculated that the reservoirs in the Bostwick Project had saved \$281 million. See KEVIN E. RUCKER, BUREAU OF RECLAMATION, BOSTWICK DIVISION: PICK-SLOAN MISSOURI BASIN PROGRAM 36-37 (Brit Storey ed., 2009), <https://www.usbr.gov/projects/index.php?id=502> [<https://perma.cc/T2UW-FTHB>] (follow “Bostwick Division Project History” link).

144. MEAD, *supra* note 1, at 346–47.

145. For example, one early Kansas statute held that any water right severed from the land was considered abandoned. See Act of Mar. 10, 1891, ch. 133, art. II, § 5, 1891 Kan. Sess. Laws 223, 227; see also MEAD, *supra* note 1, at 290. The requirement that water rights remain fixed, or appurtenant, to the irrigated lands of Reclamation projects remains valid federal law. See 43 U.S.C. § 372 (2012).

146. Many of the legal disputes between landowners in Reclamation projects and the Bureau of Reclamation revolve around who is eligible to receive project water and under what terms. See generally Kelley & Benson, *supra* note 107, §§ 41.05, 41.06.

147. See *infra* Parts III.B and III.C.

especially the High Plains-Ogallala Aquifer.<sup>148</sup> This technological breakthrough took place at the very time that Reclamation's Great Plains projects were coming on line during the 1950s.

At first, irrigating with groundwater required little more than a decent well and a powerful pump to flood the fields; later, center-pivot systems made irrigation more versatile, precise, and efficient. The impact of the pump and pivot can hardly be overstated.<sup>149</sup> More than the tractors of the "great plow up," groundwater irrigation sharply reduced the need for farm labor. Where one industrious farm worker could surface-irrigate little more than 200 acres by opening ditches with a shovel or using siphon tubes and gated pipe, an equally industrious farmer operating an early center pivot could water a full section—640 acres.<sup>150</sup>

Center pivots also vastly expanded the reach of irrigated agriculture across the Great Plains. Compared to gravity-fed, flood-irrigation systems, center pivots can distribute water more evenly and much more precisely, applying water as well as fertilizer according to the specific needs of the crop and the moisture content of the soil. They are also more efficient, delivering a higher percentage of water to the root zone of the crop: where flood irrigation systems are at best 65 to 70 percent efficient, modern center pivots with drop nozzles and draglines raise that level to 90 percent. Groundwater irrigators have exploited this increase to expand irrigated acreage and intensify crop density, raising yields.

Center pivots also conquer gravity: their motorized wheels can crawl over sloping and uneven uplands, enabling the irrigation of millions of acres of previously unirrigable land. And the finely modulated spray of their nozzles allows effective irrigation of both coarse and sandy soils without washing them away. As a consequence, lands formerly considered unfit for farming, such as those above the southern banks of the Arkansas River in southwestern Kansas, now yield more than three hundred bushels of corn per acre.

For all of these reasons, modern groundwater irrigation has transformed much of the Great Plains from risky dryland farms and spotty shortgrass rangelands into a large portion of the most dependably profitable irrigated land in North America. Only a Luddite would fail to appreciate this transformation. Groundwater irrigators on the Great Plains are among the most technologically adept farmers in the world. Across the Ogallala, irrigators can monitor their fields and control their center-pivot irrigation systems remotely through their smartphones.<sup>151</sup>

The technology of groundwater irrigation, together with the huge volumes of the Ogallala Aquifer, enabled anyone who owned land above it to irrigate.

148. In deference to common usage, this Article refers to the High Plains-Ogallala Aquifer simply as the "Ogallala Aquifer."

149. See generally CHARLES BOWDEN, *KILLING THE HIDDEN WATERS* 99–125 (1977); DONALD E. GREEN, *LAND OF THE UNDERGROUND RAIN: IRRIGATION ON THE TEXAS HIGH PLAINS, 1919–1970* (1973).

150. JAMES AUCOIN, *WATER IN NEBRASKA: USE, POLITICS, POLICIES* 39 (1984) (summarizing William E. Splitter, *Center-Pivot Irrigation*, *SCI. AM.*, June 1, 1976, at 90).

151. See, e.g., a typical advertisement for such technology, at *Field Net*, ZIMMATIC, <http://www.zimmatic.com/fieldnet-1> (last visited Feb. 11, 2017). This does not imply that surface-water irrigation systems remain trapped in the age of tube siphons and gated pipe. Where feasible, most of the farmers using these systems have converted to sprinklers with similar gains in both labor and water efficiency.

Between the mid-1950s and the mid-1970s, everyone appeared to have enough groundwater, which is protected and in many places immune from annual variations in precipitation. Up to a point, groundwater irrigators could compensate for drought by pumping more. As a result, groundwater irrigation has enabled the overexploitation of water resources in a way that is not possible with surface water.

### **B. The Legal Response to the Groundwater Revolution**

Because groundwater behaves differently than surface water, the groundwater revolution created fundamental challenges to western water codes. Unlike the annual fluctuations of streams and rivers, which vary according to precipitation, aquifers fluctuate far less, and the effects of pumping-induced depletions to groundwater can lag behind the pumping itself for decades. The Ogallala Aquifer, which is mostly unconnected to the streams and rivers of the Great Plains, is only affected by pumping; its waters are thousands of years old and effectively unreplenishable.<sup>152</sup> Mostly unaware and relatively unconcerned with these groundwater sources, the architects of western water law did not foresee whether the water could be tapped out. After all, the right to use water assumes that there is water to use.<sup>153</sup>

Across the states of the Republican River Basin, the groundwater revolution and the unique features of the Ogallala Aquifer produced basic changes in western water law and policy. The sheer size and drought-proof dependability of the aquifer encouraged irrigators, regulators, and policy makers to ignore the inevitable reckoning inherent in the prior appropriation doctrine. Starting in the 1950s, state legislatures amended their water codes to encourage the development of groundwater without setting a limit on the depletion of the aquifer. The opportunity to exploit the Ogallala Aquifer was too good to pass up, and the problems of depletion could be put off until later. Some states withdrew Great Plains groundwater sources from the public domain and placed them under local control, creating a new type of water-based public in the process.

These changes raised a fundamental question: was groundwater a public resource? In Colorado, the answer seemed to be yes, and to rest on constitutional bedrock. The waters of any “natural stream” and the “waters of the state” were public resources subject to prior appropriation; hence, it seemed reasonable to conclude that groundwater sources were “waters of the state.”<sup>154</sup> The groundwater revolution, however, produced legislation that redefined those waters. In 1969, the Colorado Legislature defined the constitutional meaning of “waters of the state” to include groundwater supplies that were tributary to natural streams, but to exclude

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152. See sources cited *supra* note 3.

153. See, e.g., KAN. STAT. ANN. § 82a-701(f) (2015).

154. See COLO. CONST. art. XVI, §§ 5, 6 (1876); Act of Feb. 19, 1879, 1879 Colo. Sess. Laws 94-108; *Safranek v. Limon*, 228 P.2d 975, 977 (Colo. 1951).

other types of groundwater.<sup>155</sup> Tributary groundwater would be governed by prior appropriation and receive the same protection as surface-water rights.<sup>156</sup>

The other major type of groundwater was labeled “designated groundwater”—groundwater that did not underlie a flowing stream, such as the aquifers of eastern Colorado, where pumping did not quickly affect surface water and water rights.<sup>157</sup> Because strict application of the prior appropriation doctrine would frustrate the development of these groundwater supplies, Colorado limited the doctrine: senior water rights would be entitled to “reasonable groundwater pumping levels” but not to the “maintenance of historical water levels.”<sup>158</sup> Economic development came at the policy price of withdrawing a substantial portion of Great Plains groundwater from the public sphere, and compromising the doctrine of prior appropriation.<sup>159</sup>

From a different origin, Kansas arrived at a similar decision. Kansas originally followed two legal water doctrines. Eastern Kansas adhered to the riparian doctrine, where the reasonable use of water was an attribute of riparian property.<sup>160</sup> Higher, drier, western Kansas followed the prior appropriation doctrine.<sup>161</sup> These doctrines coexisted with increasing unease until 1943–1944, when Kansas water law suffered two major blows. In the second iteration of the interstate conflict between Colorado and Kansas over the Arkansas River, the Supreme Court in 1943 again declined to apportion the river.<sup>162</sup> The Court’s final rationale for not effecting an apportionment in that case was that Kansas’s bifurcated legal system prevented Kansas from making the necessary showing “with respect to the right of non-riparian owners to appropriate waters against objection by other such owners.”<sup>163</sup> One year later, the Kansas Supreme Court ruled that Kansas water law did not grant the state the power to regulate

155. Act of June 7, 1969, ch. 373, 1969 Colo. Sess. Laws 1200-01 (codified at COLO. REV. STAT. § 37-92-103(13) (2016)).

156. Colorado Ground Water Management Act, ch. 319, §148-18-36, 1965 Colo. Sess. Laws 1246, 1265 (codified as amended at COLO. REV. STAT. § 37-90-137 (2016)).

157. Colorado Ground Water Management Act, ch. 319, § 148-18-2(3), 1965 Colo. Laws at 1247 (codified as amended at COLO. REV. STAT. § 37-90-103 (2016)).

158. Colorado Groundwater Management Act, ch. 319, § 148-18-1, 1965 COLO. LAWS AT 1246 (codified at COLO. REV. STAT. § 37-90-102 (2016)).

159. It should be noted that the alluvial supplies of the South Platte and Arkansas Rivers remained within the “waters of the state.” Two other categories of groundwater—nontributary and not nontributary—include the stacked aquifers within the Denver Basin, which supply water to the newer communities along the suburban Front Range. Due to their high economic value as municipal water sources, the Colorado Legislature did not apply the doctrine of prior appropriation to them; ownership of these resources is connected to the overlying land and assumes a hundred-year depletion period. *See* COLO. REV. STAT. §§ 37-90-102(2), -103(10.5) to (10.7) (2016).

160. *See* *Shamleffer v. Council Grove Peerless Mill Co.*, 18 Kan. 24, 31–32 (1877) (applying Eastern Kansas riparianism). That riparianism was later modified slightly to allow riparian owners to divert water from a stream for irrigation purposes. *See* *Clark v. Allaman*, 80 P. 571 (Kan. 1905).

161. *See* Act of Feb. 19, 1886, ch. 115, 1886 Kan. Sess. Laws 154 (enacting a notice-posting statute, making clear that as between appropriators, “the one first in time is the first in right.”).

162. *Colorado v. Kansas*, 320 U.S. 383 (1943).

163. *Id.* at 400.

groundwater.<sup>164</sup> By 1944, it was clear that Kansas water law could neither fully quantify the state's total water rights, nor protect owners of individual surface water rights against impairment caused by groundwater pumping.

These two decisions prompted a comprehensive review of Kansas water law, which focused largely on these two issues: the problem of Kansas's bifurcated water law, which made it difficult to quantify available water supplies; and whether groundwater was a public resource subject to appropriation and regulation under the jurisdiction of the chief engineer.<sup>165</sup> Kansas resolved both issues decisively in 1945 by enacting the Kansas Water Appropriation Act (KWAA).<sup>166</sup> The KWAA dedicated all of the waters of Kansas, including groundwater, to the people of the state, subject to prior appropriation as enforced by the chief engineer.<sup>167</sup> A central tenet of the KWAA is a basic rule of prior appropriation: if a junior water right impaired a senior right by affecting its access to or use of water, the chief engineer had the statutory duty to administer, or curtail, the use made under the junior right.<sup>168</sup>

The groundwater revolution soon forced this basic and decisive rule to yield to a compromise. Like their neighbors in Colorado, Kansas policy makers recognized that the widespread pumping of Ogallala groundwater would soon impair senior rights by lowering the water table, giving the holders of those rights the power to invoke their priority, thus requiring the chief engineer to shut off junior rights and prohibit further groundwater development.<sup>169</sup> The economic potential of the Ogallala Aquifer demanded that prior appropriation be compromised, and so the Kansas Legislature redefined impairment accordingly. In 1957, the hard hydrological definition of impairment gave way to a softer economic one: applications for junior rights could henceforth be granted even if the use of those junior rights reduced groundwater levels, so long as the reduction did not go "beyond a reasonable economic limit."<sup>170</sup> Yet in the same session, the

164. See *State ex rel. Peterson v. Kan. State Bd. of Agric.*, 149 P.2d 604 (Kan. 1944) (holding that no statute authorizes the Division of Water Resources to regulate, allocate, distribute, or otherwise interfere with the use and consumption of underground waters).

165. See generally Henry S. Buzick, Jr. et al., *The Appropriation of Water for Beneficial Purposes*, 37 J. OF THE AM. WATER WORKS ASS'N 601 (1945).

166. Kansas Water Appropriation Act, KAN. STAT. ANN. §§ 82a-701 to 745 (2015). For discussions of the act, see John C. Peck, *The Kansas Water Appropriation Act: A Fifty Year Perspective*, 43 KAN. L. REV. 735-56 (1995); Burke W. Griggs, *Beyond Drought: Water Rights in the Age of Permanent Depletion*, 62 KAN. L. REV. 1263-1324 (2014).

167. Act of Mar. 26, 1945, ch. 390, § 6, 1945 Kan. Sess. Laws 665, 666 (codified at KAN. STAT. ANN. § 82a-706 (2015)).

168. See KAN. STAT. ANN. § 82a-706b (2015).

169. KAN. WATER RES. BD., REPORT ON THE LAWS OF KANSAS PERTAINING TO THE BENEFICIAL USE OF WATER 91 (1956).

170. Act of Apr. 8, 1957, ch. 539, § 16, 1957, Kan. Sess. Laws 1075, 1080 (codified at KAN. STAT. ANN. § 82a-711 (2015)); compare the original KAN. STAT. ANN. § 82a-711, which required the chief engineer to reject a water-rights application if "the water sought to be appropriated would impair vested rights, prior appropriations, or be detrimental to the public interest". See Act of Mar. 26, 1945, ch. 390, § 11, 1945 Kan. Sess. Laws 665, 668. However, while the Kansas Legislature softened the standard for granting new water rights applications, it is important to note that the KWAA retains the original 1945 standard for protecting senior water rights from impairment by junior rights during times of

legislature also boosted the legal status of a water right, defining it explicitly as a real property right.<sup>171</sup>

These amendments, together with a liberal policy of granting water rights applications, resulted in a massive—but fully legal—overappropriation of Ogallala groundwater in Kansas.<sup>172</sup> People did not seem to mind. Even Kansas chief engineer Guy Gibson believed that “water rights were like belly buttons: everyone ought to have one.”<sup>173</sup> Groundwater levels across the Great Plains of Kansas began to decline as a consequence, creating something of a paradox: groundwater pumpers gained the legal right to permanently diminish the Ogallala, even as that property right explicitly attained the legal status of permanence.

As for Nebraska, groundwater had never been considered a statewide public resource, so fewer adjustments were necessary to accommodate the groundwater revolution. Although it enshrined prior appropriation in its state constitution, Nebraska never extended that doctrine to groundwater, which it regulated instead by the doctrine of reasonable use.<sup>174</sup> Alongside this legal and doctrinal distinction between surface water and groundwater was a jurisdictional one: Nebraska has always maintained that local governments should exclusively regulate groundwater supplies.<sup>175</sup>

The legal and jurisdictional gap between surface water and groundwater in Nebraska is intentional and longstanding. As John Riddell, a Nebraska assistant attorney general, told his Kansas colleagues in 1944, “As to ground water, practically speaking, we do not have any law. There is no question but what in the future something will have to be done about that, probably the sooner the better.”<sup>176</sup> Later statutes have clearly stated that groundwater is connected to surface water, but the Nebraska Supreme Court has consistently refused to protect the holders of senior surface water rights from impairment by groundwater pumpers according to the priority doctrine.<sup>177</sup>

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administration: *see* KAN. STAT. ANN. §§ 82a-717a, 82a-716. The distinction is articulated well in *Garetson Bros. v. Am. Warrior, Inc.*, 347 P.3d 687 (Kan. Ct. App. 2015).

171. Act of Apr. 8, 1957, ch. 539, § 1, 1957 Kan. Sess. Laws 1075 (codified at KAN. STAT. ANN. § 82a-701(g) (2015)).

172. Water-rights applications under the original KWAA numbered just 334 between 1945 and 1950. By contrast, the Kansas Division of Water Resources recorded 5,730 applications during the 1950s, 6,433 during the 1960s, and 16,226 in the 1970s, mostly for irrigation rights from the Ogallala Aquifer in western Kansas. John C. Peck, *Groundwater Management in Kansas: A Brief History and Assessment*, 15 KAN. J. L. & PUB. POL’Y 441, 443 (2006).

173. Letter from Scott Ross, Water Comm’r of the Kan. Div. of Water Res., to author (Aug. 14, 2012) (on file with author).

174. *See Osterman v. Cent. Neb. Pub. Power & Irrigation Dist.*, 268 N.W. 334 (Neb. 1936); *In re Metro. Util. Dist. of Omaha*, 140 N.W.2d 626, 637 (Neb. 1966). For recent misgivings expressed by the Nebraska Supreme Court on this issue, *see Spear T Ranch v. Knaub*, 691 N.W.2d 116 (Neb. 2005).

175. *See infra* text accompanying notes 189–191.

176. Transcript of Remarks of John Riddell, Neb. Assistant Attorney Gen., at Conference of the Governor’s Committee on the Appropriation of Water in Kansas, Topeka, October 16–17 1944, at 95 (1944) (on file with author).

177. *See* NEB. REV. STAT. § 46-703(1) to (4) (2004); *see, e.g., Spear T Ranch v. Knaub*, 691 N.W.2d 116, 126–27 (Neb. 2005); *In re Cent. Neb. Pub. Power & Irrigation Dist.*, 699 N.W.2d 372, 377 (Neb. 2005); *Cent’l Neb. Pub. Power & Irrigation Dist. v. North Platte Nat. Res.*, 788 N.W.2d 252, 261 (Neb. 2011).



### C. Local Publics and the Creed of Local Control

The second change wrought by the groundwater revolution was political. If groundwater was not a statewide public resource, who should exercise jurisdiction over it? State legislatures answered this question largely by delegating jurisdiction to local districts or by enhancing the powers of existing ones. In so doing, they created a new type of water-related public, one that placed the local economic benefits of groundwater irrigation above concerns about the sustainability of supplies. Where Reclamation had stressed basin-wide planning and federal involvement, local control became the creed of groundwater irrigators across the Great Plains.

Colorado has delegated the control of designated groundwater to local irrigators. While a state agency, the Colorado Ground Water Commission, issues well permits, it is dominated by “resident agriculturists” who live in the designated basins.<sup>178</sup> The power really rests in local groundwater-management districts, which can “exercise all regulatory and administrative authority” over irrigation wells.<sup>179</sup> And in the event that a well owner places a priority call against others in his water-rights neighborhood, neither the commission nor the state engineer can administer those rights; instead, the Colorado Supreme Court has ruled that the local groundwater-management district must do the job.<sup>180</sup> The implication of this decision is clear: when enforcing priorities—typically the job of the state engineer—is most at issue, local control is exclusive. That is in marked contrast to the long-established system for surface-water and tributary groundwater, which makes no local compromises.<sup>181</sup>

Despite its central state control over groundwater, Kansas also created local groundwater districts. After a false start in 1968, Kansas enacted the Groundwater Management District Act in 1972.<sup>182</sup> This legislation sought to establish some local control over regulating and developing groundwater rights by forming local groundwater-management districts, or GMDs.<sup>183</sup> Five GMDs were formed in western Kansas, overlying the state’s Ogallala supplies. They can assess taxes on their membership, which is limited to landowners and holders of groundwater rights.<sup>184</sup>

Allied with farm and agribusiness interests that support groundwater pumping at its current levels, Kansas GMDs have become a powerful force in state water politics, one that the chief engineer must reckon with on a regular basis.<sup>185</sup> In

178. See generally COLO. REV. STAT. § 37-90-109 to 143 (2016); see also *id.* § 37-90-104(3)(b). The state engineer is the executive director of the commission. See *id.* § 37-90-104(6).

179. COLO. REV. STAT. §§ 37-90-111.5, -130(2)(j).

180. *Upper Black Squirrel Creek Ground Water Mgmt. Dist. v. Goss*, 993 P.2d 1177, 1186 (Colo. 2000).

181. See COLO. REV. STAT. § 37-92-301 (2016).

182. Act of Mar. 20, 1968, ch. 403, 1968 Kan. Sess. Laws 827-36, *repealed by* Act of Mar. 17, 1972, ch. 386, §§ 1–16, 1972 Kan. Sess. Laws 1416-30 (codified at KAN. STAT. ANN. §§ 82a-1020 to 1042 (2015)).

183. KAN. STAT. ANN. § 82a-1020.

184. See *id.* § 82a-1030.

185. Kansas is the only state where the Division of Water Resources is under the Department of Agriculture, a situation that compounds the problem. See KAN. STAT. ANN. § 74-506a (2015). Some of

partnership with the chief engineer, they have established well-spacing rules and closed large areas to new water rights, largely to protect current levels of groundwater pumping under existing water rights. However, the problem of over-appropriation remains, while the regional impairment of wells is getting worse.<sup>186</sup>

In response to these concerns, local GMDs led a successful effort to amend the GMD Act in 1978 to allow for intensive groundwater-use control areas, or IGUCAs. This amendment was intended to enable local irrigators to take the lead in reducing groundwater depletion by convincing the chief engineer to reduce pumping, even to sustainable levels, and even if these cutbacks conflicted with prior appropriation by reducing senior as well as junior rights.<sup>187</sup> Across western Kansas, GMDs and the chief engineer have established eight IGUCAs, reducing water rights to restore balance to closely connected surface-water and groundwater supplies. But above the mostly nonrenewable supplies of the Ogallala farther west, the tool has proven to be too powerful to use. Neither the GMDs nor the chief engineer have sought to establish any IGUCAs in these areas, where the hardest depletion problems exist.<sup>188</sup>

The absence of an IGUCA over the nonrenewable supplies of the Ogallala Aquifer reveals the irony of local control in Kansas. The GMD Act gave local districts substantial power to reduce groundwater depletion, but by choosing not to exercise that power, the GMDs have effectively returned it to the chief engineer, whose power and duties regarding an IGUCA arouse suspicion from local irrigators. If the chief engineer began proceedings to establish an IGUCA over the Ogallala Aquifer on his own, the GMDs would almost certainly oppose him.

Because Nebraska has never claimed central authority over regulating groundwater, the state has never needed to delegate that authority; local control of groundwater has always been the law. While the Nebraska Department of Natural Resources (DNR) controls surface water and water rights, groundwater is governed by a different set of laws, which are administered by natural resource districts (NRDs), which are large, multi-county state subdivisions.<sup>189</sup> As Nebraska law states, “Local entities are the preferred regulators of activities which may contribute to ground water depletion.”<sup>190</sup> The growth in groundwater irrigation in

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the most important decisions of the chief engineer, a classified employee under Kansas civil-service laws, are subject to review by the secretary of agriculture, a political appointee. *Id.* § 82a-1901(a) (2015).

186. See Michael K. Ramsey, *Kansas Groundwater Management Districts: A Lawyer's Perspective*, 15 KAN. J. L. & PUB. POL'Y 517, 522 (2006).

187. See Act of Apr. 14, 1978, ch. 437, §§ 2, 4, 1978 Kan. Sess. Laws 1713, 1715–16 (codified as amended at KAN. STAT. ANN. §§ 82a-1036, -1038 (2015)); see also Leland E. Rolfs, *Comparing and Contrasting the Roles of the Division of Water Resources and the Groundwater Management Districts in Groundwater Management and Regulation*, 15 KAN. J. L. & PUB. POL'Y 505, 505–09 (2006).

188. For a summary of Kansas IGUCAs, see Intensive Groundwater Use Control Areas (IGUCAs), KAN. DEP'T OF AGRIC., <https://agriculture.ks.gov/divisions-programs/dwr/managing-kansas-water-resources/intensive-groundwater-use-control-areas> [<https://perma.cc/8NFN-S9AM>].

189. See NEB. REV. STAT. § 61-206(1) (2009): “The Department of Natural Resources is given jurisdiction over all matters pertaining to water rights for irrigation, power, or other useful purposes except as such jurisdiction is specifically limited by statute.” For the NRDs, see NEB. REV. STAT. § 2-3213(1) (2007).

190. See NEB. REV. STAT. § 46-702 (2011).

Nebraska has brought a commensurate increase in the power of the NRDs. Each NRD has its own taxing authority and grants, administers, and regulates groundwater permits. State involvement in groundwater regulation depends on local NRD approval of state policies through local rules and regulations.<sup>191</sup> As a result, the managers of the local NRDs collectively exert much more power over irrigation than does the DNR.

#### **D. The Political Culture of Groundwater Irrigation Communities**

Groundwater irrigation appeals to farmers because it enables them to access water without expensive dams and canals and without federal intervention and regulation.<sup>192</sup> Across the Great Plains, the groundwater revolution produced irrigation communities that are markedly distinct from their surface-water counterparts. Regardless of the different state water codes under which they operate, these communities have secured substantial local control over groundwater. They have generated a distinct political culture that is inextricable from groundwater itself. That culture has five principal characteristics.

The first and most important characteristic is their economic dominance. For example, since 1970, the amount of surface-water-irrigated acreage in Nebraska has remained relatively constant at roughly 1 million acres; by contrast, groundwater irrigation in the state expanded from about 500,000 acres in 1950 to 7 million in 1990.<sup>193</sup> Because irrigated agriculture is far more productive than dryland farming, it yields greater secondary economic benefits. The expansion in groundwater-irrigated acreage has generated economic growth in industries which supply irrigators with capital, insurance, irrigation-related farm machinery, seed, chemicals, and power for the pumps. Most of these suppliers have an economic interest in continuing groundwater irrigation at maximum levels, even if it reduces the long-term water supply beneath the irrigators' land.

Second, groundwater irrigation communities are more dispersed than surface-water ones. Where a surface-water community is necessarily organized around the structures of the irrigation project and its limitations, groundwater communities have no such constraints. There is no common water storage or delivery system, so groundwater irrigation communities lack the corporate structure and operation of their surface-water counterparts. Most farmers in surface-water irrigation communities receive the same allotment of water per acre as their neighbors. By contrast, groundwater supplies on the Great Plains are highly variable. Some irrigators in southwestern Kansas have enough groundwater to enable them to pump eighteen inches of water per acre every year for a hundred years, while others nearby may be struggling to irrigate fully now and may be out of water in ten years.<sup>194</sup>

So groundwater irrigation communities are not as physically recognizable as surface-water ones. They are communities of atomized individual irrigators:

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191. See NEB. REV. STAT. §§ 2-3201 to 32,115 (2014).

192. AUCOIN, *supra* note 150, at 36.

193. Vincent H. Dreeszen, *Water Availability and Use*, in FLAT WATER, *supra* note 84, at 82.

194. See High Plains Aquifer Interactive Atlas, KAN. GEOLOGICAL SURVEY, [http://www.kgs.ku.edu/HighPlains/HPA\\_Atlas/InteractiveAtlas.html](http://www.kgs.ku.edu/HighPlains/HPA_Atlas/InteractiveAtlas.html) (last accessed Jan. 29, 2017).

while their farms may lack a common physical connection to the water supply, they share a common orientation to the regulatory structures that control that supply. Groundwater irrigation communities are thus more abstract than surface-water ones, but they are no less real; indeed, they are ably represented by their groundwater districts.

Third, groundwater irrigation communities are comparatively impermanent and mobile. Surface-water power and irrigation projects, especially Reclamation projects, are capital-intensive and designed to be permanent—to “endure as long as time endures.”<sup>195</sup> While the investment required for groundwater irrigation is substantial, it is relatively inexpensive compared to surface-water irrigation, and the equipment is depreciable as a capital expense. If conditions change, the irrigator can move that equipment to another tract or sell the equipment. Major groundwater irrigators such as dairies and feedlots have moved during the last several decades in response to changes in groundwater levels and regulations.<sup>196</sup>

Yet groundwater irrigation communities are also strongly marked by a fourth characteristic—their close connection to their local economies and markets. In Kansas at least, the power of these local economies and markets helps explain their communities’ quiescent approach to prior appropriation. Senior water-rights holders can protect themselves by requesting that the chief engineer administer junior water rights, but groundwater irrigation communities in Kansas have not behaved according to the administrative assumptions of prior appropriation. As individuals, farmers with senior groundwater rights have generally refrained from making calls to protect their wells against impairment by nearby junior wells.<sup>197</sup> As communities, they have long pursued a deliberate policy of inaction to avoid the consequences of reducing junior groundwater rights.

This action may seem economically irrational over the long term, but there are good reasons for it. It can be much more complicated to identify well-to-well impairment in a groundwater-dominated system than in a surface-water one.<sup>198</sup> Regarding new applications for groundwater rights or changes to existing ones, is the impairment beyond a reasonable economic limit?<sup>199</sup> Answering this question requires time and analysis. The administration of prior appropriation rights in a surface-water system has immediate and predictable consequences; but in a groundwater system, especially one such as the Ogallala Aquifer, the effects of administration are delayed and uncertain, and can be too wide-ranging and draconian for many groundwater irrigators to consider. Making a groundwater call can also have greater impact than making a surface-water one: largely because the water-rights neighborhoods across the Ogallala Aquifer are severely over-appropriated, protecting a senior groundwater right at its fully authorized quantity may require many nearby junior rights to be shut down for a long time. Groundwater irrigation communities in Kansas are acutely aware of this potential

195. BUREAU OF RECLAMATION, *supra* note 132, at 9.

196. Dairies are a good example of the mobility of groundwater irrigators. See WILLIAM ASHWORTH, *OGALLALA BLUE: WATER AND LIFE ON THE HIGH PLAINS* 58–60 (2006).

197. Griggs, *supra* note 166, at 1299–1300.

198. See KAN. ADMIN. REGS. §§ 5-4-1, 5-4-1a (2010).

199. See KAN. STAT. ANN. §§ 82a-711, 82a-708b (2014).

consequence, and so few major irrigators have filed impairment complaints with the chief engineer; even fewer have taken their neighbors to court.<sup>200</sup>

This collective and deliberate inaction is a tribute of sorts to groundwater irrigation communities, but it also reveals the way their individually held water rights relate to their local economic situation. A typical groundwater irrigator in Kansas grows corn, soybeans, and grain sorghum and sells those crops to feedlots and ethanol plants, which usually have substantial water rights of their own. Any administrative or legal action that might recalibrate local groundwater rights according to the actual (and declining) water supply threatens to upset this economic system, treating its participants disproportionately according to the priority of their water rights.<sup>201</sup>

This inaction also reveals the final characteristic of groundwater irrigation communities: their wary attitude to classic western water law and regulation. Surface-water irrigation communities tend to be legally conservative because their senior water rights enjoy strong property-rights protections under state water law and—where applicable—the Reclamation Act. Groundwater irrigation communities do not generally enjoy this protection. And because administering groundwater rights according to the prior appropriation doctrine may produce unpredictable results, groundwater irrigation communities usually view water law not as something that protects property rights, but rather as governmental regulation that limits and interferes with their water use. Acting through their groundwater districts, they have significantly curtailed the influence of state engineers and the prior appropriation doctrine.

And where surface-water irrigation communities prize their valuable senior rights during water shortages, groundwater communities typically stress the need to treat all groundwater irrigators equally to reduce water use.<sup>202</sup> Indeed, many groundwater irrigators have argued to abandon prior appropriation altogether by comparing groundwater to any other mineral resource that should be mined without regard to sustainability. One hundred and sixty years after California blessed the analogy of mining customs to water use, these irrigators have forced that analogy to its logical extreme: no one in his or her right mind keeps gold in the ground.

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200. Griggs, *supra* note 166, at 1299–1300 (reporting just 16 impairment claims filed in Kansas between 2006 and 2008, out of approximately 40,000 groundwater rights). A recent Kansas Court of Appeals decision, *Garetson Bros. v. Am. Warrior, Inc.*, 347 P.3d 687 (Kan. Ct. App. 2015), upheld a senior groundwater right holder's injunction against a junior groundwater right. The case is notable as the first reported decision concerning a senior groundwater pumper's right to enjoin junior rights which are impairing the senior right, pursuant to KAN. STAT. ANN. § 82a-717a (2016).

201. Indeed, that is a powerful disincentive for considering a groundwater adjudication across the Ogallala. See Griggs, *General Stream Adjudications as a Property and Regulatory Model for the Ogallala Aquifer*, 15 WYO. L. REV. 413, 428–29 (2015).

202. See DIV. OF WATER RES., KAN. DEP'T OF AGRIC., ORDER OF DESIGNATION APPROVING THE SHERIDAN 6 LOCAL ENHANCED MANAGEMENT AREA WITHIN GROUNDWATER MANAGEMENT DISTRICT NO. 4, 17–18 (2013), <http://www.gmd4.org/SD6/SD6-Order-2.pdf> [<https://perma.cc/T4Z5-KL34>].

### III. THE COLLISION OF POLITICAL CULTURES IN THE REPUBLICAN RIVER BASIN

The overdevelopment of groundwater across the Great Plains began to reduce the region's stream and river flows as early as the 1960s.<sup>203</sup> By the 1980s, interstate conflicts over these declining river systems started to reach the Supreme Court, which decides interstate disputes.<sup>204</sup> Texas sued New Mexico over the Pecos River, and Kansas sued Colorado over the Arkansas.<sup>205</sup> These lawsuits followed the typical pattern of interstate water litigation: the downstream state sues the upstream state (or states), alleging that excessive upstream use, usually caused by under-regulated groundwater pumping, is violating its rights by depleting supplies downstream.

#### A. The Conflict on the Surface

The fight over the Republican River Basin is no exception. It began with excessive groundwater development. By the end of the 1970s, Colorado and Kansas had responded to groundwater declines by closing their portions of the Basin to new wells, limiting their number to about 4,000 in each state. By contrast, Nebraska did not impose restrictions. As a result, the number of wells in Nebraska increased by more than 50 percent, from around twelve thousand to more than eighteen thousand, and irrigated acreage increased even more.<sup>206</sup> This increased pumping intercepted groundwater base flows that would have otherwise supported the surface waters of the Basin. Inflows to the tributaries and mainstem of the river, as well as lakes and reservoirs, declined accordingly. Figure 2 shows how this increase in irrigated acreage and groundwater pumping caused a drop in the Basin's largest reservoir, Harlan County Lake, which supplies water to irrigators in the Nebraska Bostwick Irrigation District (NBID) and KBID.

While inflows can vary according to annual fluctuations in precipitation, the overall trend is undeniable: the increase in groundwater pumping beyond sustainable levels produced a significant decline in both surface flows and groundwater levels in Nebraska's portion of the Basin. In Perkins, Chase, and Dundy Counties, groundwater levels have fallen more than fifty feet.<sup>207</sup>

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203. By 2009, groundwater pumping had dried up most of the previously perennial streams of Kansas west of the hundredth meridian. Kansas Geological Survey, *supra* note 18.

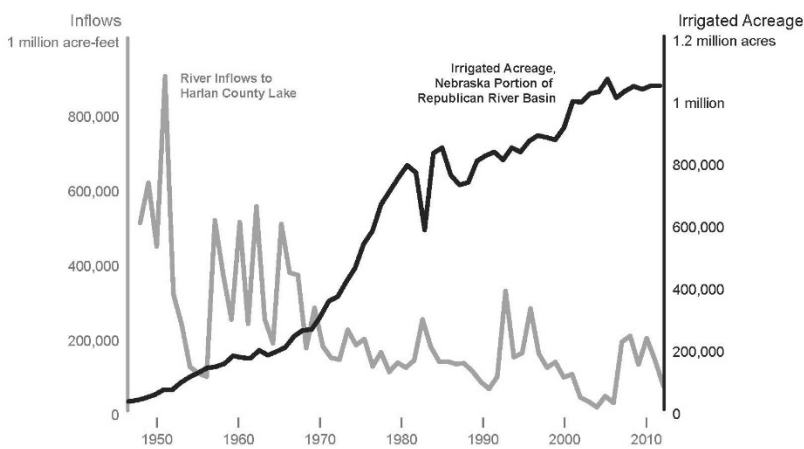
204. See U.S. CONST. art. III, § 2; see also 28 U.S.C. § 1251(a) (placing original jurisdiction over interstate disputes with the Supreme Court of the United States).

205. See, e.g., *Texas v. New Mexico*, 462 U.S. 554 (1983); *Kansas v. Colorado*, 533 U.S. 1 (2001). *Texas v. New Mexico*, No. 65 Orig. (1974–89), contested New Mexico's violations of the Pecos River Compact, while *Kansas v. Colorado*, No. 105 Orig. (1984–2009), contested Colorado's violations of the Arkansas River Compact. For an excellent account of the Pecos River litigation, see G. EMLÉN HALL, *HIGH AND DRY: THE TEXAS-NEW MEXICO STRUGGLE FOR THE PECOS RIVER* (2002).

206. See Final Report, *supra* note 37, at 18.

207. See *Predevelopment to Spring 2015*, GROUNDWATER-LEVEL CHANGES IN NEB. ARCHIVE, [http://snr.unl.edu/csd-esic/GWMapArchives/2015GWMaps/Pred\\_Spr2015.jpg](http://snr.unl.edu/csd-esic/GWMapArchives/2015GWMaps/Pred_Spr2015.jpg) [https://perma.cc/6AJF-SZBY].

**Irrigated Acreage in the Nebraska Portion of the Republican River Basin, and Declines of River Flows into Harlan County Lake, 1948-2012**



Source: Nebraska Department of Natural Resources, 2014

Figure 2

The declines in reservoir inflows reached a critical point during the 1990s. In 1998, Kansas sued, alleging that groundwater pumping in Nebraska had deprived Kansas of the water to which it was entitled under the Compact.<sup>208</sup> The Compact, however, contained a problem: enacted decades before groundwater pumping became significant, it did not mention groundwater. The Compact refers neither to “surface water” nor to “groundwater,” but rather allocates the “virgin water supply,” which is defined as “the water supply within the Basin undepleted by the activities of man.”<sup>209</sup> As a threshold issue, then, was groundwater even included in the Compact’s allocation of the Basin’s water supply? Kansas alleged that Nebraska’s many thousands of wells in the Republican River Basin and its failure to protect surface flows had caused Nebraska to appropriate far more of the “virgin water supply” of the Basin than the Compact allocated to Nebraska.<sup>210</sup> Both Nebraska and Colorado presented legal defenses which largely conformed to their respective state water laws. Nebraska asserted that the Compact did not restrict groundwater pumping, because it did not mention groundwater.<sup>211</sup> Colorado claimed that the Compact at most included alluvial groundwater, but excluded Ogallala groundwater—a position consistent with Colorado’s statutory distinction

208. Motion for Leave to File Bill of Complaint, *Kansas v. Nebraska*, 525 U.S. 1101 (May 1998) (No. 126, Orig.). Kansas’s lawsuit was directed at Nebraska, but because Colorado is a party to the Compact, it was necessary to include Colorado in the case.

209. Republican River Compact, ch. 104, art. II, 57 Stat. 86, 87 (1943).

210. See First Report of the Special Master, *supra* note 24, at 23–31.

211. *Id.* at 21.

between tributary and non-tributary groundwater.<sup>212</sup> The court ruled mostly for Kansas on this issue, deciding that the Compact required an accounting of groundwater pumping that caused depletions to the river's flows.<sup>213</sup> Following that threshold decision, the states began to negotiate the remaining issues in the case.

These negotiations produced a comprehensive settlement agreement, the Final Settlement Stipulation of 2002 (FSS). The FSS formally integrated the Basin's groundwater supplies within the allocations of the Compact. Through the FSS, the states imposed a general moratorium on additional wells within the Basin.<sup>214</sup> They established accounting procedures to calculate groundwater consumption according to the states' respective Compact allocations.<sup>215</sup> Assisted by the United States Geological Survey as well as Reclamation, they produced a computer groundwater model, the Republican River Compact Administration Groundwater Model (RRCA Model), which estimates the impact of groundwater pumping on streamflows across the Basin.<sup>216</sup> The Court trumpeted this technically intensive, negotiated settlement as superior to any result that litigation could have produced.<sup>217</sup> Interstate cooperation had apparently produced that rarest of things: interstate comity, the Panglossian goal of every water compact.<sup>218</sup>

Yet despite the lawsuit, the Court's approval of the FSS, and the FSS itself, Nebraska did not reduce its groundwater pumping in the Basin. As Figure 2 reveals, Nebraska continued to increase its irrigated acreage even after the FSS was signed in 2002. Dry years returned to the Basin, groundwater irrigators compensated for drought by increasing their pumping, and Nebraska again violated the Compact. In 2005 and 2006, Nebraska overused its allocations by more than 35,000 acre-feet per year.<sup>219</sup> As a result, Kansas alleged, the long-term depletions to surface-water supplies caused by groundwater pumping continued to increase in both Nebraska and Kansas.<sup>220</sup>

In 2010, Kansas returned to the Court to enforce the Compact and the FSS, seeking a combination of legal and equitable remedies.<sup>221</sup> It sought monetary damages to compensate Kansas for its losses for Nebraska's 2005–2006 noncompliance.<sup>222</sup> Alternatively, Kansas asked the Court to order the disgorgement of Nebraska's gains from that noncompliance. Nebraska's sustained overpumping of groundwater upstream in the Basin had created long-term depletions to streamflows, exacerbating transit losses on streams and creating lagged depletions

212. *Id.* at 42; for the Colorado distinction, *see supra* text accompanying notes 155–159.

213. Second Report of the Special Master at 36, *Kansas v. Nebraska*, 538 U.S. 720 (Apr. 16, 2003) (No. 126, Orig.); *Kansas v. Nebraska*, 530 U.S. 1272 (2000) (denying Nebraska's motion to dismiss).

214. Final Settlement Stipulation, *supra* note 22, at 9–11.

215. *Id.* at 17–25, C1–C114.

216. Final Report, *supra* note 37, at 6, 10–52.

217. Second Report of the Special Master, *supra* note 213, at 73–77.

218. *Kansas v. Nebraska*, 538 U.S. 720 (2003) (approving the Final Settlement Stipulation).

219. *Kansas v. Nebraska*, 135 S.Ct. 1042, 1053 (2015) (revolving around a dispute of 70,869 acre-feet over the 2005–2006 period).

220. Kansas Brief in Support of Motion for Leave to File Petition, Petition, and Brief in Support at 6–11, *Kansas v. Nebraska*, 562 U.S. 820 (May 3, 2010) (No. 126, Orig.) [hereinafter Kansas Motion for Leave].

221. *Id.* at 11–13.

222. *Id.* This remedy was established in *Kansas v. Colorado*, 533 U.S. 1, 8, 20 (2001).



in groundwater baseflow.<sup>223</sup> Because these losses accumulate over time, Nebraska's overuse exceeded Kansas's water shortage; as a consequence, Nebraska's financial gains were "very much larger than Kansas's loss, likely by several multiples."<sup>224</sup> After the settlement of the first round of litigation in 1998–2003, Nebraska fully understood these impacts, but failed to take adequate steps to insure against noncompliance.<sup>225</sup> As Special Master William J. Kayatta Jr. concluded, "Nebraska hoped to comply, but knowingly failed."<sup>226</sup> He found that a partial disgorgement of Nebraska's gains was an appropriate remedy for the noncompliant years of 2005–2006, the only years at issue in the case; however, if Nebraska failed to comply in the future, it could be forced to disgorge all of its profits gained by noncompliance.<sup>227</sup> The Court approved the Special Master's recommendation, finding that Nebraska had "recklessly gambled with Kansas's rights" and should therefore pay \$5.5 million in damages and disgorgement accordingly.<sup>228</sup> The Court put Nebraska on notice that if it were to relapse again into noncompliance, it "may again be subject to disgorgement gains—either in part or in full, as the equities warrant."<sup>229</sup> The Court's award of disgorgement gains established a landmark precedent in the history of interstate water litigation, one that other states are already seeking to exploit.<sup>230</sup>

Kansas also sought a dramatic equitable remedy: the reduction of 170,000 acres of groundwater pumping within Nebraska's portion of the Basin.<sup>231</sup> According to Kansas's chief engineer, this was the minimum amount of retirement necessary to restore hydrological balance to an over-pumped and over-stressed groundwater system.<sup>232</sup> Such a remedy would interfere substantially with Nebraska's longstanding plan to comply with the Compact through a series of Integrated Management Plans (IMPs).<sup>233</sup> The IMP's provide an interlocal mechanism between Nebraska's NRD's, which exercise local control over groundwater pumping, and Nebraska DNR, which exercises centralized control over surface water rights.<sup>234</sup> Nebraska has also enacted statutes defining the terms "over-appropriated" and "fully appropriated" for its compacted river basins, with corresponding regulatory requirements.<sup>235</sup> Neither the Special Master nor the Court adopted this remedy: they did not intervene to change Nebraska's compliance

223. Report of the Special Master at 106, *Kansas v. Nebraska*, 134 S.Ct. 981 (Nov. 15, 2013) (No. 126, Orig.).

224. *Id.* at 178.

225. *See id.* at 106–12.

226. *Id.* at 112.

227. *See id.* at 103–87.

228. *Kansas v. Nebraska*, 135 S.Ct. 1042, 1056–58 (2015).

229. *Id.* at 1059.

230. The State of Mississippi's Motion for Leave to File Bill of Complaint in Original Action, Complaint, and Brief in Support of Motion at 21, ¶ 55, *Mississippi v. Tennessee*, 135 S.Ct. 2916 (June 16, 2014) (No. 143, Orig.).

231. *Kansas Motion for Leave*, *supra* note 220, at 12; *id.* at C1-C10 (offering a statement by Kansas Chief Engineer David W. Barfield).

232. *Id.* at C10.

233. NEB. REV. STAT. § 46-715(1) (2011); *see also infra* text accompanying notes 236–244.

234. *See supra* text accompanying notes 189–191 *supra*.

235. NEB. REV. STAT. §§ 46-713(3), -713(4)(a) (2011).

policy. The IMP's survived Kansas's attack, largely because the Court was satisfied with these statutory changes; the Court was convinced that Nebraska had "significantly restructured its regulation of groundwater pumping."<sup>236</sup>

### B. The Deeper Conflict over Future Compliance

Will Kansas's legal victory be enough to protect its portion of the Basin's water supplies? While the Supreme Court awarded monetary damages to Kansas and threatened Nebraska with disgorgement in the future, it did not overrule Nebraska law and order reductions in the state's groundwater pumping. (On the contrary, it allowed Nebraska's groundwater pumping to increase.<sup>237</sup>) The Court may have just postponed the interstate legal fight for another day, allowing Nebraska (and Colorado) to figure out how best to comply with the Compact in the meantime.

The fight is by no means over; the decision has highlighted the issue of future compliance. Colorado and Nebraska, where groundwater interests dominate their portions of the Basin, have devised Compact compliance plans that protect their current groundwater pumping levels by shifting the burden of compliance to surface-water irrigation projects. In Nebraska, surface-water irrigation communities have sued their parent state in state and federal court, sought help from Reclamation, and even assisted the state of Kansas to obtain protection from these compliance plans.<sup>238</sup>

The interstate legal fight over the future of the Republican River has thus generated a series of proxy wars between surface-water and groundwater irrigation communities within Nebraska. And due to the dominance of groundwater interests there, the future probably holds a paradoxical end, where legal compliance with the Compact comes at the expense of the river itself and the surface-water communities that depend upon it. This is not what the Compact's framers intended; they believed emphatically in a perpetual river with secure surface water supplies.<sup>239</sup>

236. Report of the Special Master, *supra* note 223, at 112–19.

237. Nebraska secured an important victory in the case. It based much of its counterclaim on the assertion that the RRCA Accounting Procedures contained an error which the Court should correct. Specifically, Nebraska alleged that the procedures erred by counting certain return flows from irrigation in the Platte River Basin, flows which cross the hydrological divide and seep as baseflow into the Republican River Basin, as part of the Republican River Compact's "virgin water supply." The Court accepted this argument, and accordingly ordered an alteration in the accounting procedures it had previously approved by decree in 2003, thereby lessening the compliance burden on Nebraska. *See Kansas v. Nebraska*, 135 S.Ct. 1042, 1059–64 (2015). The issue of whether the Court could order the modification of the FSS and its Accounting Procedures produced a deeply divided set of opinions. *Id.* at 1064 (Roberts, C.J., dissenting). Chief Justice Roberts joined Justices Thomas, Scalia, and Alito in this regard, who stressed that the States did not make a mistake in the accounting procedures, and so the contract remedy of reformation was not available; indeed, the "terms of the Settlement are thus crystal clear. . . ." *Id.* at 1071 (Thomas, J., dissenting). "If there is any mistake in this Settlement [the FSS], it is not a mistake in writing, but in thinking. The parties knew what the methodology was and they expressly agreed to that methodology. They simply thought the methodology would work better than it did. Even though the methodology they agreed upon was imperfect, a writing may be reformed only to conform with the parties' actual agreement, not to create a better one." *Id.* at 1072.

238. *See infra* text accompanying notes 268–273, 369–394.

239. Republican River Compact, ch. 104, 57 Stat. 86–87 (1943); *see supra* text accompanying notes 127–139.

Both Colorado and Nebraska have struggled to comply with the Compact because their excessive groundwater pumping has depleted surface flows and groundwater baseflows across their portions of the Basin. To achieve compliance over the long term, these states have a choice. They can reduce groundwater pumping to correct this hydrologic imbalance, but that option will significantly reduce the amount of acreage irrigated by groundwater. Instead, they have chosen a more complicated option that is engineered to protect groundwater pumping from forced reductions. This option obtains the water necessary for Compact compliance from elsewhere: by sacrificing water supplies devoted to surface-water rights, and by pumping distant groundwater and then piping that water directly into the river.<sup>240</sup>

Nebraska's approach to compliance lies in its IMPs.<sup>241</sup> While these plans involve coordinating Nebraska's segregated laws for surface water and groundwater, that coordination remains largely under local control.<sup>242</sup> As a result, the IMPs have not seriously addressed the problem of excessive pumping. While they do include provisions that plan to reduce groundwater pumping from peak levels, and require pumping reductions as a last resort, in practice they have sacrificed surface-water supplies when water has run short.<sup>243</sup> In dry years, when Nebraska needs to reduce water use, the IMPs have effectively required that all surface-water rights in the Basin be administered *before* shutting off any groundwater wells.<sup>244</sup>

During the water-short years of 2013 and 2014, that is just what Nebraska did. Rather than reduce groundwater pumping, the Nebraska DNR issued closing notices for all surface-water rights in Nebraska's portion of the Basin, including those held by Reclamation projects.<sup>245</sup> These projects went without water for much of 2013 and 2014, while Nebraska groundwater irrigators did not suffer pumping reductions. In the name of integrated water management, Nebraska has chosen to sacrifice its surface rights.<sup>246</sup>

This choice reveals the stark power divide in Nebraska water law. While Nebraska DNR has the legal duty to protect senior surface-water rights according

240. See *infra* text accompanying notes 249–264.

241. Because there are four NRD's in Nebraska's portion of the Republican River Basin, each NRD has its own IMP, jointly developed with Nebraska DNR. The most recent IMP to be approved is that between the Lower Republican NRD and Nebraska DNR. DEP'T OF NAT. RES., LOWER REPUBLICAN NAT. RES. DIST., INTEGRATED MANAGEMENT PLAN (2016) [hereinafter LRNRD Integrated Management Plan], [http://dnr.nebraska.gov/Media/iwm/republican/20151210\\_LRNRD\\_Final\\_IMP.PDF](http://dnr.nebraska.gov/Media/iwm/republican/20151210_LRNRD_Final_IMP.PDF) [<https://perma.cc/EEU3-NUAH>].

242. See NEB. REV. STAT. § 46-719 (2011).

243. While the IMP's call for a 20 percent reduction in groundwater pumping, they use the pumping volumes from 1998–2002 as the baseline—some of the highest on record. LRNRD Integrated Management Plan, *supra* note 241, at 5–6.

244. *Id.* at 7–8.

245. NEB. DEP'T OF NAT. RES., IN THE MATTER OF WATER ADMINISTRATION OF THE REPUBLICAN RIVER BASIN 2 (2013), <http://dnr.ne.gov/republican-river-basin-compact-call-year-in-effect-2> [<https://perma.cc/FFJ5-JRQQ>]; NEB. DEP'T OF NAT. RES., IN THE MATTER OF WATER ADMINISTRATION OF THE REPUBLICAN RIVER BASIN 2 (2014), <http://dnr.nebraska.gov/orders-order-for-republican-river-compact-call-year-2> [<https://perma.cc/Z5YF-US86>]. See also *infra* text accompanying notes 311–342.

246. See *infra* text accompanying notes 311–342.

to the prior appropriation doctrine, neither that duty nor that doctrine extends to groundwater. Because Nebraska DNR has no jurisdiction over groundwater pumping, it cannot order the local NRDs to reduce pumping in dry years. As a result, Nebraska's principal response to the cause of its noncompliance with the Compact—excessive groundwater pumping—is to shut down the very rights most affected by that pumping—senior surface rights. The architects of the IMPs have decided that cutting off senior water rights during shortages is preferable to curtailing junior groundwater pumpers.

Nebraska has singled out surface-water rights because they fall under the jurisdiction of the state through the DNR. As a result, in dry years, when the legal protections afforded by the Compact matter most, the IMPs transform the reservoirs of federal irrigation projects, such as the Frenchman-Cambridge Irrigation District (FCID) and NBID, into little more than large holding ponds to deliver water to Kansas.<sup>247</sup> In late 2013, after holding unused water in Basin reservoirs for nearly a year, the DNR ordered Reclamation to flush water out of Harlan County Lake so it would flow down into Kansas to meet Nebraska's Compact requirements. The DNR ordered the release even though that water could not be put to beneficial use in Nebraska or Kansas: irrigation season had ended months earlier, and the flush drained water supplies that had been stored in 2013 for irrigation use during 2014.<sup>248</sup> Groundwater irrigators, meanwhile, pumped throughout the year at their usual levels. The DNR does not regulate them.

The power of Nebraska's groundwater irrigation interests dwarfs that of its surface-water irrigation projects.<sup>249</sup> Groundwater irrigators have secured local control through the NRDs; the NRDs have gained control over the IMPs; and the IMPs protect groundwater pumping at the expense of surface-water irrigators. Groundwater interests in Nebraska have exploited the legal segregation of surface-water and groundwater to control the state's Compact compliance strategy.

The IMPs clearly reflect the political realities of water in Nebraska. State political leaders—governors, attorneys general, and directors of natural resource agencies—are often tempted to disregard their compact obligations to other states, rather than face the political consequence of making the unpopular decision to reduce groundwater pumping.<sup>250</sup> A state supreme court can also be a formidable obstacle to state regulation of groundwater pumping; indeed, that is what has sometimes happened in Colorado, despite its more sophisticated approach to groundwater.<sup>251</sup>

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247. LRNRD Integrated Management Plan, *supra* note 241, at 6–8.

248. NEB. DEP'T OF NAT. RES., NEBRASKA SENDS REPUBLICAN RIVER WATER DOWNSTREAM AFTER KANSAS REJECTS DEAL TO AID ITS WATER USERS, (2013), <http://dnr.nebraska.gov/Media/PDF/NewsRelease20130503.pdf> [<https://perma.cc/6BME-AS9N>].

249. See Dreeszen, *supra* note 193.

250. See, for example, the work of the incomparable Steve Reynolds, New Mexico state engineer. HALL, HIGH AND DRY, *supra* note 205, at 108–29.

251. See First Report of the Special Master at 118–19, *Kansas v. Colorado*, No. 105, Orig., 1994 WL 16189353 (U.S. July 29, 1994). Colorado attempted in the 1960s to regulate groundwater pumping on the Arkansas River, and the Colorado Supreme Court overcame and/or reversed these efforts. It took Kansas's lawsuit against Colorado to force the state either to curtail post-compact groundwater development or replace the depletions caused by over-pumping. The fact that the waters of the Arkansas

Groundwater interests in Colorado have taken major steps to eradicate surface water irrigation from their portion of the Basin. Groundwater districts have purchased surface water rights that once diverted water from the North Fork and the South Fork of the Republican River and retired them permanently.<sup>252</sup> Financed by its own substantial irrigated land and water right assessments<sup>253</sup> and assisted by a low-interest loan from the State of Colorado, the Republican River Water Conservation District (RRWCD) had spent around \$51 million by 2011 to purchase and retire water rights.<sup>254</sup> On the South Fork, Colorado has taken a more dramatic step by draining Bonny Reservoir, a Reclamation project where it holds all the water rights. See Figure 3.

These surface-water rights are not connected to an irrigation project; Reclamation conceived of one to operate in tandem with private ditches that predated the reservoir, but never built it. Rather, the rights in Bonny are recreational ones, dedicated to fishing, wildlife, and boating. Due to upstream groundwater pumping, streamflow on the South Fork has been declining for decades, reducing the level in the reservoir. By 2000, Colorado faced a choice with Bonny: reduce upstream groundwater pumping to preserve and possibly restore it, or drain it to free up water for groundwater pumping.<sup>255</sup> By choosing the second option, Colorado no longer suffers the evaporative and seepage losses that count against its Compact allocations.

Subordinating surface-water supplies to groundwater pumping is the necessary first step in these Compact compliance plans, but it is far from sufficient. The second step consists of a series of “augmentation plans,” in which Colorado and Nebraska have invested hundreds of millions. The augmentation plan originated in Colorado, where it has become a popular water-management tool. It enables junior groundwater pumpers to secure their water rights and keep pumping during shortages as long as they have a legally binding plan to “augment” the water supply—to provide substitute water to senior rights holders that are affected by out-of-priority pumping.<sup>256</sup> By the time the Compact was litigated in 1998, augmentation plans had spread across Colorado’s eastern river basins. At a late

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River Basin in Colorado are classified as tributary groundwater and thus within the jurisdiction of the state engineer only emphasizes this point.

252. These include rights to the Pioneer Ditch on the North Fork and the Hale and Newton Ditches on the South Fork. For the Pioneer Ditch, *see supra* note 141.

253. *See Water Use Fees*, REPUBLICAN RIVER WATER CONSERVATION DIST., <http://www.republicanriver.com/RRWCDInfo/WaterUseFees/tabid/105/Default.aspx> [<https://perma.cc/DP67-KQ6Y>]. The annual assessment is \$14.50/acre for land irrigated by groundwater.

254. MARTHA O. PAGEL, IN RE: NON-BINDING ARBITRATION PURSUANT TO THE FINAL SETTLEMENT STIPULATION, *KANSAS V. NEBRASKA AND COLORADO*, NO. 126 COLORADO, COLORADO COMPACT COMPLIANCE PIPELINE DISPUTE: ARBITRATOR’S FINAL DECISION 5 (2010) (summarizing Colorado’s 2010 testimony about the costs of water rights retirements in its portion of the Republican River Basin for the purposes of compact compliance).

255. *See* Deb Daniel, *Compact Compliance Pipeline Dedicated*, JULESBURG ADVOCATE (Sept. 6, 2012), [http://www.julesburgadvocate.com/ci\\_21482136/compact-compliance-pipeline-dedicated](http://www.julesburgadvocate.com/ci_21482136/compact-compliance-pipeline-dedicated) [<https://perma.cc/2GUN-KE88>]. According to Mike King, executive director of the Colorado Department of Natural Resources, draining Bonny Reservoir was the hardest choice he ever made. *Id.*

256. *See* COLO. REV. STAT. ANN. § 37-92-103(9) (2014); *see also* Cache La Poudre Water Users Ass’n v. Glacier View Meadows, 550 P.2d 288, 293-94 (Colo. 1976); *see also* Kelly Ranch v. Se. Colo. Water Conservancy Dist., 550 P.2d 297, 304 (Colo. 1976).

point in the settlement negotiations, Colorado introduced the concept of augmentation plans at the interstate level, and the RRCA agreed to allow them.<sup>257</sup>



Figure 3: The Draining of Bonny Reservoir, 2011  
Photo by Author

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257. Final Settlement Stipulation, *supra* note 22, at 15.

Envisioned as a limited exception to the states' moratorium on groundwater development, augmentation plans are becoming the dominant tool by which Colorado and Nebraska plan to comply with the Compact. These augmentation projects pump groundwater from supplies that are hydrologically more distant from the Republican River, such as the Ogallala Aquifer. Pumping from these more distant sources creates a smaller effect on the Compact accounting than pumping from wells closer to the river, such as alluvial wells. The projects then pipe that groundwater to tributaries and dump it there, where it augments streamflows. This artificial transportation of more distant groundwater compensates for depletions to streamflow caused by groundwater pumping closer to the tributaries and mainstem of the river, which has a correspondingly greater effect on the Compact accounting. It is important to note that these plans do not augment the water supply of the Basin; rather, they use low-impact groundwater pumping (as determined by the RRCA accounting procedures and the RRCA Model) to offset the effects of high-impact groundwater pumping (also as determined by the same procedures and model).<sup>258</sup> Put another way, interstate augmentation plans solve the legal and accounting problem of a diminished river by replumbing it—by connecting it to distant groundwater sources.

In the wake of the 1998–2003 litigation, Colorado established the RRWCD, a local political entity with substantial powers and discretion in devising means of complying with the Compact.<sup>259</sup> The RRWCD includes several groundwater-management districts, and contains nearly half a million irrigated acres. Colorado then loaned the RRWCD millions of dollars at low interest rates to develop a compliance plan. The RRWCD used \$51 million to retire surface rights.<sup>260</sup> Next, it spent more than \$20 million to build the Colorado Compact Compliance Pipeline, or CCP. This project pumps as much as 25,000 acre-feet of Ogallala Aquifer water annually from a battery of high-capacity wells, pipes it to a point just west of the Nebraska border, and then dumps it into the North Fork Republican River. As that water flows past the state line gage, it compensates for Colorado's groundwater overuse under the Compact. All told, the RRWCD has spent nearly \$100 million on the project, which should enable Colorado to comply with the Compact while allowing most irrigators to maintain their groundwater pumping at current levels.<sup>261</sup>

For the retained believers—the leaders of the RRWCD, their engineers, their lawyers, and their state officials—the CCP is a clinical and perfectly legal solution to an intractable problem: the limitations of the hydrologic cycle. These experts point out the reality of accumulated groundwater depletions. Even if Colorado stopped all groundwater pumping in its part of the Basin, it could not comply with the Compact for decades without the CCP; the river system is that far

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258. Final Settlement Stipulation, *supra* note 22, at 17–25, C1–C114; Final Report, *supra* note 37, at App. A (RRCA Model DVD). The RRCA Model has been regularly updated since 2003, see [www.republicanrivercompact.org](http://www.republicanrivercompact.org) [<https://perma.cc/CPF4-JMVU>].

259. COLO. REV. STAT. §§ 37-50-101 to 142 (2016).

260. See *supra* text accompanying note 254.

261. *The Pipeline*, REPUBLICAN RIVER WATER CONSERVATION DIST., <http://www.republicanriver.com/Pipeline/tabid/101/Default.aspx> [<https://perma.cc/S8V4-J8LR>].

out of balance.<sup>262</sup> The CCP may well provide its backers with more than a century of water; time will tell. From a layman's perspective, Colorado's approach to compliance may seem odd, and even upside-down. It drains a federal reservoir on the South Fork, while pumping nonrenewable Colorado Ogallala groundwater into a pipeline on the North Fork—so that Colorado can pump more groundwater. The approach officially sanctions the dewatering of northeastern Colorado under the legal cover of augmentation, ultimately replacing a real if struggling river with a bad replica of one.

Yet the only perspective that really matters is local. In 2007, the Colorado Division of Water Resources proposed draft rules requiring the curtailment of groundwater wells in the RRWCD; these rules faced withering opposition and were promptly and permanently shelved.<sup>263</sup> Dennis Coryell, a leader and former president of the RRWCD, speaks plainly about the interests and assumptions of his groundwater irrigation community. "We were given two tasks. One was to assist the State in reaching compact compliance. The other was to sustain the agricultural-based economy in the Basin," he said. Given those goals, the only option was to drain Bonny and tap the Ogallala Aquifer. "No one wants to pump our precious groundwater and send it down the river, but we have no other choice," he explained.<sup>264</sup> For Coryell and his fellow groundwater irrigators, the "agricultural-based economy" is the current situation of groundwater irrigation at its present pumping levels; they are not inclined to acknowledge any other kind. Reduced levels of groundwater irrigation are not politically possible given the amount of irrigation water that corn requires in eastern Colorado. As long as corn is king across the Ogallala Aquifer, neither sustainable irrigation levels nor dryland farming will be an acceptable option.

And so Colorado had no other choice but to drain Bonny Reservoir, and the RRWCD had no other choice but to build the CCP. These are not decisions based on water supply. They are grounded in the economic expectations of irrigated agriculture—rates of return, purchases of agricultural equipment and supplies, and tax revenues, all which support a belief that the present value of money exceeds the future value of water. Keep these expectations in mind, and the CCP makes sense.

Where Colorado has concentrated its augmentation efforts on one large pipeline, Nebraska has built two so far and may build more. The first pumps between 15,000 and 20,000 acre-feet of Ogallala Aquifer water annually and pours it into a dry streambed high on Rock Creek, a remote tributary of the Republican River. From there the water seeps and flows into the main channel of the river above Swanson Reservoir; whatever water enters the river from this pumping project counts as a credit to Nebraska under the Compact.<sup>265</sup>

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262. PAGEL, *supra* note 254, at 7.

263. Transcript of Testimony from Dennis Coryell, President, Republican River Water Conservation Dist., at Non-Binding Arbitration pursuant to Final Settlement Stipulation, at 14–15, *Kansas v. Nebraska*, 134 S.Ct. 981 (October 2, 2013) (No. 126, Orig.).

264. Daniel, *supra* note 255.

265. *Water Begins Flowing in Rock Creek Augmentation Project*, MCCOOK GAZETTE, Feb. 28, 2013, <http://www.mccookgazette.com/story/1945715.html> [<https://perma.cc/SCB7-72PS>].



A second pipeline, the Nebraska Cooperative Republican-Platte Enhancement Project, or N-CORPE, can pump 65,000 acre-feet of deep groundwater every year from beneath the Platte and Republican River Basins to meet the state's multiple interstate obligations. On the Platte, the groundwater helps ensure compliance with an interstate agreement with Wyoming, Colorado, and the United States to protect endangered species by setting minimum instream flows.<sup>266</sup> On the Republican, N-CORPE pours the pumped groundwater into Medicine Creek, shoring up Nebraska's accounting balance under the Compact.<sup>267</sup> The Rock Creek and N-CORPE projects pumped nearly 65,000 acre-feet of water into the Republican River system in 2014.<sup>268</sup>

These projects are expensive, but they pay for themselves, because they enable the augmenting states to keep pumping groundwater at present or near-present levels. N-CORPE cost approximately \$130 million.<sup>269</sup> Yet without it and the Rock Creek Project, Nebraska's compliance obligations would require the state to force the retirement of approximately 330,000 acres in its portion of the Basin, forcing farmers into dryland farming and causing a commensurate decline in assessed land values of between \$500 and \$900 million.<sup>270</sup>

The impact of these augmentation plans has been substantial. With a combined annual capacity of approximately 110,000 acre-feet, these three augmentation plans can compensate for significant groundwater over-pumping in Colorado and Nebraska under the Compact.<sup>271</sup> Hydrologically, they rely upon and deplete largely nonrenewable groundwater; ironically, they cause their own, additional depletions to streamflows, which in turn must also be offset under the Compact accounting.<sup>272</sup> These hydrological facts aside, augmentation plans have already made a significant impact on the way in which states manage their Compact allocations. Unlike delivery compacts such as the Colorado River

266. See PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM, <https://www.platteriverprogram.org> [<https://perma.cc/5XAQ-E7RR>].

267. See *About N-Corpe*, N-CORPE, [www.ncorpe.org/about](http://www.ncorpe.org/about) [<https://perma.cc/SEH2-E2BS>].

268. See Russ Pankonin, *Augmentation Pumping from Lincoln County Project Complete*, IMPERIAL REPUBLICAN, Apr. 9, 2015, at 1 (noting that more than 20,000 acre-feet were pumped from the Rock Creek project in 2014); Kamie Stephen, *N-CORPE Ceases Republican River Compliance*, NORTH PLATTE TELEGRAPH, (Apr. 22, 2015), [http://www.nptelegraph.com/news/local\\_news/n-corpe-ceases-republican-river-compliance/article\\_036cd71f-bb18-5c85-883a-f98e3506d3d8.html](http://www.nptelegraph.com/news/local_news/n-corpe-ceases-republican-river-compliance/article_036cd71f-bb18-5c85-883a-f98e3506d3d8.html) [<https://perma.cc/85JK-BY3L>] (noting more than 42,000 acre-feet were pumped from the N-CORPE project in 2014). N-CORPE pumped approximately 45,000 acre-feet in 2014. *Hearing on L.R. 323 Before the Nat. Res. Comm.*, 2015 Leg., 104th Sess. 3-5 (Neb. 2015) (statement of Senator Mike Groene). For more information on the N-CORPE project, see <http://www.ncorpe.org> [<https://perma.cc/9HAS-DCW6>].

269. See *Republican River Compact Arbitration, Direct Testimony of Dr. Jasper E. Fanning Re: N-CORPE Augmentation Plan 3 (2002)*, [http://dwr.kda.ks.gov/NCORPE\\_Trial\\_Exhibits\\_All/Nebraska/NE%20Exhibits/NCORPE\\_N30000.pdf](http://dwr.kda.ks.gov/NCORPE_Trial_Exhibits_All/Nebraska/NE%20Exhibits/NCORPE_N30000.pdf) [<https://perma.cc/9GF2-QKZE>] (estimating the total land and construction costs of the N-CORPE pipeline as \$120 to \$130 million).

270. *Overview*, N-CORPE, <http://www.ncorpe.org/overview> [<https://perma.cc/F773-A845>]. Nebraska's estimate of 330,000 acres that would be required to be retired absent these projects is nearly twice the estimate Kansas provided to the Court in 2010 (170,000 acres). See *Kansas Motion for Leave, supra* note 220, at C1-C10 (statement by Kansas Chief Engineer David W. Barfield).

271. *Republican River Compact*, ch. 104, 57 Stat. 86, 88 (1943) (allocating 54,100 acre-feet and 234,500 acre-feet of consumptive use to Colorado and Nebraska respectively).

272. *Final Settlement Stipulation, supra* note 22, at 15, 25.

Compact or the Rio Grande Compact, the Republican River Compact effectively adopted something like the precautionary principle: it allocates the Basin across its various sub-basins, and requires retrospective accounting.<sup>273</sup> These features encouraged a certain amount of conservatism in how the states planned their water consumption. The groundwater revolution sorely tested this conservatism, and the states mostly failed it. By contrast, augmentation not only enables augmenting states to replace surface water supplies with increased groundwater pumping; it also enables them to retime the river's flows across the Basin. Augmentation has thus changed the dynamics of compliance from one dependent upon the Basin's natural hydrology to one built upon an engineered water delivery system.

Because the Nebraska augmentation projects pipe groundwater to streambeds far upstream from Kansas, something has to be done to shepherd that water downstream. To that end, augmentation in Nebraska contains a distinct twist. Even though this water technically qualifies as surface water under Nebraska law, senior surface-water rights holders in Nebraska cannot divert it to satisfy their rights; that is expressly forbidden.<sup>274</sup> Augmentation water thus creates a cruel spectacle for Nebraska surface-water irrigators. After seeing streamflows decline for decades due to groundwater pumping, they can only watch as this augmentation water flows downstream past their headgates, and irrigators who depend on Reclamation reservoirs can only watch that water evaporate until Nebraska sends it downstream to Kansas.<sup>275</sup> From the augmentation wells to the state line, no surface-water irrigators can divert that water in dry years, even if their priorities date to 1890. First in time, last in right.

Caught between the pincers of augmentation and surface-water rights curtailment, surface-water irrigation communities in Nebraska have come to the grudging conclusion that they cannot rely upon their parent state to protect their water rights. The Nebraska DNR has effectively ceded control of the Republican River to the NRDs, whose IMPs subordinate surface water to groundwater. In a state where groundwater irrigates seven times more land than surface water does, the Nebraska Unicameral will probably not offer relief. Since 1986, the states have known that the Court will not tolerate the efficient breach of an interstate compact.<sup>276</sup> Upstream states have instead chosen a potentially more efficient use of their respective water supplies—but at the expense of their federal irrigation projects, which require surface flows.

Left unprotected, some of these communities took the bold step of supporting Kansas in the 2010–2015 litigation—or at least its efforts to reduce excessive groundwater pumping. In the 2012–2013 trial in *Kansas v. Nebraska*, one of the largest irrigation districts on the Republican River in Nebraska testified in support of Kansas. The FCID stores about 145,000 acre-feet of water in four reservoirs, and routes that water through nearly four hundred miles of canals and laterals to 66,000 acres. It holds forty-one different Nebraska water rights, whose

273. Republican River Compact, ch. 104, arts. III-IV, 57 Stat. 86, 87–88 (1943).

274. NEB. DEP'T OF NAT. RES., IN THE MATTER OF WATER ADMINISTRATION OF THE REPUBLICAN RIVER BASIN 2 (2014); see also *infra* text accompanying notes 314, 322–325.

275. LRNRD Integrated Management Plan, *supra* note 241, at 6–8.

276. See generally Report of Special Master, *Texas v. New Mexico*, 482 U.S. 124 (July 29, 1986) (No. 65, Orig.).

priorities date back to 1890.<sup>277</sup> Over time, depletions due to the overdevelopment of groundwater irrigation reduced the amount of water flowing into the district, harming canals which depend on regular use, and reducing return flows upon which certain district lands depend. More recently, the IMPs have made that situation worse by shutting down the district in dry years. At the trial, the FCID also provided testimony showing that groundwater development had substantially reduced the amount of land the district could irrigate, and that Nebraska DNR had also excluded surface-water irrigators from the IMP process.<sup>278</sup> Officials from Reclamation provided similar testimony, arguing that Nebraska's overdevelopment of groundwater, as well as its IMPs, threatened the long-term water supply for Reclamation facilities in Nebraska.<sup>279</sup>

Nebraska vigorously opposed this testimony, offering a different vision altogether. From a hydrological perspective, it argued that long-term declines in reservoir inflows were primarily the consequence of upstream conservation practices, such as watershed dams, field terracing, and more efficient irrigation methods.<sup>280</sup> From a legal perspective, Nebraska viewed its obligations under the Compact and the Reclamation Act as distinct and severable; and the former, pursuant to *Hinderlider*, always trumped the latter.<sup>281</sup> For Kansas and Reclamation, the security of Reclamation's water supplies and Nebraska's ability to comply with the Compact were legally, historically, and hydrologically inseparable.<sup>282</sup> Faced with such a choice, Nebraska surface-water irrigation communities within the FCID assisted Kansas to protect the district's *Nebraska* water rights—ones held by Reclamation.<sup>283</sup>

The litigation alliance between the State of Kansas and Reclamation districts in Nebraska during the 2010–2015 litigation reveals how the conflict between surface-water and groundwater irrigation communities has substantially supplanted state-based allegiances with water-based ones. The interstate conflict over the Republican River has generated a proxy war between these communities, and it does not observe political borders.<sup>284</sup> Neither does the river: it responds to

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277. See *Frenchman-Cambridge Division*, BUREAU OF RECLAMATION, <https://www.usbr.gov/projects/index.php?id=454> [<https://perma.cc/XW5W-QKS2>].

278. Pre-filed Testimony of Kansas Witness Brad Edgerton, at 5-22, *Kansas v. Nebraska*, 134 S.Ct. 981 (July 13, 2012) (No. 126, Orig.).

279. Pre-filed Testimony of Kansas Witness Marvin Swanda at 12-23, *Kansas v. Nebraska*, 134 S.Ct. 981 (July 13, 2012) (No. 126, Orig.); Pre-filed Testimony of Kansas Expert Aaron Thompson at 16-27, *Kansas v. Nebraska*, 134 S.Ct. 981 (July 15, 2012) (No. 126, Orig.). At the time he testified, Mr. Swanda had retired from Reclamation.

280. See, e.g., REPUBLICAN RIVER COMPACT SETTLEMENT CONSERVATION COMM. FOR THE REPUBLICAN RIVER COMPACT ADMIN., IMPACTS OF NON-FEDERAL RESERVOIRS AND LAND TERRACING ON BASIN WATER SUPPLIES at x-xi, 128–36 (2014).

281. State of Nebraska's Post-Trial Brief at 33–37, *Kansas v. Nebraska*, 134 S.Ct. 981 (Sept. 24, 2012) (No. 126, Orig.).

282. Kansas' Post-Trial Brief (Corrected) at 64–68, *Kansas v. Nebraska*, 134 S.Ct. 981 (Sept. 25, 2012) (No. 126, Orig.).

283. See *supra* notes 278–279.

284. The Frenchman-Cambridge Irrigation District has also sought relief from the Nebraska DNR in court, so far unsuccessfully. See *Frenchman Cambridge Irrigation Dist. v. Neb. Dept. of Natural Res.*, 801 N.W.2d 253 (Neb. 2011); see also *infra* Section III.C.

the different effects of groundwater and surface-water irrigation across the Basin. The discrepancy between political boundaries and hydrological reality has created a parallel discrepancy between the sovereignty of the states and the hydrological integrity of the Basin as a whole.

Just how these discrepancies are resolved will probably determine the future of the Republican River. Colorado and Nebraska have made their sovereign decisions to over-pump groundwater, dry up the river, and replace its flows with water pumped from the Ogallala Aquifer. Kansas, along with surface-water irrigation communities in Nebraska, have traditionally objected to these decisions because they upset the dependability of river flows upon which its irrigators depend. The states answer to their respective publics; in the Colorado and Nebraska portions of the Basin, groundwater irrigation communities have appropriated theirs. Barring federal intervention, they may well prevail in the long run, regardless of what the Supreme Court holds.

### C. The Fragmented Basin

#### 1. Nebraska's Compliance Approach

To recap: since the onset of the litigation in *Kansas v. Nebraska* in 2010, Nebraska has remained steadfast in its general approach to compliance with the Compact during times of shortage. The state has become substantially reliant upon augmentation projects financed by its Republican River Basin NRD's, to deliver water into Harlan County Lake.<sup>285</sup> Nebraska DNR has repeatedly curtailed all surface diversion and storage water rights in the Republican River Basin, largely to protect water pumped from its augmentation projects from being diverted by Nebraska surface-water irrigators.<sup>286</sup> It has ordered releases from Harlan County Lake outside of the irrigation season, sending stored water downstream to shore up its account balances under the Compact accounting procedures of the FSS, thereby preventing both NBID and KBID from carrying over that water supply for the next year.<sup>287</sup> Left largely unattended is the hydrological cause of its repeated noncompliance: excessive groundwater pumping.<sup>288</sup>

Nebraska's approach to Compact compliance has produced a conflict within federal law between the law of the Compact and Reclamation law. That such a conflict might arise seems at first unlikely, given how cooperative federalism permeates the Compact. Its provisions repeatedly emphasize joint action between the compacting states and the United States, to promote the most efficient "beneficial consumptive use" of the waters of the Basin.<sup>289</sup> Article VI grants

285. See *supra* text accompanying notes 265–270.

286. See *supra* text accompanying notes 245–248.

287. See *supra* text accompanying note 274.

288. See *supra* text accompanying notes 241–251.

289. Republican River Compact, ch. 104, art. I, 57 Stat. 86 (1943) (stating as Compact purposes and objectives the most efficient use of the waters of the Basin for multiple purposes, the most efficient utilization of those waters for beneficial consumptive use, and the promotion of joint action by the states and the United States for the efficient use of water); *id.* 57 Stat. at 88 (assigning the states' respective allocations for beneficial consumptive use); *id.* 57 Stat. at 89; *id.* at 90 (asserting the paramount importance of beneficial consumptive use and stating that no exercise of power or right that would

downstream states undeniable rights to the use of federal reservoirs constructed in upstream states.<sup>290</sup> Article X states that nothing in the Compact shall be used to impair the rights of the United States in and to the waters of the Basin.<sup>291</sup> The United States insisted upon Articles X and XI in the wake of President Roosevelt's veto of the penultimate version of the Compact.<sup>292</sup>

Reclamation law permeates the Compact as well—if not explicitly so.<sup>293</sup> A principal purpose of the Compact was to secure federal irrigation and flood-control infrastructure in the Basin.<sup>294</sup> As a consequence, the Compact's provisions evince many of the same concerns which figure prominently in the protections afforded Reclamation projects under federal law. Section 8 of the Reclamation Act of 1902 generally defers to state law, but with two conspicuous exceptions: “the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.”<sup>295</sup> Later amendments to the 1902 Act have reaffirmed these appurtenance and beneficial use requirements, either verbatim or by explicit reference.<sup>296</sup> Both of these requirements are specific congressional directives which displace state law.<sup>297</sup> The 1944 Flood Control Act prohibits the Corps from making releases from Corps reservoirs if those releases would conflict with the beneficial consumptive use of the released waters.<sup>298</sup> It should therefore come as no surprise that these federal statutes regarding the use of Reclamation water supplies and the operation of federal reservoirs correspond well with the multiple statements regarding the efficient beneficial consumptive use of the waters of the Basin, as set forth in Articles I, IV, VI, and XI of the Compact.<sup>299</sup> These provisions were contained in the original 1902 Act, and they remain in effect.<sup>300</sup>

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interfere with “the full beneficial consumptive use of the waters of the Basin shall be made except upon a determination, giving due consideration to the objectives of the compact and after consultation with all interested federal agencies . . . that such exercise is in the interest of the best utilization of such waters for multiple purposes”). Compact compliance is not one of these multiple purposes. *Id.*

290. *Id.* at 89 (“the right of any . . . lower state to construct, or participate in the future construction and use of any storage reservoir . . . in an upper state for the purpose of regulating water herein allocated for beneficial consumptive use in such lower state, shall never be denied by an upper state. . . .”).

291. *Id.* at 90.

292. See H.R. DOC. NO. 690, at 2 (1942) (veto message); see *supra* note 128.

293. For contemporary compacts which do refer explicitly to Reclamation Projects, see Rio Grande Compact, ch. 155, 53 Stat. 785, 786 (1939) (providing for the Rio Grande Project); Arkansas River Compact, 63 Stat. 145–146 (1949) (providing for the use and management of John Martin Reservoir).

294. For an extended discussion of this issue, see Transcript of Remarks of John Riddell, *supra* note 176.

295. Reclamation Act of 1902, ch. 1093, 32 Stat. 388, 390 (codified in part at 43 U.S.C. §§ 372, 383 (2006)).

296. 43 U.S.C. § 485h-4 (regarding repayment contracts for Reclamation water supplies); see also *id.* § 390b(c).

297. *California v. United States*, 438 U.S. 645, 670, 671, 679 (1978).

298. See 33 U.S.C. § 701-1(b) (2012). See also *Kansas v. United States*, No. 00-4153-DES, 2000 U.S. Dist. LEXIS 21021, at \*8–9 (D. Kan., Sept. 29, 2000) (applying 33 U.S.C. § 701-1(b)).

299. See *supra* note 289.

300. For an extended discussion of Section 8 and its litigation history, see Kelley & Benson, *supra* note 107, at §§ 41.04, 41.05, 41.06(b).

Nebraska's compliance approach thus raises several potential legal problems. The first problem concerns whether it accords with the Compact itself. Nebraska's imperative is to comply with the allocation limits of the Compact and the FSS, through a combination of forecasting methods and regulatory controls which emphasize surface water rights curtailments.<sup>301</sup> This approach focuses on the allocation limits set forth in Article IV of the Compact and the FSS, but it has created what is arguably a condition of effective noncompliance with less prominent provisions of the Compact—the requirements for efficient and beneficial use of the compacted water supply, for interstate cooperation regarding the management of upper-state reservoirs, and for the protection of federal infrastructure.<sup>302</sup> The second problem concerns whether Nebraska's approach violates the Reclamation Act. To deliver augmentation water to Harlan County Lake and to balance its compliance ledger, Nebraska has decided to override the long-established operation of federal reservoirs. It has prohibited the diversion, storage, and beneficial use of water within Reclamation districts located within Nebraska, allocating those water supplies to its compliance ledger, all while allowing groundwater pumping to continue.<sup>303</sup>

Nebraska's compliance approach raises similarly vexing operational problems, given the interstate structure of Reclamation's Bostwick project and Harlan County Lake, which supplies water to both NBID and KBID. When Nebraska's closing notices prohibited NBID from accessing water in 2013 and 2014, they effectively bifurcated the Bostwick Project between NBID and KBID, significantly complicating the longstanding water supply contracts for the respective districts, as well as the FSS's consensus plan for joint management of the lake by both districts.<sup>304</sup> These contracts assume joint usage and management of project water stored in Harlan County Lake, allocating repayment obligations according to the districts' respective water usage. Thus, if NBID receives no water under Nebraska's compliance approach, KBID runs the risk of shouldering greater repayment obligations. Nebraska's delivery of water pumped from upstream augmentation projects has also raised the issue of whether such water delivered to Harlan County Lake constitutes "project water" or not.<sup>305</sup> That issue is important. For if augmentation water becomes project water, then it becomes generally subject to Reclamation law, thus complicating Nebraska's compliance approach, which calls for the management of that water supply as a supply distinct from Reclamation projects.<sup>306</sup> The Reclamation Act generally defines "project" as a

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301. LRNRD Integrated Management Plan, *supra* note 241.

302. *See supra* notes 289–291.

303. *See generally* Part III.C.2.

304. Final Settlement Stipulation, *supra* note 22, at K1–K10 (noting Harlan County Lake Operation Consensus Plan between NBID and KBID).

305. For the states' evolving positions on this issue, see *infra* text accompanying notes 323–324, 361, and 429–433. For a useful survey of the subject as a whole, see Reed D. Benson, *Whose Water Is It? Private Rights and Public Authority over Reclamation Project Water*, 16 VA. ENVTL. L.J. 363 (1997).

306. *See, e.g.*, LRNRD Integrated Management Plan, *supra* note 241. The Nebraska IMPs do not mention Reclamation projects.

federal irrigation project authorized by Reclamation law.<sup>307</sup> Federal regulations define “nonproject” water as water from sources other than Reclamation project facilities.<sup>308</sup> Yet KBID’s master contract with Reclamation defined project water as “the total supply of water made available in any irrigation season” for the Bostwick Project, “by or through the United States under the Federal Irrigation Laws. . . .”<sup>309</sup> Under its compliance approach, Nebraska has asserted its control over the disposition of augmentation water derived from upstream pumping sites and shepherded downstream into Harlan County Lake, including the authority to order releases to meet its Compact compliance requirements.<sup>310</sup>

## 2. *The Showdown at Harlan County Lake, 2012-2013*

Nebraska’s compliance strategy soon began to drive a wedge between the Compact and the Reclamation Act. As *Kansas v. Nebraska* went to trial in the summer of 2012, Nebraska was once again struggling to comply with the Compact during another dry year in the Basin. That December, Nebraska DNR forecasted that it would overuse its 2013 Compact allocation by approximately 23,000 acre-feet.<sup>311</sup> Meanwhile, Reclamation computed the storage in Harlan County Lake to be less than 119,000 acre-feet, thus triggering “water-short administration” under the FSS.<sup>312</sup> Under Nebraska’s IMP’s, that situation required “additional management actions . . . to ensure compliance.”<sup>313</sup> Nebraska DNR informed Kansas of its plans to comply with the Compact: Nebraska would issue closing notices prohibiting the diversion and storage of natural flow of surface waters within Nebraska’s portion of the Basin, and it might be required to release water from Harlan County Lake outside of irrigation season.<sup>314</sup> As a consequence, that water would not be beneficially used by KBID, and would not be applied to its appurtenant lands—in apparent violation of the Reclamation Act.<sup>315</sup>

Nebraska then placed the onus on Reclamation to develop a plan that would allow for 2013 inflows to be re-regulated for KBID, while keeping Nebraska in compliance with the Compact.<sup>316</sup> Reclamation found itself caught between Nebraska’s imperative to comply with the Compact and its duties to supply both NBID and KBID with water pursuant to its own contracts. In an effort to avoid

307. 43 U.S.C. §§ 371(d), 390bb(8) (2012).

308. 43 C.F.R. § 426.2 (1996).

309. Contract Between the United States of America and the Kansas Bostwick Irrigation District No. 2, Contract No. 009D6B0120, at 4 (July 25, 2000), at art. 1, sec. m, p. 4 (on file with author).

310. See, e.g., *infra* text accompanying notes 314–342 (describing Nebraska’s threats to order releases).

311. NEB. DEP’T OF NAT. RES., FORECAST OF ALLOWABLE DEPLETIONS IN THE REPUBLICAN RIVER BASIN DURING 2013 AND 2023, 3 (2012).

312. Letter from Aaron Thompson, Area Manager, U.S. Bureau of Reclamation, to the Dir., Neb. Dep’t of Nat. Res., Chief Eng’r, Div. of Water Res., Kan. Dep’t of Agric., State Eng’rs, State of Colo. Div. of Water Res. (Dec. 4, 2012) (on file with author) (discussing 2013 Harlan County Lake (HCL) Water Supply Calculation).

313. NEB. DEP’T OF NAT. RES., *supra* note 311, at 4.

314. Letter from Brian Dunnigan, Dir., Neb. Dep’t of Nat. Res., to David W. Barfield, Chief Eng’r, Kan. Div. of Water Res. (Dec. 6, 2012) (on file with author).

315. See *supra* text accompanying notes 295–300.

316. *Id.*

Nebraska's closing notices to Reclamation reservoirs and projects, Reclamation made a request to the Corps, which operates Harlan County Lake outside of irrigation season. Specifically, it requested the Corps to deviate from its usual management of Harlan County Lake, by making 20,000 acre-feet of water that was dedicated to the sediment pool available to KBID as irrigation supply during the 2013 irrigation season—approximately the amount of Nebraska's forecasted noncompliance.<sup>317</sup> Reclamation was seeking to buy time and flexibility for its projects in both states. It requested Nebraska to condition its closing notices for all federal reservoirs in Nebraska's portion of the Basin until the Corps decided to make the water available.<sup>318</sup> Nebraska DNR agreed to Reclamation's request. On January 1, 2013, it issued closing notices for all surface water appropriations in the Republican River Basin,<sup>319</sup> but assured Reclamation it would seek to “work out an agreement” that might reduce Compact-induced releases from Harlan County Lake, provided the Corps allowed Reclamation's deviation request to reallocate water from the sediment pool to project water.<sup>320</sup> Reclamation was also concerned with water supplies for NBID, which shares Harlan County Lake supplies with KBID: releases from the lake would prevent both districts from putting those supplies to beneficial use.<sup>321</sup>

As winter turned to spring in the Basin, negotiations between Nebraska, Reclamation, and the Corps began to break down. Nebraska's plan to place its Compact commitments above and against Reclamation's operation of federal reservoirs and deliveries to its irrigation districts was meeting with federal resistance. By mid-March, 2013, the Corps had not yet agreed to Reclamation's deviation request; Nebraska DNR thus notified the Corps that it would soon order releases of water stored since that January in all federal reservoirs in the Basin, including Harlan County Lake.<sup>322</sup> Nebraska objected to federal efforts to allocate project water stored in Harlan County Lake between NBID and KBID. Given Nebraska's Compact compliance requirements and its IMP's, Nebraska stressed that no water stored in Harlan County Lake since January 1, 2013 could be allocated to NBID: its use of project water would increase Nebraska's consumptive

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317. Letter from Aaron M. Thompson, Area Manager, U.S. Bureau of Reclamation, to Col. Anthony J. Hoffman, U.S. Corps of Eng'rs, Kan. City Dist. 1 (Dec. 18, 2012). As with most federal reservoirs dedicated to Reclamation purposes, storage in Harlan County Lake is allocated according to the water level. The lowest level holds a supply dedicated to controlling sediment; the intermediate level holds the irrigation water supply; and the top level holds the flood control supply. U.S. ARMY CORPS OF ENG'RS, OPERATION AND MAINTENANCE MANUAL, HARLAN COUNTY LAKE, REPUBLICAN RIVER, NEBRASKA app. III (1997).

318. Letter from Aaron Thompson, Area Manager, U.S. Bureau of Reclamation, to Brian Dunnigan, Dir., Neb. Dep't of Nat. Res. 1 (Dec. 21, 2012) (on file with author).

319. STATE OF NEB., DEP'T OF NAT. RES., IN THE MATTER OF WATER ADMINISTRATION OF THE REPUBLICAN RIVER BASIN, ORDER 2 (2013).

320. Letter from Brian Dunnigan, Dir., Neb. Dep't of Nat. Res., to Aaron Thompson, Area Manager, Neb.-Kan. Area Office, U.S. Bureau of Reclamation 1 (Jan. 4, 2013) (on file with author).

321. Letter from Aaron Thompson, Area Manager, Neb.-Kan. Area Office, U.S. Bureau of Reclamation, to Col. Anthony J. Hoffman, U.S. Army Corps of Eng'rs 1-2 (Feb. 28, 2013) (on file with author).

322. Letter from Brian Dunnigan, Dir., Neb. Dep't of Nat. Res., to Col. Anthony J. Hoffman, U.S. Army Corps of Eng'rs 1 (Mar. 15, 2013) (on file with author).



use under the Compact, undermining Nebraska's compliance plan under the IMP's.<sup>323</sup> Asserting Nebraska's sovereign right to prohibit a Nebraska irrigation district from storing and diverting water, Nebraska DNR made its position clear: Reclamation could not allocate water to NBID under Reclamation water-supply contracts, because those contracts "are subservient" to Nebraska's need to comply with the Compact.<sup>324</sup> On March 22, 2013, and in light of Reclamation's position and Nebraska DNR's compliance plan, Nebraska repeated its threat to the Corps that it would order the release of all water stored in Reclamation reservoirs in the Basin between January 1 and March 31, 2013, including Harlan County Lake.<sup>325</sup> The Corps pointedly avoided taking a position between Nebraska and Kansas. Instead, it recommended that the RRCA change its accounting procedures to allow water which Nebraska had delivered to Harlan County Lake for compliance purposes to be held there for subsequent use.<sup>326</sup> In the meantime, the states appeared to be on their own.

If the water in Harlan County were to be released in March, it would flow down into Kansas, but KBID would be unable to put it to beneficial consumptive use as the Compact intended: irrigation season was months away, and its Kansas storage facility, Lovewell Reservoir, was mostly full.<sup>327</sup> Aware of that situation, Kansas DWR had been negotiating in parallel with Nebraska, Reclamation, and the Corps. One week after Nebraska DNR had threatened to release water out of Harlan County Lake, Kansas DWR notified the Corps of its own position. Whereas Nebraska had stressed that its Compact commitments trumped those of Reclamation to its irrigators in Nebraska and Kansas, Kansas argued that the purposes of the Compact and those of Reclamation were intertwined; therefore, the Corps and Reclamation should not release water from Harlan County Lake until KBID was able to put that water to beneficial use during irrigation season.<sup>328</sup> Nebraska agreed to a short-term compromise: on April 1, 2013, it ordered water stored in federal reservoirs upstream of Harlan County Lake since that January to be released, but excepted Harlan County Lake from the order.<sup>329</sup>

By that time, the state's respective positions regarding Reclamation's management of water stored in federal reservoirs had become clear—and clearly opposed. Nebraska placed its Compact commitments above Reclamation's federal commitments to both NBID and KBID, whereas Kansas continued to view the two federal commitments as coequal. Consequently, Nebraska DNR refused to authorize Reclamation to hold over water delivered to and stored in Harlan County

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323. Letter from Brian Dunnigan, Dir., Neb. Dep't of Nat. Res., to Aaron Thompson, Area Manager, U.S. Bureau of Reclamation 1-2 (Mar. 22, 2013) (on file with author).

324. *Id.* at 2, n.1.

325. *Id.* at 2.

326. Email from Matthew P. Jeppson, Assistant Dist. Counsel, U.S. Army Corps of Eng'rs, Kan. City Dist., to Justin Lavene, Deputy Chief Attorney Gen., State of Neb. (Mar. 29, 2013) (on file with author).

327. Letter from David Barfield, Chief Eng'r, Kan. Div. of Water Res., to Col. Anthony Hoffmann, U.S. Corps of Eng'rs 1 (Mar. 29, 2013) (on file with author).

328. *Id.*

329. STATE OF NEB., DEP'T OF NAT. RES., STORAGE RELEASE NOTICE (2013) (ordering releases from Swanson Lake, Enders Reservoir, Hugh Butler Lake, and Harry Strunk Lake).

Lake in 2013—with the express purpose of meeting Nebraska’s Compact balance—for use within NBID in 2013 or 2014, because such beneficial consumptive use within Nebraska would “threaten Nebraska with non-compliance in 2013 and beyond.”<sup>330</sup> Nebraska again placed the burden upon Reclamation and Kansas to provide a management plan for the reservoir that would hold Nebraska harmless for any Compact violations resulting from a hold-over of water from one year to another.<sup>331</sup> Kansas initially refused, and so Nebraska again threatened to release water stored in Harlan County Lake on May 1, 2013.<sup>332</sup>

The states continued to negotiate this difficult issue. Kansas proposed a compromise based on its view of the Compact and Reclamation law as legally and operationally interdependent authorities.<sup>333</sup> Under Kansas’s proposal, the states, Reclamation, and the Corps would agree to establish a Kansas-exclusive irrigation account in Harlan County Lake over which Kansas had exclusive control, separate from the water supply for both NBID and KBID; but Reclamation’s determination of available project water dedicated to both districts would continue, according to Reclamation’s contracts and the Consensus Plan of the FSS.<sup>334</sup> If Kansas were able to obtain such an exclusive account, it would agree to modify the Compact’s accounting procedures so that water stored in and released from the Kansas-exclusive account would not count as water consumed by Nebraska.<sup>335</sup> The Kansas offer was focused on reservoir management and accounting, and sought to strike a balance between the states’ and the United States’ respective interests, but it made no bones about Kansas’s position. According to Kansas, the crisis over Harlan County Lake stemmed from double intransigence on Nebraska’s part: its decision not to reduce excessive groundwater pumping—the source of Nebraska’s forecasted noncompliance—and its equally steadfast decision to prevent Reclamation from collecting and storing water in the lake.<sup>336</sup> Kansas continued to assert that the latter decision violated the Compact, based on its interpretation of Article VI, which, in Kansas’s view, made it “illegal for an upstream state to interfere with the ability of a downstream state to use its Compact allocation beneficially by means of storage and delivery of its water through a federal irrigation storage project.”<sup>337</sup>

Nebraska rejected Kansas’s offer. It did so because Kansas refused to provide a waiver of liability to Nebraska for any Compact violations that might result from Nebraska’s delivery of augmentation water to Harlan County Lake for

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330. Letter from Brian Dunnigan, Dir., Neb. Dep’t of Nat. Res., to David Barfield, Chief Eng’r, Kan. Div. of Water Res. 2 (Apr. 15, 2013) (on file with author).

331. *Id.*

332. *Id.*

333. Letter from David Barfield, Chief Eng’r, Kan. Div. of Water Res., to Brian Dunnigan, Neb. Comm’r, Republican River Compact Admin. 1–2 (Apr. 19, 2013) (on file with author).

334. *Id.*

335. *Id.* at 2.

336. *Id.* at 4.

337. *Id.* Article VI of the Compact states that “the right of any person, entity, or lower state to construct, or participate in the future construction and use of any storage reservoir or diversion works in an upper state for the purpose of regulating water herein allocated for beneficial consumptive use in such lower state, shall never be denied by an upper state; provided, that such right is subject to the rights of the upper state.” Republican River Compact, ch. 104, art. IV, 57 Stat. 89 (1943).

Kansas's benefit, and because Kansas had failed to coordinate, to Nebraska's satisfaction, with Reclamation and the Corps.<sup>338</sup> Having rejected the offer, Nebraska provided a counter-proposal. Water it delivered to Harlan County Lake in 2013 would be assigned to Kansas and KBID; Nebraska would be allowed to count water delivered through April 15, 2014, to meet its Compact accounting balances for 2013.<sup>339</sup> In return, Nebraska would not order releases from Harlan County Lake, provided Kansas hold Nebraska harmless for any noncompliance caused by "strict application of the Compact accounting . . . ."<sup>340</sup> If Kansas did not accept this proposal, Nebraska would order releases from Harlan County Lake on May 1, 2013.<sup>341</sup> Nebraska flatly disagreed with Kansas's legal position that Article VI of the Compact prevented Nebraska from monopolizing control over Harlan County Lake to the detriment of Kansas: because Kansas "in no way participated" in the lake's construction, the Article "simply does not apply."<sup>342</sup>

### 3. Reclamation's Response to the Conflict over Compact Compliance

#### a. 2013–2015: The Warren Act as Reclamation's Bridge between the Compact and the Reclamation Act

The showdown over Harlan County Lake in 2012–2013 caught Reclamation between its own duties under the Reclamation laws and Nebraska's threat to order releases for Compact compliance purposes.<sup>343</sup> As Kansas and Nebraska exchanged threats, proposals, and counter-proposals during the spring of 2013, Reclamation proposed a mechanism to break the stalemate: a supplemental water-supply contract between Reclamation and Kansas pursuant to the Warren Act.<sup>344</sup> An early amendment to the Reclamation Act,<sup>345</sup> the Warren Act enables Reclamation to enter into contracts for the use of excess stored water<sup>346</sup> and excess storage capacity<sup>347</sup> in Reclamation reservoirs. The logic behind Reclamation's offer seemed reasonable. Reclamation had been working with both states "to provide the most efficient and beneficial use of water within the Republican River Basin for Reclamation water users"—a clearly implied but unattributed reference to the

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338. Letter from Brian Dunnigan, Dir., Neb. Dep't of Nat. Res., to David Barfield, Kan. State Eng'r 1 (Apr. 29, 2013). (on file with author).

339. *Id.* at 2–3.

340. *Id.*

341. *Id.* at 4.

342. Letter from Brian Dunnigan, Dir., Neb. Dep't of Nat. Res., to Aaron Thompson, Area Manager, U.S. Bureau of Reclamation 1 (Apr. 29, 2013) (on file with author).

343. Neither the United States nor Reclamation is a party to the Compact.

344. Letter from Aaron Thompson, Area Manager, Neb.-Kan. Area Office, U.S. Bureau of Reclamation, to David Barfield, Chief Eng'r, Div. of Water Res., Kan. Dep't of Agric. 1–2 (Apr. 23, 2013) (on file with author).

345. Act of February 21, 1911, ch. 141, 36 Stat. 925 (codified at 43 U.S.C. §§ 523-525 (2012)). For a useful discussion of the Warren Act, see Richard Roos-Collins, *Voluntary Conveyance of the Right to Receive a Water Supply from the United States Bureau of Reclamation*, 13 *ECOLOGY. L. Q.* 773, 838–39 (1987).

346. 43 U.S.C. § 521.

347. *Id.* § 523.

Compact<sup>348</sup>—but the parties had been unable to reach an agreement to store water in Harlan County Lake for KBID.<sup>349</sup> Given the looming threat of a May 1, 2013 release, Reclamation believed that Kansas could “exercise Article VI of the Republican River Compact” and protect water for KBID by entering into a Warren Act contract for the storage and carriage of up to 30,000 acre-feet in Harlan County Lake, which Reclamation would control.<sup>350</sup> If Kansas did not enter into such a contract, then Reclamation asserted that it would coordinate with the Corps “to comply with any lawful order” from Nebraska DNR for the release of water from Harlan County Lake on that date.<sup>351</sup> Through this offer, Reclamation believed that it could reconcile the states’ respective rights and commitments pursuant to the Compact while complying with Reclamation law as well.

Unfortunately, Reclamation’s belief that a Warren Act contract with Kansas could stave off the crisis proved poorly founded. As a threshold matter, the Warren Act itself does not allow such contracts to be made with states, a fact which Reclamation had apparently not considered.<sup>352</sup> Nebraska promptly wrote Reclamation to point this out, but also to attack Reclamation’s belief that Kansas could invoke Article VI of the Compact to participate in the management of Harlan County Lake supplies.<sup>353</sup> Because the lake was located in Nebraska, Nebraska law, and apparently only Nebraska law, controlled the lake.<sup>354</sup> Nebraska thus demanded that Reclamation withdraw its offer to Kansas immediately.<sup>355</sup>

Whether chastened or corrected by Nebraska’s response, Reclamation dropped the matter and focused on KBID, effectively forcing it to enter into a series of Warren Act contracts. A May, 2013 contract between Reclamation and KBID succeeded in keeping the water in Harlan County Lake; the parties subsequently executed two similar contracts.<sup>356</sup> In each case, the purpose of these

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348. See Republican River Compact, ch. 104, 57 Stat. 86 (1943), at art. I (stating that a major purpose of the Compact is to “provide for the most efficient use of the waters of the Republican River Basin . . . for multiple purposes . . .”).

349. Letter from Aaron Thompson, *supra* note 344, at 1.

350. *Id.* Warren Act contracts provide for the “carriage” of water through Reclamation infrastructure. 43 U.S.C. § 523.

351. Letter from Aaron Thompson, *supra* note 344, at 2.

352. 43 U.S.C. § 523 (limiting Warren Act contracts to “individuals, corporations, associations, and irrigation districts organized for or engaged in furnishing or in distributing water for irrigation”); see also *Nebraska v. Wyoming*, 515 U.S. 1, 17 (1995).

353. Letter from Brian Dunnigan, *supra* note 342, at 1. See also Republican River Compact, art. VI, 57 Stat. at 89 (1943); Letter from Aaron Thompson, *supra* note 344, at 1 (referencing Article VI of the Republican River Compact, art. VI, 57 Stat. at 89).

354. Letter from Brian Dunnigan, *supra* note 342, at 1 (citing Articles VII and VIII of the Republican River Compact, arts. VII, VIII, 57 Stat. at 89).

355. Letter from Brian Dunnigan, *supra* note 342, at 1–2.

356. Contract Between the United States of America and the Kansas Bostwick Irrigation District No. 2, Contract No. 009D6B0120, at 4 (July 25, 2000); Excess Capacity Contract Between the United States of America and Kansas Bostwick Irrigation District No. 2 For the Use of Excess Capacity Service in the Bostwick Division, Contract No. 14WR630075 (May 10, 2013); Excess Capacity Contract Between the United States of America and Kansas Bostwick Irrigation District No. 2 For the Use of Excess Capacity Service in the Bostwick Division, Contract No. 14WR630034 (Jan. 17, 2014) [hereinafter Excess Capacity Contract No. 14WR630034]; Excess Capacity Contract Between the United States of America and Kansas Bostwick Irrigation District No. 2 For the Use of Excess Capacity Service in the Bostwick

contracts was to secure water supplies in Harlan County Lake provided by Nebraska's augmentation pumping—which Nebraska DNR had shepherded downstream to the lake using its closing notices—and then to protect those supplies from release orders which might be issued by Nebraska DNR to stay within its Compact allocation. The contracts explicitly identified this water supply as non-project water, and dedicated its use exclusively to KBID for irrigation purposes pursuant to Nebraska's Compact commitments.<sup>357</sup> KBID agreed to pay for up to 30,000 acre-feet of this augmentation water, and apparently agreed further to Reclamation's definition of it as non-project water—in addition to its existing contract payments for project water.<sup>358</sup> In the event Nebraska ordered a release from Harlan County Lake to meet its Compact commitments, the non-project, Warren Act water supply would be released before the project water supply.<sup>359</sup> As the second Warren Act contract was set to expire at the end of 2014, KBID was faced with another threat from Nebraska DNR to order releases from Harlan County Lake outside of the irrigation season in early 2015; to protect against that possibility, KBID entered into a third Warren Act contract just as 2014 ended.<sup>360</sup>

KBID subsequently protested against the use of the Warren Act for this situation, but it clearly had no choice in the matter if the district were to secure water supplies for 2014 and 2015. In a letter to Reclamation sent shortly after the execution of the second contract, KBID outlined its objections.<sup>361</sup> It questioned the legality of the Warren Act mechanism in a situation where the district's irrigation requirements had not been met under its master project water contract.<sup>362</sup> It complained that the contracts unfairly penalized KBID for Nebraska's compliance actions: if Nebraska was “using Reclamation infrastructure to send pumped groundwater down to KBID,” then Nebraska and its Reclamation districts should pay their share of the freight.<sup>363</sup> KBID explicitly objected to the notion that KBID was purchasing Warren Act water so that Nebraska could comply with the Compact.<sup>364</sup> (In correspondence concerning negotiations over the Warren Act contract, Reclamation had repeated its mistaken assertion that “Reclamation could also execute a Warren Act contract with the State of Kansas, the State of Nebraska, or the Nebraska Natural Resource District for the purchase of water for compact compliance.”<sup>365</sup>) Reclamation had repeatedly stressed that KBID could profit from these contracts by marketing the contracted water supplies at a premium to NBID and other Nebraska surface water users, thereby lessening the financial burden

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Division, Contract No. 14WR630034, Amendment No. 2 (Dec. 29, 2014) [hereinafter Excess Capacity Contract No. 14WR630034, Amendment No. 2].

357. Excess Capacity Contract No. 14WR630034, *supra* note 356, at 2.

358. *Id.* at 2–3.

359. *Id.* at 2.

360. Excess Capacity Contract No. 14WR630034, Amendment No. 2, *supra* note 356, at 1.

361. Letter from Kenneth Nelson, Superintendent, Kan. Bostwick Irrigation Dist., to Michael Ryan, Reg'l Dir., U.S. Bureau of Reclamation 1 (Jan. 5, 2015) (on file with author).

362. *Id.*

363. *Id.*

364. *Id.*

365. Letter from Michael J. Ryan, Reg'l Dir., U.S. Bureau of Reclamation, to Kenneth Nelson, Superintendent, Kan. Bostwick Irrigation Dist. 1 (Dec. 17, 2014) (on file with author).

imposed by the contracts.<sup>366</sup> KBID pointed out that such marketing was expressly forbidden by the Warren Act itself.<sup>367</sup> Clearly frustrated by Reclamation's changes in position about how it would respond to Nebraska's threatened releases, but facing little choice but to accede to the Warren Act contracts, KBID signed: "we did this under duress in order to assure a water supply for 2015."<sup>368</sup> Chastised by Reclamation for claiming duress, KBID sent a subsequent letter two weeks later, apologizing for claiming duress and reaffirming its commitments to the contract.<sup>369</sup>

#### b. Reclamation's Position Regarding Nebraska's Compliance Approach

Reclamation has so far avoided making a formal entrance into Nebraska's intrastate conflict between groundwater and surface-water irrigation in its portion of the Basin. Nonetheless, Reclamation has made its position clear regarding how Nebraska's compliance actions affect the use and management of Reclamation infrastructure. On the eve of oral argument in *Kansas v. Nebraska* in September, 2014, Interior wrote Nebraska DNR to express its concerns about the legality of Nebraska's approach to Compact compliance, and to recommend that Nebraska employ a "fundamentally different approach" to compliance that would abide by both state and federal law.<sup>370</sup> The letter complained of Nebraska DNR's issuance of closing notices on all surface water rights in the Basin during 2013 and 2014, including the storage rights for Reclamation reservoirs and for Harlan County Lake.<sup>371</sup> These closing notices disproportionately affected surface water users, forcing severe shortages upon them while leaving groundwater pumpers unaffected; and the water supplied by Nebraska's augmentation projects upstream did not arrive in time for irrigation season.<sup>372</sup>

The letter remains Interior's (and therefore Reclamation's) most complete statement of the United States' legal position concerning Nebraska's Compact compliance strategy in the Basin. Interior asserted that curtailing surface water rights while allowing groundwater users to irrigate violated Nebraska state law requirements that these groups be treated equitably.<sup>373</sup> Interior also alleged that Nebraska DNR's curtailments of surface water supplies violated the IMP's of the

366. Letter from Kenneth Nelson, *supra* note 361, at 1–2.

367. *Id.*; see 43 U.S.C. § 523 (2012) (prohibiting any irrigation district from making any "charge for the storage, carriage, or delivery of such water in excess of the charge paid to the United States except to such extent as may be reasonably necessary to cover cost of carriage and delivery through their works."). Indeed, one thing upon which Nebraska and Kansas/KBID did agree during this period was that Reclamation did not have a clear understanding of its own governing law. See also *supra* text accompanying notes 352–353, 367.

368. Letter from Kenneth Nelson, *supra* note 361, at 1–2.

369. Letter from Kenneth Nelson, Superintendent, Kan. Bostwick Irrigation Dist., to Mike Ryan, Reg'l Dir., U.S. Bureau of Reclamation 1 (Jan. 20, 2015) (on file with author).

370. Letter from Anne J. Castle, Assistant Sec'y for Water & Sci., U.S. Dep't of the Interior, to Brian P. Dunnigan, Dir., Neb. Dep't of Nat. Res. 1, 3–4 (Sept. 30, 2014) (on file with the author).

371. *Id.* at 1.

372. *Id.*

373. *Id.* at 2 (citing NEB. REV. STAT. §§ 46-703, 46-714 (2016), and *Spear T Ranch v. Knaub*, 691 N.W.2d 116 (2005) (construing these sections, and recommending a balancing of the equities between groundwater pumpers and surface water users who share hydrologically connected water supplies pursuant to the RESTATEMENT (SECOND) OF TORTS § 858 (AM. LAW INST. 1979)).

Republican River NRD's, which contain precatory language appearing to require such equitable treatment as well.<sup>374</sup> These IMP's were "fatally flawed," because none of them contained effective groundwater controls: instead, they contained mere targets for reductions in pumping—targets that Nebraska was unlikely to meet in any case.<sup>375</sup>

The letter then turned to federal law. Interior alleged that Nebraska's compliance strategy violated both the Compact and Reclamation law. It stressed the Court's 2002–2003 finding that the Compact requires Nebraska to account for the impacts of groundwater pumping on surface water supplies. It went further by finding in the Court's decisions "the fact that Nebraska should be attaining compliance with the Compact by curbing groundwater pumping in addition to curtailing surface water users."<sup>376</sup> Just as groundwater pumping and surface water diversions were connected, so too were "Reclamation's rights and Nebraska's responsibilities:" the latter could not comply with the Compact in a manner that injured the former.<sup>377</sup> "Nebraska's effort to put the burden [of compliance] primarily on surface water users is inconsistent with the State's obligations under the Compact and the Supreme Court decision."<sup>378</sup> Interior finally alleged that this imbalanced burden also impliedly violated the Reclamation Act. While Interior conceded that Reclamation was generally bound to follow Nebraska state law and the decisions of Nebraska DNR, that general deference had limits. Where Nebraska DNR ordered Reclamation to release stored water, or prohibited the delivery of stored water to Reclamation projects, even as Nebraska allowed junior groundwater users to continue pumping with far fewer restrictions, such conduct "raises questions as to whether state water administration is not just in violation of state law, but contrary to federal law concerning federal projects and . . . the mandates of the Reclamation program."<sup>379</sup> Providing augmentation water to Reclamation and Corps reservoirs late in the irrigation season did not "optimize" beneficial use, but defeated it instead.<sup>380</sup> Like all demand letters, it closed with a threat of litigation; like most such letters, litigation has yet to commence.

Interior's formal allegation that Nebraska's compliance strategy violates both the Compact and the Reclamation Act shows how the conflict between groundwater and surface-water irrigation across the Great Plains is placing a great strain on long-established federalist governance systems for western water, possibly to a breaking point. Nebraska DNR, together with the NRDs in the Basin, have chosen to protect their groundwater irrigation communities at the expense of their surface water ones; but Reclamation represents only the latter. As a consequence, the conflict between these irrigation communities has generated a serious conflict between state and federal interests in Nebraska's portion of the Basin, one where groundwater pumpers align with the State, while surface water irrigators seek the assistance of Reclamation.

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374. Letter from Anne J. Castle, *supra* note 370, at 2–3.

375. *Id.* at 3.

376. *Id.*

377. *Id.*

378. *Id.*

379. *Id.* at 3–4 (citing *United States v. California*, 438 U.S. 645 (1978)).

380. Letter from Anne J. Castle, *supra* note 370, at 2.

In defending itself against intrastate litigants and answering Reclamation, Nebraska has consistently argued that it has the sovereign right to decide how to comply with the Compact, and that the other states, as well as the United States, must defer to those sovereign decisions as a well-settled rule of federal law.<sup>381</sup> In other words, Nebraska has claimed the *Hinderlider* defense—a defense that has so far worked.<sup>382</sup> Yet it remains uncertain whether *Hinderlider* can continue to provide an effective categorical defense of Nebraska’s compliance strategy, where the end of Compact compliance justifies the means of subordinating Reclamation law. That is because the controversies are different. In *Hinderlider*, the central issue was whether a state engineer could administer water rights senior to the La Plata River Compact; under Colorado’s prior appropriation doctrine, administration of such rights necessarily involved administering (and adjudicating) all junior water rights in the basin as well.<sup>383</sup> The Court’s resolution in *Hinderlider* was unequivocal—no state water rights holder is entitled to use water to which the parent state is not entitled—but it nonetheless rested on the assumption of a comprehensive adjudication of water rights in the compact basin.<sup>384</sup> *Hinderlider* antedates the groundwater revolution and does not speak to the groundwater-surface water divide, especially Nebraska’s, where administration of water rights is selective and in apparent disregard for the seniority of surface water rights compared to groundwater permits.<sup>385</sup>

The situation in *Hinderlider* also seems legally and factually distinct from the dispute over the Republican River. *Hinderlider* is a landmark case largely because it demonstrated that the Court would defend interstate compacts, thereby providing additional motivation for states to enter into them.<sup>386</sup> The compact which *Hinderlider* protected, the La Plata River Compact of 1925, was the first compact enacted into federal law.<sup>387</sup> As a compact predating later New Deal compacts, New Deal Reclamation law such as the Pick-Sloan Act, and the age of federal multipurpose reservoirs, it establishes commitments between Colorado and New Mexico exclusively, without regard for federal and Reclamation interests. The Republican River Compact, by contrast, fully embraces contemporary Reclamation law, albeit impliedly so.<sup>388</sup>

#### 4. Litigating the Irrigation Divide within Nebraska

The most frequent challenges to Nebraska’s approach have arisen within Nebraska itself, in numerous lawsuits brought by surface-water irrigation districts and their members against Nebraska DNR. The plaintiffs’ allegations, as well as

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381. See *supra* text accompanying note 281.

382. *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938). For additional discussion of the *Hinderlider* defense applied to Nebraska’s compact compliance approach, see *infra* text accompanying notes 405-422.

383. *Id.* at 98-99.

384. *Id.*

385. See *Frenchman-Cambridge Irrigation Dist. v. Neb. Dep’t of Nat. Res.*, 801 N.W. 2d 253 (Neb. 2011).

386. See *supra* text accompanying notes 120-121.

387. Act of Jan. 29, 1925, ch. 110, 43 Stat. 796 (1925) (enacting the La Plata River Compact).

388. See *supra* text accompanying notes 289-300.



the courts' dispositions of the lawsuits, reveal the extent to which Nebraska's compliance approach has produced a profound and lasting conflict between the surface-water and groundwater irrigation communities within Nebraska's portion of the Basin.

After failing to obtain relief from the IMP's in 2011,<sup>389</sup> FCID joined with NBID to bring suit in federal court to enjoin Nebraska's augmentation pumping and to protect the districts' Nebraska surface water rights.<sup>390</sup> The districts sued three parties: the Upper Republican Natural Resources District (URNRD), the chief sponsor of the N-CORPE augmentation pipeline; Nebraska DNR; and Reclamation. Against URNRD, the surface district plaintiffs alleged that the N-CORPE pipeline violated the Compact; but perhaps more importantly, they alleged that the pipeline subverted their prior appropriation rights established under the Nebraska Constitution, by "unlawfully prioritiz[ing]" groundwater pumping over senior surface water diversions.<sup>391</sup> Against Nebraska DNR, the plaintiffs alleged that pumping groundwater to supply the pipeline upset the hydrologic connection between groundwater and surface water, endangering the long-term water supplies upon which the districts depended; and they alleged further that Nebraska DNR's approval of this conduct violated their duties to manage the waters of the Basin.<sup>392</sup> Against Reclamation, the plaintiffs alleged that it had breached the districts' water-supply contracts, and had thereby failed to both supply the districts' projects and to protect their senior surface water rights.<sup>393</sup> In essence, the plaintiffs' allegations resembled those which Kansas had brought against Nebraska in its 2010–2015 Supreme Court case.<sup>394</sup>

The defendant parties based their motion to dismiss on jurisdictional, immunity, and justiciability grounds. All defendants moved to dismiss for lack of federal subject matter jurisdiction pursuant to Fed.R.C.P. 12(b)(1).<sup>395</sup> The URNRD and Nebraska DNR also moved to dismiss for failure to state a claim under Fed.R.C.P. 12(b)(6), based on the Eleventh Amendment immunity defense that both of these state agencies acted as an "arm of the state" working jointly to comply with the Compact; they also argued that the court should not exercise supplemental jurisdiction over what was essentially a state law claim.<sup>396</sup> Nebraska DNR further contended that the districts lacked standing to pursue their claims.<sup>397</sup> Reclamation asserted that, as a federal agency, it had not waived its sovereign immunity.<sup>398</sup>

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389. *Neb. Dep't of Nat. Res.*, 801 N.W. 2d at 259 (finding FCID's allegations of potential injury insufficient to be justiciable).

390. *Frenchman Cambridge Irrigation Dist. v. Heineman*, 974 F. Supp. 2d 1264, 1270 (D. Neb. 2013).

391. *Id.* at 1273.

392. *Id.*

393. *Id.*

394. *See supra* text accompanying notes 220–236.

395. *Heineman*, 974 F. Supp. 2d at 1270–71.

396. *Id.*

397. *Id.* at 1271.

398. *Id.*

The court dismissed the case, largely according to the defendants' motions. It first granted Reclamation's motion on two federal grounds: first, it found that the Reclamation Act's limited waiver of sovereign immunity did not apply in this case;<sup>399</sup> and second, that because this case did not concern a comprehensive stream adjudication of the Basin in Nebraska, the McCarran Act did not provide a waiver for sovereign immunity.<sup>400</sup> Based on those findings, the court declined to exercise its supplemental jurisdiction, dismissing the URNRD and Nebraska DNR as well; as a consequence, it did not address the remaining issues of standing and Eleventh Amendment immunity.<sup>401</sup>

The dismissal is notable for three reasons. First, the court stressed that it was not exercising its supplemental jurisdiction because the case "involves novel and complex state law issues"—issues concerning the legal relationship between surface and groundwater rights under Nebraska law, then pending before Nebraska DNR.<sup>402</sup> Second, having asserted that the "Republican River Compact is only peripheral to the controversy," the court then recommended that the districts seek to intervene in *Kansas v. Nebraska*—even though trial had already concluded in that case, and Special Master Kayatta issued his report shortly thereafter.<sup>403</sup> Finally, the court made clear that it based its dismissal of Reclamation on the grounds that Reclamation had no obligation to sue Nebraska on behalf of its districts; thus, their claim was not cognizable under federal law.<sup>404</sup>

Undeterred by this setback in federal court, irrigators within FCID pursued Nebraska DNR in state court. In *Hill v. Nebraska Department of Natural Resources*, they brought an inverse condemnation lawsuit as a class action, alleging that Nebraska DNR's refusal to regulate and curtail groundwater pumping in the Basin, together with its 2013 closing notices, caused damages of approximately \$76 million for that year.<sup>405</sup> Nebraska DNR moved to dismiss based largely on *Hinderlider*: the state's obligations to comply with the Compact entitled Nebraska DNR to administer surface water rights as it saw fit, in order to remain within its allocation limits; consequently, the state could not have taken water supplies to

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399. *Id.* at 1280–81 (citing *Orff v. United States*, 545 U.S. 596 (2005)) (holding that jurisdiction pursuant to 43 U.S.C. § 390uu (2012) does not apply because that statute waives immunity only in cases in which the United States is joined as a third party, rather than in the instant case)).

400. *Id.* at 1276–77 (holding that jurisdiction pursuant to 43 U.S.C. § 666 does not apply).

401. *Id.* at 1281–82.

402. *Id.* at 1281.

403. *Id.* at 1280, 1281–82 n.7 (citing *South Carolina v. North Carolina*, 558 U.S. 256, 267–68 (2010)). See Report of the Special Master, *supra* note 223, at 14.

404. *Heineman*, 974 F. Supp. 2d at 1281.

405. Order Sustaining Defendant's Rule 12(b)(6) Motion to Dismiss and Granting Plaintiff's Leave to Amend at 1-3, *Hill v. Nebraska*, No. CI 14-68 (Neb. Dist. Ct. Mar. 24, 2015) [hereinafter "Hill I"]; Anthony Schutz & Sandra B. Zellmer, *Takings Litigation on the Republican*, 49 WATER L. NEWSL. (Rocky Mountain Mineral Law Found.), no. 2, 2016, at 9–11. The damages figure of \$76 million was based on a water shortfall to FCID in 2013 of 38,379 acre-feet, valued at \$2,000 per acre-foot—more water, and far more money, than Kansas had claimed as damages against Nebraska for its 2005-06 noncompliance. Justin Lavene, *Legal Landscape of the Republican River Basin*, UPPER REPUBLICAN NAT. RESOURCES DISTRICT, <http://www.urnrd.org/sites/default/files/files/20/laveneurnrdwaterconf2016.pdf> [https://perma.cc/E49X-DA76]; see also *supra* text accompanying note 219.

which the plaintiffs were not entitled under the Compact.<sup>406</sup> Convinced, the district court dismissed the case, but granted plaintiffs leave to amend.<sup>407</sup> They filed an amended complaint in which they added claims for the 2014 irrigation season, alleging an additional \$143 million in damages for suffering a water shortfall of 71,755 acre-feet for the 2014 crop year.<sup>408</sup> Nebraska DNR then moved to dismiss based on the argument that it does not have the statutory duty to regulate groundwater; thus, the alleged failure to exercise such a nonexistent duty cannot amount to a taking.<sup>409</sup> The district court accepted that argument and accordingly dismissed the plaintiffs' first takings claim (Nebraska DNR's alleged failure to regulate groundwater) with prejudice; but the court also found that plaintiffs' second takings claim (Nebraska DNR's alleged over-administration of surface water rights in the Basin) was legitimate and should proceed.<sup>410</sup> Other irrigators then filed suits making the same claim; Nebraska DNR filed a motion to reconsider in *Hill I*, and motions to dismiss in the other suits. The court resolved these matters together by granting Nebraska DNR's motion to reconsider *Hill I*, as well as its motions to dismiss.<sup>411</sup> (*Hill III* is presently on appeal.<sup>412</sup>)

Although the decision in *Hill III* is on appeal, the conclusions of the Furnas County district court describe several forbidding obstacles to protecting surface-water irrigation rights in Nebraska. The first obstacle is the police power claimed by Nebraska DNR pursuant to *Hinderlider*—a power allegedly so robust that it forecloses any takings claims arising from the curtailment of surface-water rights imposed to achieve Compact compliance.<sup>413</sup> The second obstacle is, paradoxically, powerlessness—a statutory impotence allegedly so complete that it precludes Nebraska DNR from regulating groundwater pumping, even regulation taken to achieve Compact compliance.<sup>414</sup>

The district court did not recognize the potential contradictions between Nebraska DNR's claim to police power on one hand and its defense of statutory powerlessness on the other. Ultimately, it rested its decision upon a distinctive view

406. *Hill I*, *supra* note 405, at 10.

407. *Id.* at 14-16.

408. Order Denying in Part and Sustaining in Part Defendant's Rule 12(b)(6) Motion to Dismiss, *Hill v. Nebraska*, No. CI 14-68 (Neb. Dist. Ct. Sept. 28, 2015) [hereinafter "*Hill II*"]; *see also* Zellmer, *supra* note 405. Plaintiffs provided the same value of \$2,000 per acre-foot in *Hill II* as they had in *Hill I*. The water shortfall was more than twice that of Nebraska's 2005–06 noncompliance in *Kansas v. Nebraska*. Lavene, *supra* note 405; *see also supra* text accompanying note 219.

409. *Hill II*, *supra* note 408, at 5-7 (citing *Spear T Ranch v. Neb. Dep't of Nat. Res.*, 699 N.W.2d 379 (2005)).

410. *Id.* at 2-7.

411. *See* Order of Dismissal, *Hill v. Nebraska*, Nos. CI 14-68 & CI 15-80 (Neb. Dist. Ct. May 19, 2016) [hereinafter *Hill III*]. *Hill III* provides a history of *Hill I* and *Hill II*: *see id.* at 1-5.

412. The plaintiffs appealed the case on May 31, 2016, and filed a petition to bypass the Nebraska Court of Appeals so that the Nebraska Supreme Court could hear the case directly. The Nebraska Supreme Court consolidated the same cases decided in *Hill III* on July 13, 2016. Appellants' Opening Brief at 1, *Hill v. Nebraska*, Nos. 16-558 & 16-560 (Consolidated) (Neb. Sup. Ct. August 31, 2016). Oral arguments in the consolidated cases were heard on January 7, 2017. *See Hill v. State of Nebraska*, NEB. JUD. BRANCH, <https://supremecourt.nebraska.gov/20646/hill-v-state-nebraska> [<https://perma.cc/YRJ5-PRBW>].

413. *See supra* text accompanying note 406.

414. *See supra* text accompanying note 409.

of the property interest in the use of surface water. The court dismissed the case largely on the conclusion that a compensable taking for curtailing a surface water right can only arise when there is water available for diversion.<sup>415</sup> Under the hard and arid logic of prior appropriation, this reasoning seems unimpeachable: because a water right is not a guarantee of sufficient water to supply that right, junior water rights might receive no water supplies during times of actual water shortage. However, the court applied that reasoning within an unusual administrative context, in which Nebraska DNR, following the dictates of its IMP's, determined water to be unavailable for *all* surface diversions—even as it allowed groundwater pumping to continue. “The right to use the property rights [i.e., surface water rights] incident to an appropriation only arises when there is water ‘subject to capture,’ i.e., *when* water is declared to be available.”<sup>416</sup> And the determination of that availability lies squarely with Nebraska DNR: until it declares that “water is available for appropriation,” no protectable property right in surface water exists in Nebraska.<sup>417</sup>

Apply this logic to Nebraska groundwater permits, and problems soon arise. The court stressed that a Nebraska surface water right does not grant an “immediate right to use of the water because there is no discrete, continuously existing corpus or physical thing that can be possessed or used by the appropriator.”<sup>418</sup> But what of groundwater? Some of the chief virtues of groundwater are negatively implied in this assertion. Hydrologically, unlike the variability of surface water supplies, groundwater tends to be a “continuously existing corpus or physical thing” that can be withdrawn and used by Nebraska irrigators, available for diversion long after surface streams have diminished.<sup>419</sup> Administratively, the director of Nebraska DNR cannot find such groundwater to be unavailable, because he lacks jurisdiction to curtail groundwater pumping; and the IMP's effectively rule out groundwater curtailments during times of shortage anyway.<sup>420</sup> When, given the hydrological conditions of groundwater pumping in Nebraska, and given the administrative conditions of Nebraska's Compact compliance approach, would groundwater be declared to be unavailable for use? Probably rarely, if ever; but if it were to happen, such curtailments would appear to be compensable takings. According to the court's reasoning in *Hill III*, groundwater rights appear to be clearly superior property rights compared to surface water rights—despite the priority and the constitutional status of the former.<sup>421</sup> First in time, last in right.<sup>422</sup>

415. *Hill III*, *supra* note 411, at 14–15.

416. *Id.*

417. *Id.* at 25.

418. *Id.* at 14–15.

419. *Id.* Indeed, the relative constancy and durability of groundwater supplies undergirds Nebraska's substantial investment in its augmentation projects; *see supra* text accompanying notes 265–270.

420. *See supra* text accompanying notes 242–247.

421. *See supra* text accompanying note 69.

422. Nebraska DNR stressed that the plaintiff irrigators in *Hill III* are not without a remedy: “if [they] believe that excess groundwater pumping is interfering with their surface water appropriations, they can attempt to hold groundwater pumpers accountable under the Restatement (Second) of Torts, § 858 (1979) . . . .” Appellees' Brief at 49, *Hill v. Nebraska*, Nos. 16-558 & 16-560 (Consolidated) (Neb. Sup. Ct. September 30, 2016) , , (citing *Spear T Ranch v. Knaub*, 691 N.W.2d 116 (2005)). But Dr. Ann Bleed, former director of Nebraska DNR, has conceded that “Nebraska state law provides little legal

5. *Interstate Comity through Anti-federalism: the Resolutions of the RRCA, 2014–2016*

By the end of 2014, the governance structure of cooperative federalism in the Basin had effectively broken down. Nebraska DNR's compliance-driven orders to release water from Harlan County Lake between 2012 and 2014 had created a hostile relationship between Nebraska DNR and the United States over the management of Reclamation infrastructure. They had also run the risk of preventing KBID from storing water supplies for subsequent irrigation seasons. Reclamation had responded to these threats by pressuring KBID into a series of Warren Act contracts. These contracts solved the immediate crisis, but required KBID to pay for water supplied by upstream augmentation pumping in Nebraska. Nebraska's IMP's and the closing notices Nebraska DNR issued to FCID and NBID had deprived surface-water irrigators in Nebraska of their water supplies, forcing them to sue their parent state, so far unsuccessfully. Left unasked in the correspondence and the contract negotiations was the underlying hydrological question: what made the excess capacity in Harlan County Lake available? With few exceptions, the answer was apparently too undiplomatic to be discussed: long-term declines in inflows resulting from excessive groundwater pumping.<sup>423</sup>

Between October 2014 and August 2015, the RRCA passed four resolutions in rapid succession, temporarily resolving some of the states' legal and operational disagreements which had caused the showdown at Harlan County Lake. They consist essentially of three shared positions taken against Reclamation.<sup>424</sup> First, the states formally blessed the fact that Nebraska would be depending substantially on pumped groundwater from its augmentation projects to comply

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protection to assure the security of tenure rights for surface water users where surface water and groundwater are hydrologically connected." ANN BLEED & CHRISTINA HOFFMAN BABBITT, NEBRASKA'S NATURAL RESOURCES DISTRICTS: AN ASSESSMENT OF A LARGE-SCALE LOCALLY CONTROLLED WATER GOVERNANCE FRAMEWORK 59 (2015).

423. See *supra* text accompanying notes 278–279.

424. REPUBLICAN RIVER COMPACT ADMIN., RESOLUTION BY THE REPUBLICAN RIVER COMPACT ADMINISTRATION APPROVING ACCOUNTING ADJUSTMENTS AND AGREEMENTS RELATED TO THE OPERATION OF HARLAN COUNTY LAKE IN 2014, (2014) [hereinafter RRCA HCL Resolution of October 22, 2014] [http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/ks\\_ne\\_accounting\\_hcl\\_2014.pdf?sfvrsn=6](http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/ks_ne_accounting_hcl_2014.pdf?sfvrsn=6) [https://perma.cc/P2ZV-6CUV]; REPUBLICAN RIVER COMPACT ADMIN., RESOLUTION BY THE REPUBLICAN RIVER COMPACT ADMINISTRATION APPROVING ACCOUNTING ADJUSTMENTS AND AGREEMENTS RELATED TO THE OPERATION OF HARLAN COUNTY LAKE IN 2015 (2014) [hereinafter RRCA HCL Resolution of November 19, 2014], [http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/ks\\_ne\\_accounting\\_hcl\\_2015.pdf?sfvrsn=2](http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/ks_ne_accounting_hcl_2015.pdf?sfvrsn=2) [https://perma.cc/MF9M-LEL3]; REPUBLICAN RIVER COMPACT ADMIN., RESOLUTION OF THE REPUBLICAN RIVER COMPACT ADMINISTRATION, ADDENDUM TO RESOLUTION APPROVING ACCOUNTING ADJUSTMENTS AND AGREEMENTS RELATED TO THE OPERATION OF HARLAN COUNTY LAKE IN 2015 DATED NOVEMBER 19, 2014 (2015) [hereinafter RRCA HCL Resolution of March 6, 2015], [http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/addendum-to-the-november-2014-rrca-resolution\\_signed\\_final.pdf?sfvrsn=2](http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/addendum-to-the-november-2014-rrca-resolution_signed_final.pdf?sfvrsn=2) [https://perma.cc/64VX-NBDR]; REPUBLICAN RIVER COMPACT ADMIN., RESOLUTION OF THE REPUBLICAN RIVER COMPACT ADMINISTRATION APPROVING ACCOUNTING ADJUSTMENTS AND AGREEMENTS RELATED TO THE OPERATION OF HARLAN COUNTY LAKE FOR COMPACT YEAR 2016 (2015) [hereinafter RRCA HCL Resolution of August 27, 2015], [http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/resolution\\_hc\\_aug-credit\\_2016\\_08272015.pdf?sfvrsn=2](http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/resolution_hc_aug-credit_2016_08272015.pdf?sfvrsn=2) [https://perma.cc/RE7Y-57W2].

with the Compact—by as much as 63,500 acre-feet for 2014 alone.<sup>425</sup> The states agreed to account for augmentation water generally as imported water under the Compact’s accounting procedures, thereby subtracting it from the “virgin water supply” of the Compact and the “computed water supply” of the FSS.<sup>426</sup>

Second, Nebraska obtained the blessing of the RRCA to control Harlan County Lake, so that it could manage the water supplies derived from its augmentation projects for Compact compliance purposes. Nebraska agreed not to release or bypass water from Harlan County Lake—the principal threat it had employed between 2012 and 2014.<sup>427</sup> It also promised to deliver augmentation water to the lake, and therefore to KBID and Kansas, in time for irrigation season.<sup>428</sup> In exchange, Nebraska extracted a second significant concession from Kansas: Nebraska could extend its deadline for deliveries of water to Harlan County Lake from the end of the year (as the Compact and the accounting procedures of the FSS had required) through April and even June of the following year—enabling Nebraska to shore up its accounting balances through supplemental augmentation pumping.<sup>429</sup>

Finally, the states agreed to change the operation and management of Harlan County Lake, with escalating opposition to Reclamation’s established management role. The resolutions aspired to establish a storage account in Harlan County Lake exclusive to the state of Kansas, separate from water allocated to NBID and KBID.<sup>430</sup> If the states and Reclamation could not establish such a Kansas-exclusive account, then they would accept the ongoing Warren Act account arrangements with KBID; if neither of those options obtained, then the stored water would become “project water” shared between NBID and KBID.<sup>431</sup> Less than a month later, the states redefined “project water” as water exclusively dedicated to KBID; the established memorandum of agreement between NBID, KBID, and Reclamation for sharing project water and operations and maintenance costs was specifically deemed to be inapplicable.<sup>432</sup> Because water supplied by upstream augmentation projects now counted as project water, and because NBID was excluded from accessing that project water, the RRCA had effectively excised NBID from the Bostwick Project during water-short years.<sup>433</sup>

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425. RRCA HCL Resolution of October 22, 2014, *supra* note 424, at 1.

426. *Id.*; RRCA HCL Resolution of March 6, 2015, *supra* note 424, at 1; RRCA HCL Resolution of August 27, 2015, *supra* note 424, at 1.

427. RRCA HCL Resolution of October 22, 2014, *supra* note 424, at 1.

428. RRCA HCL Resolution of August 27, 2015, *supra* note 424, at 1; RRCA HCL Resolution of August 27, 2015, *supra* note 424, at 1.

429. RRCA HCL Resolution of November 19, 2014, *supra* note 424, at 1; RRCA HCL Resolution of August 27, 2015, *supra* note 424, at 2.

430. RRCA HCL Resolution of October 22, 2014, *supra* note 424, at 1.

431. *Id.* at 1–2. The RRCA also agreed to allow Nebraska to store water for KBID under Reclamation’s Nebraska water right for NBID in Harlan County Lake—a creative maneuver, but one rife with potential legal problems. RRCA HCL Resolution of November 19, 2014, *supra* note 424, at 1.

432. RRCA HCL Resolution of November 19, 2014, *supra* note 424, at 2.

433. *Id.* at 1–2; RRCA HCL Resolution of March 6, 2015, *supra* note 424, at 2.

The RRCA approved a longer-term resolution related to the operation of Harlan County Lake in August 2016.<sup>434</sup> It carries forward the principal elements of the earlier resolutions, and captures well the RRCA's current hostility to the operational presence of the United States in the Basin. The resolution comprehends "project water" as consisting of all of the flows of the Basin stored in Harlan County Lake for use in both states, including augmentation water, without regard to Reclamation's definition of the term.<sup>435</sup> It formally integrates Nebraska's IMP's within the Compact's administration, including their methods for forecasting augmentation delivery volumes.<sup>436</sup> The "natural flows" of the Basin now include water pumped from Nebraska's augmentation projects—even though these supplies are counted as imported water supply credits, and thus deducted from the "computed water supply" of the Basin under the accounting procedures of the FSS.<sup>437</sup>

Tellingly, the long-term resolution seeks to effect this management by creating new water accounts in Harlan County Lake without Reclamation's prior approval. Augmentation water delivered to the lake is expressly limited to use by Kansas and KBID, without allocation or subsequent re-allocation to NBID.<sup>438</sup> This augmentation water is to flow into two different accounts: a "Kansas Account" exclusively dedicated to KBID, including water supplies previously available under its Warren Act contracts, and a "Kansas Supplemental Account" exclusively dedicated for use by Kansas outside of KBID.<sup>439</sup> Nebraska promises to make "good faith efforts" to deliver augmentation water supplies to the Kansas Account by June 1 of each year, in time for irrigation season—apparently supplanting Reclamation's traditional duty to make water supplies available to both NBID and KBID.<sup>440</sup> The RRCA recognized that the United States has yet to recognize and establish these two Kansas accounts in Harlan County Lake, and so committed itself to cooperate with the United States toward that end.<sup>441</sup> Therefore, the accounts which the RRCA nominally established in this resolution are best understood as accounting work-arounds, by which the states can compute compliance without participation by the United States in the management of water stored in Harlan County Lake for both NBID and KBID.

The resolution concludes with a striking statement: "compliance with this Resolution constitutes compliance" with both the Compact and the FSS.<sup>442</sup> By creating new (and as yet still nominal) accounts in Harlan County Lake to hold

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434. REPUBLICAN RIVER COMPACT ADMIN., RESOLUTION APPROVING LONG-TERM AGREEMENTS RELATED TO THE OPERATION OF HARLAN COUNTY LAKE FOR COMPACT CALL YEARS (2016) [hereinafter RRCA HCL Resolution of August 24, 2016], [http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/final\\_resolution\\_hcl\\_20160823.pdf?sfvrsn=4](http://agriculture.ks.gov/docs/default-source/iwi---republican-river-compact/final_resolution_hcl_20160823.pdf?sfvrsn=4) [https://perma.cc/2DC2-A5VH]. The resolution is effective for four years. *Id.* at 3.

435. *Id.* at 1.

436. *Id.* at 1–2.

437. *Id.* at 2–3.

438. *Id.*

439. *Id.* at 2.

440. *Id.*

441. *Id.* at 3.

442. *Id.*

water delivered from Nebraska's augmentation projects, and by changing the accounting methods by which Nebraska supplies water to Kansas in water-short years, the RRCA has transformed—at least for now—the essential function of Harlan County Lake. The lake now serves as the delivery point for Nebraska's Compact obligations to Kansas during water-short years without apparent regard for NBID, effectively transforming the Compact into a delivery compact—despite Nebraska's earlier protestations to the contrary.<sup>443</sup> If Reclamation were to decide to protect NBID from the consequences of the RRCA's long-term resolution for Harlan County Lake, the United States could sue Nebraska to protect its interests in the Basin.<sup>444</sup>

#### 6. Post-script: Whither Reclamation?

As of 2017, the interstate litigation between Kansas and Nebraska has receded into the background. It remains an important and looming presence: the Court's 2015 decision awarding partial disgorgement and threatening complete disgorgement of gains obtained by future noncompliance has justified Colorado's and Nebraska's augmentation projects.<sup>445</sup> But at present, the Basin is now dominated by a proxy war between surface-water irrigation communities and groundwater irrigation communities that is taking place on multiple fronts. Through its IMP's, Nebraska has committed itself to a strategy to comply with the Compact by choosing to protect its dominant groundwater interests, represented by Nebraska NRD's, at the expense of its surface water interests, represented by FCID, NBID, and Reclamation. That policy choice has forced litigation between these districts and Nebraska, and open conflict between the State of Nebraska and Reclamation. To protect itself from the consequences of Nebraska's IMP's, KBID has agreed to Warren Act contracts; largely to protect KBID, Kansas has agreed to accommodate the IMP's in the recent resolutions of the RRCA. All three states, apparently, have joined in a concerted fight against Reclamation, with co-operative federalism as its principal casualty. The RRCA has transformed the administration of an interstate river based on principles of cooperative federalism into one based on an essentially anti-federal approach, where the States have purchased interstate comity with a shared opposition to Reclamation.

Will Reclamation defend its traditional interests and its duties to its districts under the Reclamation Act? Based on its legal position, it appears to be prepared to do so.<sup>446</sup> Or will Reclamation seek less combative means to regain co-operative federalism? It could potentially repurpose Reclamation reservoirs in the Basin for the express purpose of Compact compliance—to reflect the operational

443. See State of Nebraska's Post-Trial Brief, *supra* note 281, at 5–7; see also Letter from Brian Dunnigan, *supra* note 330, at 1 (“the Compact is not a delivery compact”).

444. For a similar situation, see First Interim Report of the Special Master at 231-237, *Texas v. New Mexico*, No. 141, Orig., (U.S. February 9, 2017) (recommending that the Court exercise its original but non-exclusive jurisdiction under 28 U.S.C. § 1251(b)(2) (2012) to hear the United States' claims regarding the Elephant Butte Project against New Mexico).

445. See *supra* text accompanying notes 269–270.

446. See *supra* text accompanying notes 370-380.



intent of other compacts, such as the Rio Grande or Arkansas River Compacts.<sup>447</sup> That would amount to a tacit repudiation of the precautionary principle which informed the Compact in the first place.<sup>448</sup> It might also amount to a tacit admission that Reclamation's surface-water irrigation communities in Nebraska may no longer be viable in dry years—the all-too-common conditions which brought Reclamation to the Basin in the first place.

### CONCLUSION

The conflict between Great Plains irrigation communities can end three ways. If groundwater irrigation communities prevail—and if Nebraska continues to prevail against its own surface-water irrigation districts—then their surface-water counterparts will no longer be viable, as depletion transforms the water rights upon which they depend into legal fictions. If surface-water communities prevail, then groundwater communities will suffer substantial economic losses during the decades of suspended or reduced pumping that will be necessary to restore the hydrologic integrity of Great Plains river systems.<sup>449</sup> The first result would repudiate the states' and Reclamation's commitments to its surface-water irrigation communities, while the latter outcome would suspend the use of billions of dollars' worth of individual groundwater rights and their economic benefits. The first result is entirely possible, if legally dubious; the latter outcome is politically impossible and economically irrational.

There is room for compromise between these extremes. That compromise must protect surface-water irrigation communities from the excessive groundwater pumping that has harmed them for decades and threatens their future; but it must do so without imposing overly severe reductions to the pumping upon which groundwater irrigation communities presently depend. Colorado and Nebraska have followed the lead of their locally-controlled groundwater irrigation communities; but their compliance strategies are producing a Potemkin river, one replumbed on the surface by Ogallala Aquifer groundwater, yet depleted of its native flows.

Downstream and vulnerable, Kansas has sought repeatedly to restore these flows by reducing groundwater pumping upstream. During the 2010–2015 litigation, its proposed compliance path accepted a diminished river, but one that was at least intact as a hydrological system. The Supreme Court has now decided the conflict between Kansas and Nebraska for a second time, but it has also clearly decided to avoid the conflicts between these irrigation communities. Faced with that avoidance, Kansas has resolved to accept its Compact partners' compliance plans; and so the RRCA has purchased interstate comity with a common hostility to Reclamation. In any case, the Court will not decide the fate of the river. The river lacks standing.<sup>450</sup>

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447. See Rio Grande Compact, ch. 155, 53 Stat. 785, 786 (1939) (providing for the Rio Grande Project); Arkansas River Compact, 63 Stat. 145–146 (1949) (providing for the use and management of John Martin Reservoir).

448. See *supra* text accompanying note 273.

449. See *supra* text accompanying notes 262 and 270.

450. *Sierra Club v. Morton*, 405 U.S. 727, 741–52 (1972) (Douglas, J., dissenting).

The problem returns us to the original purpose behind Reclamation—to build enduring irrigation communities across the rural West. For fifty years, the groundwater revolution severely tested that purpose, and raised candid questions about whether it was obsolete. Irrigation is above all a business, as the Reclamation Reform Act of 1982 conceded.<sup>451</sup> But the decline of the Ogallala Aquifer should revive our interest in these communities. That is because this decline is both a public crisis—the permanent loss of waters dedicated to the public—and a crisis concerning the public itself, which must resolve the competing interests of its surface-water and groundwater irrigation communities. Where pumping threatens to separate groundwater baseflows from streamflows, the presence or absence of those surface flows indicates whether the river as a hydrological whole can sustainably withstand present levels of groundwater pumping—regardless of whether that pumping is dedicated to irrigation or augmentation. If the river cannot withstand that pumping, then the river cannot endure, and the different irrigation communities that depend on its water supply cannot coexist. Will Reclamation protect its water rights to the river systems upon which its projects depend? Or will the states and Reclamation, in a most cynical act of cooperative federalism, walk away from the projects and the public purposes behind them?

The drought has gone underground, and neither rain nor technology can end it. On the other side of the groundwater revolution, there is no cycle—historical, hydrological, or otherwise—to reverse. If groundwater and surface-water irrigation communities are to survive and to coexist across the Great Plains, they will have to accept what Powell and Mead made abundantly clear more than a century ago: aridity requires a public that is committed to its rivers. To sustain the wider public that connects these divergent communities, the arid West requires more modest expectations from both of them and greater cooperation between them. That may be more than they are willing to sacrifice. In that case—if the idea of a durable water public across the Great Plains no longer deserves protection—then the groundwater crisis will take care of itself.

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451. For a discussion of this issue, see Kelley & Benson, *supra* note 107, at § 41.03, and see generally MACDONNELL, *supra* note 132.

