

# COMMUNITY IN THE COLORADO RIVER BASIN

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## ABSTRACT

*Something historic is happening right now in the Colorado River Basin. Domestic and international negotiations over the next several years will yield a new management framework for the Colorado River system from which more than forty-million people draw the essence of life. Climate change looms over these negotiations—an ongoing twenty-one-year megadrought unprecedented in the historical record. Although the basin is a place of incredible diversity—a “community of communities”—you might not know it from institutions devised thus far for Colorado River governance. Some progress has been made with these institutions in recent decades, and collaboration has been instrumental, including with tribal sovereigns whose ancestral homelands and modern reservations span across the basin. But more needs to be done. This Article advocates for an elevated commitment to collaboration in the new management framework’s negotiation and beyond. Next-generation Colorado River governance institutions should be created that align with the whole community of communities.*

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## I. INTRODUCTION

“The waters of to-day have values and must be divided; the waters of the morrow have values, and the waters of all coming time, and these values must be distributed among the people. How shall it be done?”<sup>1</sup> We’re still grappling with this question posed by John Wesley Powell in 1890. His answer to it was all about connections—at least as far as his eyes could see. One aspect of these connections had to do with the contours of the Western landscape and its arterial river systems. These bloodlines combine to “form the drainage system of a hydrographic basin, a

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1. John Wesley Powell, *Institutions for the Arid Lands*, 40 CENTURY MAG. 111, 113 (1890).

unit of country well defined in nature, . . . bounded above and on each side by heights of land that rise as crests to part the waters.”<sup>2</sup> A corollary aspect had to do with the landscape’s human inhabitants. “Such a district of country is a commonwealth by itself,” professed Powell, “[t]he people who live therein are interdependent.”<sup>3</sup> Out of this proverbial soil of connectivity grew Powell’s grand yet ultimately unrealized vision: “that the entire arid region be organized into natural hydrographic districts, each one to be a commonwealth within itself.”<sup>4</sup> Nested in this fashion, it would fall to the people of each commonwealth to “make their own laws for the division of the waters, for the protection and use of the forests, for the protection of the pasturage on the hills, and for the use of the [water] powers.”<sup>5</sup>

It almost sounds like community. But that would be a stretch. Or, put differently, the connections didn’t stretch that far in Powell’s time. Not all Westerners *belonged* in his watershed commonwealths. Only some were top of mind. “It should be remembered that the far West is no longer an uninhabited region,” Powell admonished, revealing thick cultural blinders.<sup>6</sup> When had the “far West” been “uninhabited”? Not for millennia when accounting for Native peoples, and not for centuries when considering Spanish and Mexican communities.<sup>7</sup> Yet they were practically invisible in Powell’s vision.<sup>8</sup> It was focused elsewhere—toward “intelligent, industrious, enterprising” Euro-American immigrants colonizing the western United States, a people “wide awake to their interests,” whose “hearts beat high with hope,” and whose “aspirations are for industrial empire.”<sup>9</sup> “On this round globe and in all the centuries of human history,” gushed Powell, “there has never before been such a people.”<sup>10</sup> It was this “people,” not others, who would be included. They would create the commonwealths, participate in self-governance, and make lives and livelihoods involving familiar relationships with other parts of nature: planting towns and cities “on the mountainsides,” operating “stupendous mining enterprises,” erecting saw mills on the streams supplied by the “woodsman’s ax” in the forest, covering the hills with “flocks and herds,” and

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2. *Id.*

3. *Id.* at 113–14.

4. *Id.* at 114.

5. *Id.* To be clear, Powell’s watershed-commonwealths proposal involved nuanced, tiered roles for the local, state, and federal (“general” in his jargon) governments. *Id.* at 114–15.

6. *Id.* at 115.

7. See *infra* Part II.A–B.

8. Powell did briefly mention the communitarian, centuries-old irrigation communities transplanted to what had become the U.S. Southwest during the Spanish and Mexican periods. *Id.* at 112.

9. *Id.* at 115.

10. *Id.*

cultivating the valleys with vineyards, fields, orchards, and gardens.<sup>11</sup> Of course, Powell’s commonwealths reflected just one conception of “community.”<sup>12</sup>

It’s time to say a few things about that word as it applies in the Colorado River Basin.

One thing is that the singular form seems dead wrong. How can “community” be used in reference to a 244,000-square-mile watershed encompassing a river system whose flows supply water to over forty-million people?<sup>13</sup> Pluralization appears necessary. There are layers upon layers of communities in this space.<sup>14</sup> For starters, the Colorado River Basin is replete with ecosystems—aquatic, riparian, desert, forest, tundra—teeming with biotic life and non-living things.<sup>15</sup> Human beings are one species of these ecosystems, but they are far more extensive, complex communities.<sup>16</sup> Even focusing solely on people, however, the singular form falls short. Consider the vast metropolises and megapolises hooked up to Colorado River system water—Los Angeles, Phoenix, San Diego, Denver, Las Vegas, Salt Lake City, Tucson, and Albuquerque, among others.<sup>17</sup> Contrast these urban oases with the numerous agricultural communities collectively irrigating nearly 4.5 million acres in and around the basin.<sup>18</sup> And lest we overlook the thirty tribal sovereigns whose ancestral homelands and modern reservations lie within this magical place,<sup>19</sup>

11. *Id.*

12. For a rich examination of how certain aspects of Powell’s watershed commonwealths might be translated into contemporary Colorado River governance, see Robert W. Adler, *Communitarianism in Western Water Law and Policy: Was Powell’s Vision Lost?*, in VISION & PLACE: JOHN WESLEY POWELL & REIMAGINING THE COLORADO RIVER BASIN 28 (Jason Robison, Daniel McCool & Thomas Minckley eds., 2020).

13. Lawrence J. MacDonnell, *Colorado River Basin*, in 4 WATER AND WATER RIGHTS 6 (Amy K. Kelley ed., 2011); Press Release, The Bureau of Reclamation, Interior and States Sign Historic Drought Agreements to Protect Colorado River (Feb. 20, 2019), <https://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=66103>.

14. For an overview of these communities, see Manuel Chaz Baculi et al., *The Hardest Working River in the West*, BABBITT CTR FOR LAND & WATER POL’Y, <https://storymaps.arcgis.com/stories/2efeafc8613440dba5b56cb83cd790ba> (last visited Feb. 8, 2021).

15. See generally ROBERT W. ADLER, RESTORING COLORADO RIVER ECOSYSTEMS: A TROUBLED SENSE OF IMMENSITY (2007).

16. The definition of “ecosystem” speaks to this point: “the complex of a *community* of organisms and its environment functioning as an ecological unit.” *Ecosystem*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/ecosystem> (last visited Feb. 8, 2021) (emphasis added).

17. BUREAU OF RECLAMATION, COLORADO RIVER BASIN STAKEHOLDERS MOVING FORWARD TO ADDRESS CHALLENGES IDENTIFIED IN THE COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY: PHASE I REPORT: EXECUTIVE SUMMARY 2 fig. 1 (2015), <https://www.usbr.gov/lc/region/programs/crbstudy/MovingForward/Phase1Report/ExecSumm.pdf> [hereinafter MOVING FORWARD REPORT].

18. *Id.* at 1.

19. See TEN TRIBES PARTNERSHIP & BUREAU OF RECLAMATION, COLORADO RIVER BASIN TEN TRIBES PARTNERSHIP TRIBAL WATER STUDY: STUDY REPORT appx. 1B-1 (2018) (providing map of twenty-nine tribes’

or the pervasive federal lands where millions of visitors interact with the river system, including the Grand Canyon.<sup>20</sup> The system's flows are used and valued distinctly by these diverse communities.<sup>21</sup> But used and valued they are. Which water users get to access the resource and which do not? This question throws into relief a final, critical human layer: the network of federal, state, local, and sometimes tribal officials vested with decision-making authority over the Colorado River system.<sup>22</sup>

That's a lot of layers—though a gross simplification of the real fabric—but it tees up a contrary and paradoxical thing that needs to be said about “community.” Its singular form is actually dead on when used in reference to the Colorado River Basin. From a twenty-first-century perspective, Powell got something profoundly right in his watershed-commonwealths proposal—the part about connections, despite how they were conceived in ethnocentric, now antiquated ways. The river's mainstem and tributaries do combine to form “the drainage system of a hydrographic basin, a unit well defined in nature,”<sup>23</sup> even with its human bifurcation via the Colorado River Compact.<sup>24</sup> And as for the wide-ranging human communities—those using the basin's flows, consumptively and non-consumptively, as well as those engaged in governance—their distinct, sometimes conflicting natures are clear as day. Equally so, however, is their common, unmistakable connection. It is the river system—the lifeblood of *all* the human communities and ecosystems of which they are a part.

So the Colorado River Basin is a *community of communities*. That's the bottom line. Why tease it out now? To influence the course of history—nothing less—as that's exactly what's being made at the time of this writing. Between now and 2026, a new management framework for the Colorado River system will be negotiated—with domestic and international pieces—ushering in the next chapter in the history

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reservations in basin) [hereinafter TRIBAL WATER STUDY]. The Tribal Water Study did not note the San Juan Southern Paiute Tribe, which is a federally recognized tribe living on traditional territory within the Navajo Reservation. *About the Tribe*, SAN JUAN SOUTHERN PAIUTE TRIBE, <https://www.sanjuanpaiute-nsn.gov/about> (last visited April 23, 2021). All of the Tribal Water Study documents can be found at BUREAU OF RECLAMATION, COLORADO RIVER BASIN TEN TRIBES PARTNERSHIP: TRIBAL WATER STUDY REPORT, LOWER COLORADO REGION, <https://www.usbr.gov/lc/region/programs/crbstudy/tws/finalreport.html>.

20. For a map of federal lands in the Colorado River Basin, see VISION & PLACE, *supra* note 12, at 98. As just one illustration, annual visitation to Grand Canyon National Park has hovered around six-million people over the past several years. *Grand Canyon*, NATIONAL PARK SERVICE, <https://www.nps.gov/grca/learn/management/statistics.htm#onthisPage-6> (last visited April 24, 2021).

21. See, e.g., Jason Robison et al., *Challenge & Response in the Colorado River Basin* 16 WATER POL'Y 12, 18–19 (2014) (discussing value pluralism in the era of limits).

22. JOHN FLECK, WATER IS FOR FIGHTING OVER AND OTHER MYTHS ABOUT WATER IN THE WEST 9–11 (2016).

23. Powell, *supra* note 1, at 113.

24. Article I divides the basin into an “Upper Basin” and a “Lower Basin” at Lee Ferry, Arizona. Colorado River Compact, 1923 Colo. Sess. Laws 684, Colo. Rev. Stat. § 37-61-101 to -104 (2019) [hereinafter Compact]. See also *Id.* at Arts. II(e)-(g) (defining “Lee Ferry,” “Upper Basin,” and “Lower Basin”).

of Colorado River governance.<sup>25</sup> In whatever form it ultimately appears, this framework will implement the cornerstone of the complex, nearly century-old body of laws and policies governing the system—colloquially, the “Law of the River.” That cornerstone is the Colorado River Compact.<sup>26</sup> So, too, will the new framework inevitably touch on a venerable institution at the international border, a treaty over the Colorado River forged by the United States and Mexico in the mid-twentieth century.<sup>27</sup> Flow obligations connect these two components of the Law of the River and set water budgets in both countries.<sup>28</sup> It is these flow obligations, among other pressing matters, that the framework must navigate—and in unprecedented circumstances to boot: amidst a twenty-one-year megadrought that is more severe than any in recorded history and portends regional aridification.<sup>29</sup> That will be the negotiating climate (pun intended). It is one requiring earnest, transparent thoughts and deeds in relation to the concept introduced above: “community.” How has it historically been understood and approached? What should it mean as the basin’s community of communities looks ahead?

Short answer for the future: collaboration. Colorado River governance has increasingly taken this tack. It reflects the reality of the basin as a community of communities. And it’s how the new management framework should be negotiated and implemented. That’s this Article’s thesis. It applies with special force to the engagement of tribal sovereigns, but extends further to the full scope of communities connected to the river system—those whose voices historically have been marginalized, alongside those whose voices have been power.

Rolling out this thesis, Part II starts with a sense of place, briefly outlining the Colorado River Basin’s physical geography, but spending considerable time with its human history, particularly across the four centuries preceding the Law of the River’s genesis in 1922. While the dynamic layers of community over this period are critical to understand from a relationship standpoint, they are often poorly understood or ignored in contemporary dialogue about the Colorado River system. Real relationships *cannot* be built until that changes. Against this backdrop, Part III turns to governance institutions, partly as revealed by the Law of the River’s core

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25. These negotiations are taking place due to the general expiration of three key instruments in 2025 and 2026—the 2007 Interim Guidelines, Minute 323 to the U.S.-Mexico Treaty, and the 2019 Drought Contingency Plans—all of which are discussed *infra* Part III.B.3.

26. Compact, *supra* note 24.

27. Utilization of the Waters of the Colorado and Tijuana Rivers and of the Rio Grande, Treaty Between the United States of America and Mexico, U.S.-Mex., Feb. 3, 1944, T.S. 994 [hereinafter Treaty].

28. Compact, *supra* note 24, at Arts. III(c)–(d); Treaty, *supra* note 27, at Art. 10.

29. *See, e.g.*, BUREAU OF RECLAMATION, REVIEW OF THE COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD 15 (2020) (“The period of 2000 through 2019 was the lowest 20-year period in the historical natural flow record that dates back to 1906.”), [https://www.usbr.gov/ColoradoRiverBasin/documents/7.D.Review\\_FinalReport\\_12-18-2020.pdf](https://www.usbr.gov/ColoradoRiverBasin/documents/7.D.Review_FinalReport_12-18-2020.pdf) [hereinafter 7D REVIEW]; COLORADO RIVER RESEARCH GROUP, WHEN IS A DROUGHT NOT A DROUGHT? DROUGHT, ARIDIFICATION, AND THE “NEW NORMAL” 1 (2018), [https://www.coloradoriverresearchgroup.org/uploads/4/2/3/6/42362959/crrg\\_aridity\\_report.pdf](https://www.coloradoriverresearchgroup.org/uploads/4/2/3/6/42362959/crrg_aridity_report.pdf).

instruments—*e.g.*, the Colorado River Compact and U.S.-Mexico Treaty—and partly as shown by more recent collaborative efforts. The layers of institutions in the latter camp address adaptation vis-à-vis such timely subjects as biodiversity loss, ecosystem protection and restoration, tribal water rights, and transboundary water allocation in light of climate change. Collaboration appears recurringly as an essential tool for adaptation in these contexts. It should be elevated in negotiations over the new management framework and beyond. Such advocacy animates Part IV. Its focus is on institutional design—specifically, how to structure the negotiations in a collaborative fashion that not only adheres in the short term, but also sets a precedent for the long term. No progress of this sort can be made without a sense of the basin’s character—its layers of community—so that topic marks our put in.

## II. LAYERS OF COMMUNITY

Western painter Patrick Kikut’s piece *Reservoir Powell: Crossing of the Cultures* kind of says it all. Created as part of the Sesquicentennial Colorado River Exploring Expedition—which retraced the historic 1869 Powell Expedition’s voyage down the Green and Colorado rivers during summer 2019—the piece depicts in sunlit orange, tan, brown, and salmon hues a spot of remarkable cultural intersection.<sup>30</sup> When the Dominguez-Escalante Expedition forded the Colorado River at this spot in 1776—later named the “Crossing of the Fathers”<sup>31</sup>—they were as exhausted as they were elated, “praising God our Lord and firing off some muskets in demonstration of the great joy we all felt in having overcome so great a problem.”<sup>32</sup> The “main cause” of their suffering through “so much difficult terrain” was the absence of a Native guide from among the “great number of peoples” with whom they had interacted—“all of pleasing appearance, very engaging, and extremely timid,” and all speaking the “Yuta” language.<sup>33</sup> Two centuries later, as depicted in the foreground of Kikut’s painting, a reservoir submerged this crossing, bearing Powell’s name as a famed American explorer.<sup>34</sup> Prominent Native elements hover behind this “lake” in Kikut’s piece, one in the ancient form of *Naatsis’áán* (Navajo Mountain), the other in the industrial form of the now-shuttered Navajo Generating Station.

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30. *The Expedition*, SCREE, <https://www.powell150.org/expedition> (last visited April 24, 2021).

31. Glen Canyon National Recreation Area, *Crossing of the Fathers (lost site), Utah*, NATIONAL PARK SERVICE, [https://www.nps.gov/parkhistory/online\\_books/explorers/sitea28.htm](https://www.nps.gov/parkhistory/online_books/explorers/sitea28.htm) (last visited April 24, 2021).

32. THE DOMÍNGUEZ-ESCALANTE JOURNAL: THEIR EXPEDITION THROUGH COLORADO, UTAH, ARIZONA, AND NEW MEXICO IN 1776 120 (Ted J. Warner ed., 1995).

33. *Id.* at 120, 122.

34. See generally VISION & PLACE, *supra* note 12 (examining from retrospective and prospective angles Powell’s historical ideas about water, public lands, and Native Americans in the Colorado River Basin and broader “Arid Region”).

That is our complex world in the twenty-first century—layers atop layers of culture, identity, and meaning fused together in a place called the Colorado River Basin. It is a place eluding description in so many ways, though “extreme” is certainly a fit—extremity of climate, hydrology, and topography, bundled with something wonderfully incapable of measurement: stunning beauty. Witness on the one hand the alpine peaks of Wyoming’s Wind River Range, the Green River’s headwaters, or those within and adjacent to Rocky Mountain National Park, the Colorado River’s origin. The snowfields of these majestic water towers—as well as those of the San Juans, Wasatch, and Uintas—are the Colorado River system.<sup>35</sup> Consider on the other hand their downstream incising of the Grand Canyon as snowmelt and the canyon’s desert heart stretching along the river channel in scorching form several months each year, counterpoised by high, pine-filled rims. And the river runs further still through low-desert country, flowing slowly, starkly across the Mojave and the Sonora, and eventually reaching the Gila’s mouth. Below that confluence once lied one of North America’s most extensive, lush wetlands, the Colorado River Delta, though only remnants of Aldo Leopold’s “green lagoons” still remain.<sup>36</sup>

Imagine what stories these mountains, rivers, and deserts could tell if they could only speak. Or perhaps if we would only listen. Not just stories about the Colorado River Basin’s natural history writ large, but inevitably dramas involving one inordinately influential species within that history in recent millennia, particularly the past 175 years. *Homo sapiens*. The Law of the River was *not* written on a blank page when it originated in the early twentieth century. Colorado River governance may have been institutionalized in 1922 with the Colorado River Compact’s negotiation.<sup>37</sup> But the real, messy, often appalling, sometimes inspiring *human* relationships surrounding Colorado River governance trace back much further, in some cases to time immemorial. In short, Colorado River governance has a backstory. It seems to be seldom told, at least outside a narrow window of time—perhaps due to shame, perhaps because of ignorance, or perhaps stemming from the paramount premium placed on condensed information in our busy age. Regardless of cause, the backstory is worth the trip, even if brevity only allows a broad narrative. For only when the layers of community embedded within *Reservoir Powell* are peeled back can a holistic picture of Colorado River governance be painted.

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35. MOVING FORWARD REPORT, *supra* note 17, at 2 fig. 1.

36. ALDO LEOPOLD, A SAND COUNTY ALMANAC 150 (1949).

37. Compact, *supra* note 24.

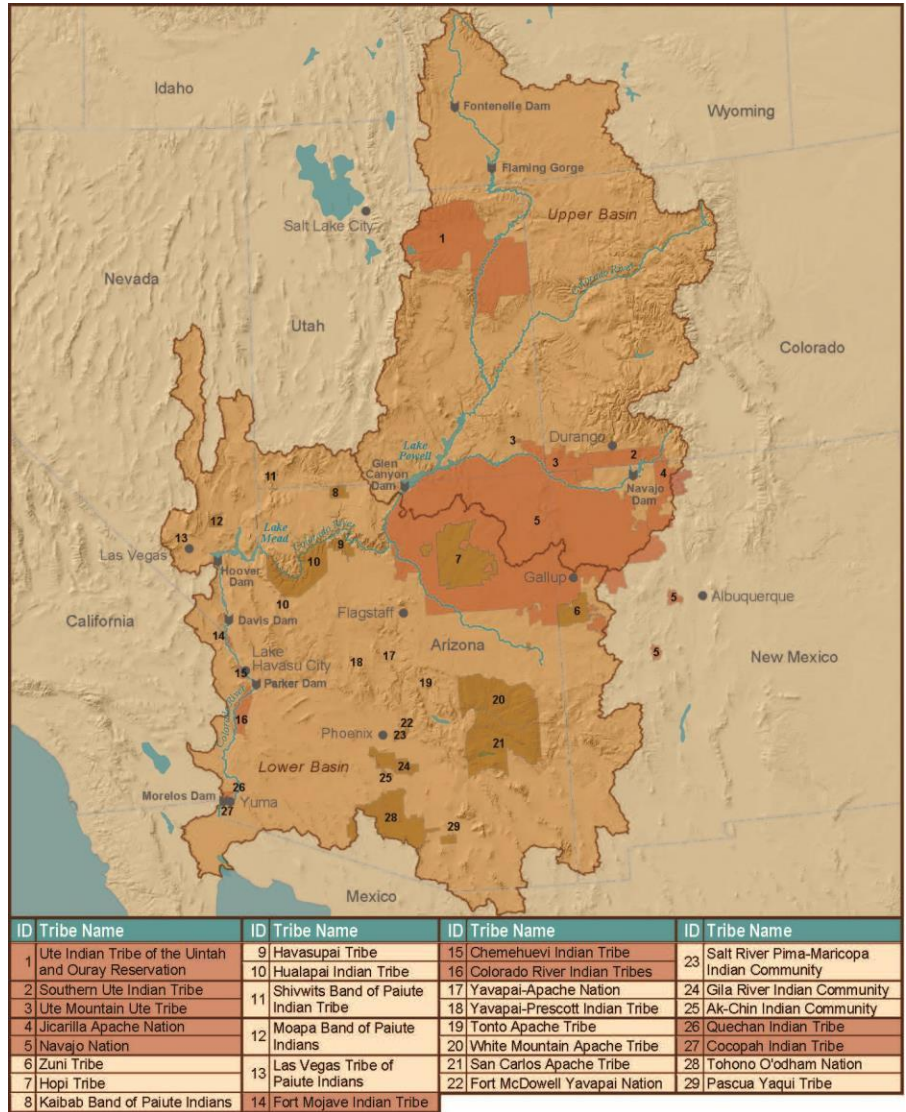


Figure 1. Colorado River Basin<sup>38</sup>



38. MOVING FORWARD REPORT, *supra* note 17, at 2 fig. 1.

Figure 2. Federally Recognized Tribes in Colorado River Basin<sup>39</sup>



39. TRIBAL WATER STUDY, *supra* note 19, at app. 1B-1.

### A. Natives

It only makes sense to start with the “first westerners”<sup>40</sup>—a fitting term within and beyond the Colorado River Basin. The basin is rich in Native communities and has been so for further back than anyone can remember. No fewer than thirty federally recognized tribes reside on reservations inside the basin at this time, although these reservations generally pale in size compared to the tribes’ ancestral homelands—a pattern discussed further below.<sup>41</sup>

Precisely how long Native communities have been part of the basin depends upon whom you ask. Tribal members may answer forever or since time immemorial,<sup>42</sup> both of which complement western science as a practical matter—for example, the more than 13,000 years during which humans are estimated to have inhabited the Grand Canyon region.<sup>43</sup> In light of this time span, Native communities in and around the basin predate human habitation of what is now England (encased in ice until 12,000 years ago), as well as ancient Chinese, Egyptian, and Phoenician civilizations.<sup>44</sup> Further indicia of this longstanding occupancy come from the Hopi village of Oraibi in what is now northeastern Arizona, as well as Acoma Pueblo in what is now west central New Mexico, both originating nearly a millennium ago and constituting some of the oldest continuously inhabited communities in North America.<sup>45</sup> These figures put into perspective the relative recency of the United States’ presence in the basin since the mid-nineteenth

40. CLYDE A. MILNER II, et al., *THE OXFORD HISTORY OF THE AMERICAN WEST* 10 (1994) [hereinafter *OXFORD HISTORY*].

41. For maps of Colorado River Basin tribes’ traditional homelands, see ANTON TREUER, *ATLAS OF INDIAN NATIONS* 170, 204 (2014). These maps should be cross-referenced with the “shrinking Indian territories” map sequence in *id.* at 18–19 and the reservations map in *TRIBAL WATER STUDY*, *supra* note 19, at app. 1B-1.

42. As described by Diné (Navajo) tribal member Sarana Riggs, who is the Grand Canyon Program manager at the Grand Canyon Trust: “It’s not the Grand Canyon to us, it is home. Our stories place us in the canyon since time immemorial.” *Native Voices Lead into Second Century of Grand Canyon National Park*, GRAND CANYON TRUST, (Feb. 26, 2020), <https://www.grandcanyontrust.org/native-voices-lead-second-century-grand-canyon-national-park>.

43. *Associated Tribes*, NAT’L PARK SERVICE, <https://www.nps.gov/grca/learn/historyculture/associated-tribes.htm> (last visited April 24, 2021).

44. TREUER, *supra* note 41, at 9.

45. *Indigenous Voices of the Colorado Plateau*, N. ARIZ. UNIV. LIBRARY: HOPI PLACES, [https://library.nau.edu/speccoll/exhibits/indigenous\\_voices/hopi/places.html#place2](https://library.nau.edu/speccoll/exhibits/indigenous_voices/hopi/places.html#place2) (“The village of Old Oraibi, established in 1100 A.D., is considered the oldest continuously inhabited settlement in North America.”) (last visited April 24, 2021); *The Story of Acoma*, SKY CITY CULTURAL CENTER & HAAK’U MUSEUM, [https://www.acomaskycity.org/page/our\\_story](https://www.acomaskycity.org/page/our_story) (“Since 1150 A.D., Acoma Pueblo has earned the reputation as the oldest continuously inhabited community in North America.”) (last visited April 24, 2021).

century, as well as the Spanish/Mexican presence beginning in the mid-sixteenth century.<sup>46</sup>

Although just referred to by the general term “Native communities,” that phrasing is poor insofar as it conveys the idea of a “single, monolithic population.”<sup>47</sup> Nothing could be further off the mark, both in the past and the present. In relation to the Colorado River Basin and more broadly, “many different cultures—varying in size, ambition, and economy—inhabited North America.”<sup>48</sup> “The cultural and linguistic diversity of the indigenous peoples of North America dwarfs that of Europe and many other places.”<sup>49</sup> As just one example, when Spaniards initially ventured into present-day New Mexico and Arizona, they identified fourteen different Native languages, pinning names that have since persisted: “Piro, Tiwa, Tewa, Keres, Jemez, Zuni, Moqui, Navajo, Apache, Maricopa, Yuma, Mohave, Yavapai, and Walapai.”<sup>50</sup>

Yet these diverse communities did and do share one piece of unmistakable common ground. “The land made the first people of North America.”<sup>51</sup> Words cannot do justice to Native connections to the land, but some effort must be made nonetheless. Several beautiful expressions come from the Hualapai people in the Grand Canyon region, who explain their origin as follows: “We were created from the reeds, sediment, and clay of the Colorado River at *Wi’Kahme* (‘sacred mountain of creation’),” which lies along the Lower Colorado River.<sup>52</sup> The Hualapai thus revere *Ha ’yidada* (the Colorado River) as a “life-giving source”<sup>53</sup> and “healing body of water.”<sup>54</sup> In their culture, “[t]he long expanse of the River through the [Grand

46. The United States assumed sovereignty over most of the land encompassed within the basin via the 1848 Treaty of Guadalupe Hidalgo, while the Coronado Expedition from 1540-1542 marks the onset of the Spanish/Mexican period. *See infra* Part II.B-C.

47. PETER IVERSON, *Native Peoples and Native Histories*, in OXFORD HISTORY, *supra* note 40, at 15.

48. *Id.*

49. TREUER, *supra* note 41, at 9. “[T]he land shaped the people.” *Id.*

50. EDWARD H. SPICER, *CYCLES OF CONQUEST: THE IMPACT OF SPAIN, MEXICO, AND THE UNITED STATES ON THE INDIANS OF THE SOUTHWEST, 1533-1960* 12 (1962). More broadly, “North America was home to more than 500 distinct tribes, speaking more than 300 distinct languages from 29 different primary language families..... The linguistic diversity of North American tribes is astounding. By contrast, European languages have three major classifications, broken into several families.” TREUER, *supra* note 41, at 7. Maps of Native language families within and adjacent to the Colorado River Basin can be found in *id.* at 14.

51. TREUER, *supra* note 41, at 9.

52. This quote is drawn from the Museum of Northern Arizona’s exceptional permanent exhibition “Native Peoples of the Colorado Plateau.” It displays the stories of ten tribes of the Colorado Plateau and contains 350 objects selected by 42 tribal consultants. Portions of the exhibition can be accessed at *Native Peoples of the Colorado Plateau*, MUSEUM OF NORTHERN ARIZONA, <https://musnaz.org/native-peoples-gallery/> (last visited April 24, 2021) [Hereinafter materials from the exhibition, which one of the authors viewed in person, will be cited as “Native Peoples.”].

53. HUALAPAI DEPT. OF CULTURAL RESOURCES, *ABOUT THE HUALAPAI NATION* 6 (2010), <http://hualapai-nsn.gov/wp-content/uploads/2011/05/AboutHualapaiBooklet.pdf> [hereinafter HUALAPAI NATION].

54. *The Voices of Grand Canyon*, GRAND CANYON TRUST (Feb. 20, 2020), <https://www.grandcanyontrust.org/native-american-stories-grand-canyon>.

Canyon] and the riparian eco-systems makes a life-way connection that flows through the hearts of the Hualapai people.”<sup>55</sup> This connection, in turn, factors into their animistic view of other relations within nature.

The Hualapai people regard the canyon and the Colorado River as a living entity infused with conscious spirit. All of the physical elements here have powers of observation and awareness, including the air, land, water, plants, animals, and stars. Everything in the landscape has a spirit deserving of respect.<sup>56</sup>

So many similar examples of Native connections to the land exist. The Grand Canyon region is especially rich and powerful in this way.<sup>57</sup> Around that epic chasm and elsewhere, Native peoples have created names for the Colorado River and other landscape features, ascribing meaning (including sacredness) and deriving identity through the inherently connective enterprise of human language.<sup>58</sup> Perhaps even more to the point, the Colorado River system is the very place of origin for several Native communities. It is *the* spot from which they emerged into this world and from which they migrated for long periods to eventually arrive at their homelands. Witness the Hopi and Zuni in both respects.<sup>59</sup> Further, not only are the river system’s corridors places of emergence and migration for Native peoples, they are also places to which tribal members will return when they pass on.<sup>60</sup> Thus, the prevailing sense of stewardship for the land accompanying these connections is as powerful as it is unsurprising. As expressed by one Hopi tribal member: “We’re still here. We’re still in active communities. We still care deeply for the lands and this landscape. We still use it and are stewards.”<sup>61</sup>

Additional commonalities tied and tie Native communities together. One concerns the land, but in a different way than above—in regards to “ownership.” Although territoriality did exist among Native communities, the idea of individual land ownership did not.<sup>62</sup> “Individuals did not own parcels of real estate, so status and power had nothing to do with the acquisition of acreage, as it did in Europe.”<sup>63</sup>

55. HUALAPAI NATION, *supra* note 53, at 6.

56. This description of the canyon and river appears in an exhibit at the Eagle Point area of Grand Canyon West on the Hualapai Reservation [hereinafter Eagle Point].

57. For a survey of tribal connections to the Grand Canyon, see Jason Anthony Robison, *Indigenizing Grand Canyon*, 2021 UTAH L. REV. 101, 105–20 (2021).

58. Examples of Native terms for the “Colorado River” include *Hagtaya* (Havasupai), *Ha ’yidada* (Hualapai), *Pisisvayu* (Hopi), and *Paxa’* (Southern Paiute). Native Peoples, *supra* note 52.

59. *See, e.g.*, Robison, *supra* note 57, at 114–19.

60. *See, e.g., id.* at 115–16 and 118.

61. This statement comes from Hopi tribal member Georgie Pongyesva. Sarana Riggs, *We’re Still Here: Native Voices on the Grand Canyon National Park Centennial*, ADVOCATE, 2018, <https://www.grandcanyontrust.org/advocatemag/fall-winter-2018/native-voices-grand-canyon>.

62. IVERSON, *supra* note 47, at 15.

63. *Id.*

Nor was collective land ownership a thing.<sup>64</sup> This relationship to the land—particularly the absence of individual ownership—overlaps with an intertwined commonality: “dedication to community.”<sup>65</sup> Permanency was an aspect of this dedication. “In general, each person stayed in his or her community of origin from birth to death, never leaving it for the next village, the next tribe, or the next hemisphere.”<sup>66</sup> So, too, did cooperation play a role, given its necessity for sustenance and survival.<sup>67</sup> In a similar vein, Native communities’ autonomy and localism are notable. Nothing akin to an all-encompassing state organization existed in and around the basin prior to contact by European peoples. “Widely extended political organization and conquest were unknown institutions. It was a region of small, autonomous, local communities, economically and politically independent of one another.”<sup>68</sup> These communities likewise possessed and continue to possess a final common trait. And it may be most important: “[D]ifferent peoples *learned* from each other.”<sup>69</sup> As they moved about, Native communities “transported old ways of doing things to new places and at the same time picked up improved methods of building houses, growing crops, hunting animals, or weaving rugs.”<sup>70</sup> Such exchange and adaptability would prove vital.

#### B. Spaniards & Mexicans

Arrival of the Spaniards in what is now the U.S. Southwest “inaugurated a new era” in the region’s history, including within and adjacent to the Colorado River Basin.<sup>71</sup> Put in more loaded terms, “[t]he transformation of the continent’s Spanish-Mexican rim began in the first half of the 1500s, when Iberians introduced Native Americans to the predatory ways of Europeans.”<sup>72</sup> Those ways included the Spaniards’ faith that “god had given them ‘dominion’ over all creatures of the earth, including the newly discovered infidels,” state institutions for enforcing social order (armies, police, and bureaucracies), and other conventions.<sup>73</sup> Hispanics expanded their presence across the region over the next three centuries, transforming “the indigenous landscapes and peoples.”<sup>74</sup> This process initially occurred under Spanish

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64. *See, e.g., id.* (“Nor did groups as a whole own land.”).

65. *Id.*

66. *Id.*

67. IVERSON, *supra* note 47, at 15.

68. SPICER, *supra* note 50, at 9.

69. IVERSON, *supra* note 47, at 16 (emphasis added).

70. *Id.*

71. IVERSON, *supra* note 47, at 17.

72. DAVID J. WEBER, *The Spanish-Mexican Rim*, in OXFORD HISTORY, *supra* note 40, at 47.

73. *Id.* at 47–48.

74. *Id.* at 47.

rule from 1540 to 1821, and briefly continued under Mexican rule between 1821 and 1848.<sup>75</sup>

February 23, 1540 marks the era's onset. A formidable army marched northward from Compostela in New Spain on that date to conquer the fabled Seven Cities of Cibola.<sup>76</sup> Imagine the impression made by the Coronado Expedition as it ventured into the heart of today's Southwest—a party of “three hundred Spanish adventurers (at least three of them women), six Franciscans, more than one thousand Indian ‘allies,’ and some fifteen hundred horses and pack animals.”<sup>77</sup> As conveyed by this image, “Coronado not only explored the Southwest,” he “sought to conquer the people who lived there.”<sup>78</sup> His expedition was one of several undertaken by Spaniards in the sixteenth and early seventeenth centuries aimed at these goals.<sup>79</sup>

Yet a number of “firsts” distinguish the Coronado Expedition. Its maritime arm, led by Hernando de Alarcón, was the first group of Europeans to see the Colorado River, embarking from the delta on August 26, 1540, and persuading with “European trifles” Native peoples to drag the boats upstream from the banks.<sup>80</sup> Melchior Diaz likewise ascribed a European name to the river around this time, in September 1540, calling it the Rio del Tizon (Firebrand River) based upon a practice of Native peoples in the delta burning sticks for warmth.<sup>81</sup> Diaz relied on these people to complete the first crossing of the river by Europeans.<sup>82</sup> García López de Cárdenas also warrants attention in this vein. Accompanied by Hopi guides on an eighty-day journey beginning in August 1540, he was the first European to visit the Grand Canyon, viewing the Colorado River from its rim.<sup>83</sup> The canyon “baffled [Cárdenas's] most agile companions in their efforts to descend to the water or to discover some means of crossing to the opposite side. He returned with only the story of this hopeless barrier to exploration westward.”<sup>84</sup> Finally, and most importantly, there's what transpired when Coronado ultimately reached the first

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75. The period of Spanish rule is discussed *infra* notes 75–133 and accompanying text, while the period of Mexican rule is discussed *infra* notes 134–147 and accompanying text.

76. GEORGE PARKER WINSHIP, THE CORONADO EXPEDITION, 1540-1542 382 (1896), <http://www.gutenberg.org/files/50448/50448-h/50448-h.htm>.

77. WEBER, *supra* note 72, at 49.

78. IVERSON, *supra* note 47, at 17.

79. For a map of these expeditions, see WEBER, *supra* note 72, at 46. The Coronado Expedition was prompted by the wanderings of Alvar Núñez Cabeza de Vaca from 1528 to 1536 and a reconnaissance of the lands north of Mexico by Marcos de Niza from 1538 to 1539. *Id.* at 46, 48–49. See *also* WINSHIP, *supra* note 76, at 345 (“[T]he information which led to the expedition of Friar Marcos de Niza and to that of Francisco Vazquez Coronado was brought to New Spain late in the spring of 1536 by Alvar Nuñez Cabeza de Vaca.”).

80. WINSHIP, *supra* note 76, at 404.

81. *Id.* at 406–407.

82. *Id.* at 407.

83. *Id.* at 390, 489.

84. *Id.* at 390.

purported “city of Cibola”—in actuality, the Zuni Pueblo of *Hawikuh*.<sup>85</sup> He staged a military assault and conquered the community.<sup>86</sup> In this way, “the mystery of the Seven Cities was revealed at last. The Spanish conquerors had reached their goal. July 7, 1540, white men for the first time entered one of the communal villages of stone and mud, inhabited by the Zuñi Indians of New Mexico.”<sup>87</sup> Coronado proceeded to exhort Zuni inhabitants of *Hawikuh* who returned after the assault—bringing gifts during Coronado’s recovery—“to become Christians and to submit themselves to the sovereign over-lordship of His Majesty the Spanish King.”<sup>88</sup>

What happened at *Hawikuh* is, of course, a lone chapter in weighty tomes of Spanish exploration and colonization. The former—Coronado’s Expedition and otherwise—laid the groundwork for the latter. “The earliest Spanish expeditions set powerful forces into motion, altering native populations and institutions.”<sup>89</sup> That holds true with respect to lethal European infectious diseases, particularly smallpox and measles, accompanying the expeditions. It also speaks to a “legacy of ill-will” bestowed by them: “[t]he violent aggression of the earliest Spanish explorers affected Spanish-Indian relations for generations thereafter.”<sup>90</sup>

In the domain of colonization, Coronado’s counterpart was Juan de Oñate. In 1598, he travelled north from Santa Barbara in New Spain to establish the first permanent European colony in what is now the American West: New Mexico.<sup>91</sup> Oñate selected as his headquarters the Tewa-speaking Pueblo of *Ohke*, just north of present-day Santa Fe, declaring it a Spanish town, renaming it for San Juan, forcing the king’s new vassals out of their dwellings, yet still keeping them close at hand to extract labor, food, and clothing.<sup>92</sup> Why did *Ohke*’s inhabitants accede to Oñate’s oppression? Probably “to avoid the deaths and damage” inflicted by Coronado and later explorers when prior Native communities had “failed to offer hospitality to Spaniards.”<sup>93</sup> Oñate perpetuated this cycle of violence at Acoma Pueblo less than a year later.<sup>94</sup> From 1604 to 1605, in turn, Oñate travelled across the Colorado River Basin, entering it in present-day northwestern New Mexico and trekking to the Gulf of California.<sup>95</sup> Yet nothing yielded from this exploration or other exploits persuaded Oñate to stay the course as it were. Having “found no wealthy Indians or mines, much less a transcontinental strait,” Oñate and the colonists prepared to abandon New Mexico.<sup>96</sup> Because of the wide range of Pueblo

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85. WINSHIP, *supra* note 76, at 390.

86. *Id.* at 389.

87. *Id.* at 389.

88. *Id.* at 389–90.

89. WEBER, *supra* note 72, at 50.

90. *Id.*

91. *Id.* at 46, 51.

92. *Id.* at 51.

93. *Id.*

94. *Id.* at 51–52.

95. *Id.* at 46, 52.

96. *Id.* at 52.



Indians who had been baptized, however, the Spanish king granted the project a royal reprieve and permitted Franciscans to stay.<sup>97</sup> New Mexico thus “endured largely as a missionary outpost” throughout the seventeenth century, with a modest population of no more than 3,000 Spaniards supporting a single municipality, Santa Fe, founded between 1607 and 1610.<sup>98</sup>

These snapshots of the Coronado Expedition and Oñate’s colonization of New Mexico are just that—granular stories within a massive Spanish metanarrative. The whole enterprise revolved around a paramount, time-tested rationalization: “civilization.”

[B]eginning in the late 1500’s, the Spaniards identified their attempts to change the Indians of this region as a mission for civilizing a savage people. The missionaries, the military captains, and the colonial administrators were very conscious of this mission and of themselves as bearers of civilization. Again and again they used the word “civilization” and instituted changes in everything from clothing to religious practice in its name.<sup>99</sup>

The roots of this civilizing program trace to medieval Europe and the constructed hierarchy between “civilized” versus “barbarian” peoples.<sup>100</sup> This intellectual and moral convenience was a proverbial seed transplanted into New Spain’s soil. From it grew the civilizing program, “rest[ing] on the idea that the Spaniards enjoyed a way of life which was of a completely different quality from, and of course immeasurably superior to, that of the barbarians,” including Native communities in and around the Colorado River Basin.<sup>101</sup> Spaniards bore a perceived obligation to “civilize” these “barbarians,” and fulfillment of this obligation was spun into a form of gift giving.<sup>102</sup> “Lacking government, religion, and civilized decencies, the Indians were being given the opportunity to know these things and should be grateful for them.”<sup>103</sup>

Native communities were culturally inferior, Spanish communities were culturally superior. That was the dogma of “civilization” in the context of Spanish missions and towns.<sup>104</sup> Cultural relativism had no place. Rather, “[t]he Spanish program was an a priori, unilaterally conceived plan for improving, that is, civilizing, the barbarian Indians” of the Colorado River Basin and overall region.<sup>105</sup> And the perceived “improvements” spanned many facets of life:

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97. *Id.*

98. *Id.*

99. SPICER, *supra* note 50, at 5.

100. *Id.* at 281.

101. *Id.*

102. *Id.* at 281–82.

103. *Id.* at 282.

104. *Id.* at 285.

105. *Id.*

The Spaniards identified civilization with specific elements of the Spanish culture of the period. They identified it by and large with the Castilian variety of the Spanish language, with adobe and stone houses, with men's trousers, with political organization focused through loyalty and obedience to the King of Spain, and with the Roman Catholic form of Christianity. For more than two hundred years after 1540 the Spaniards in northwestern New Spain sought by various means to replace corresponding features of Indian cultures with these and other elements<sup>106</sup>

These collective elements have been dubbed a "Culture of the Conquest" because of their unified focus on conquest via the civilizing program.<sup>107</sup> No doubt this terminology carries heavy connotations. They were borne out in many ways, however, including a tried and true Spanish technique for conforming Native communities to the elements: "forcible imposition."<sup>108</sup> Military coercion and corporeal punishment were widely harnessed:

We may say that the Spaniards employed force to get the Indians to live according to their legal and political system, to make them work regularly in their economic enterprises, to persuade them to follow the weekly plan of worship in the churches, and to give up aspects of their religion classed by the missionaries as idolatry or worship of the Devil.<sup>109</sup>

As outlined in these broad strokes, the Spanish civilizing program remained consistent in form throughout the colonization era, from the early 1600s to the early 1800s.<sup>110</sup>

A relationship cycle commonly followed Spanish attempts to impose the civilizing program on Native communities within and adjacent to the Colorado River Basin. The cycle played out in various ways across the region but generally entailed four stages: (1) initial acceptance of the civilizing program by the Native community; (2) growing tension between the Natives and Spaniards; (3) rebellion or attempted rebellion by the Native community; and (4) mutual accommodation between the

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106. *Id.* at 5. These elements are reiterated and supplemented slightly in *id.* at 282. *See also* WEBER, *supra* note 72, at 53–54 ("Many Spanish priests . . . could not imagine that a people could become Christians unless they lived like Europeans. Thus, in the ideal mission, Franciscans sought to reshape the natives' temporal lives by teaching them to dress, eat, and live like town-dwelling Spaniards.").

107. SPICER, *supra* note 50, at 284.

108. *Id.* at 324.

109. *Id.* at 326. *See also* WEBER, *supra* note 72, at 54 ("[O]nce natives consented to receive baptism, Franciscans commonly relied on military force to prevent converts from slipping back into apostasy").

110. SPICER, *supra* note 50, at 331.

Natives and Spaniards.<sup>111</sup> These stages can be seen in seventeenth-century New Mexico, as well as throughout the “eighteenth century as Spanish missionaries attempted conversions among other sedentary peoples in far northern New Spain,” including the Pimas of present-day southern Arizona and coastal tribes of Alta California.<sup>112</sup>

Native communities weren’t passive subjects of the civilizing program. Far from it. There are numerous examples of the rebellion stage of the relationship cycle. Most well-known is the Pueblo Revolt of 1680. The Pueblos’ population in New Mexico had fallen by at least half—to roughly 17,000—between Oñate’s initial colonization in 1598 and the revolt.<sup>113</sup> Rejecting the forcible imposition of Catholicism and Spanish rule, it was a coordinated resistance by an alliance of New Mexico’s forty-six Pueblos, plus Hopi and Zuni peoples.<sup>114</sup> Within a three-day period, the Native alliance “put Santa Fe under siege and destroyed every other Spanish settlement in the region,” killing 500 Spaniards and chasing the remaining 2,000 to Mexico.<sup>115</sup> Spanish reconquest of New Mexico began twelve years later, but it precipitated further Native resistance, spurring another revolt in 1696 involving all but five of the Pueblos.<sup>116</sup> The Hopi subsequently destroyed Awatovi, the one Hopi village that had tried to adopt Christianity, in 1700, and followed suit in 1706 with an attack on “the nearest Pueblo village of Zuni to protest the return of Christian influence there.”<sup>117</sup> All told, the Hopi “expelled the Franciscans in the 1680 revolt and maintained their independence until the end of the Spanish era.”<sup>118</sup>

Further examples of Native resistance included the Pima Revolt of 1751—“a widespread nativistic reaction to Spanish intrusion” into Pimeria Alta (now southern Arizona)—as well as the Yuma Revolt of 1781 wherein the Quechans closed the Spaniards’ only land connection between Pimeria Alta and Alta California, the critical Colorado River crossing at Yuma.<sup>119</sup> While Spaniards characterized these acts of resistance as “rebellions,” Native communities assuredly saw them through different eyes—“as armed struggles for freedom.”<sup>120</sup>

Yet Native communities also weren’t passive subjects of Spanish influence in a different sense. Not only did these communities learn from one another before the Spanish invasion—as noted above—“their flexibility carried over into the

111. WEBER, *supra* note 72, at 57.

112. *Id.*

113. *Id.* at 55.

114. TREUER, *supra* note 41, at 176; *see also* RICHARD WHITE, “IT’S YOUR MISFORTUNE AND NONE OF MY OWN”: A NEW HISTORY OF THE AMERICAN WEST 12 (1991). White also notes the Pueblos’ “cooperation with some of the surrounding ‘Apaches’ (either Navajos or actual Apaches).....” *Id.* at 12.

115. TREUER, *supra* note 41, at 176.

116. WHITE, *supra* note 114, at 12.

117. IVERSON, *supra* note 47, at 18. The Hopi repelled Spanish military emissaries sent to chastise them for this “obstinacy” in 1701, 1707, and 1717. *Id.*

118. WEBER, *supra* note 72, at 57.

119. *Id.* at 67.

120. *Id.* at 55.

postcontact period.”<sup>121</sup> The Navajo offer one illustration. During the 140 years between the Coronado Expedition and the Pueblo Revolt, they “learned about the Spaniards’ religion, language, and culture and gradually determined the usefulness of these things. Few Navajos saw any point in converting to Catholicism. Nor did Spanish replace the Navajo language.”<sup>122</sup> At the same time, the Spaniards’ horses, sheep, cattle, and goats melded into Navajo culture.<sup>123</sup> The Navajo were not outliers in this way. “Even the sedentary farmers at Zuni eventually took up ranching.”<sup>124</sup> So, too, did the Apache—who were never conquered by the Spanish—adopt horses and metal weapons, utilizing them for raiding and keeping large herds.<sup>125</sup> The Spanish likewise presented “certain opportunities” to the Pueblos of New Mexico, from livestock to the technical skills of new craftsmen to new crops such as peaches, wheat, oats, plums, and apricots.<sup>126</sup> Catholicism also seeped in. Although the Pueblos “did not abandon their own religious rituals,” the new religion came to supplement and to partially merge with pre-existing rites.<sup>127</sup>

Native communities’ selective incorporation of Spanish culture dovetailed with another practical consideration: protection. Arguably even more so than cultural incorporation, protective alliances between Native communities and the Spanish make sense of the mutual-accommodation stage of the relationship cycle. In New Mexico, Spanish power was not only relevant to interueblo relations, “a potentially valuable addition to an individual pueblo” in its relations with rival Pueblos.<sup>128</sup> The Spanish also “offered the Pueblos protection against all the less settled peoples who lived in the surrounding lands”—and vice versa as far as what the Pueblos could muster against common enemies.<sup>129</sup> Thus, moving forward from the Spaniards’ quelling of the 1696 revolt, “came stability of a sort.”<sup>130</sup> Mutual protection was a key factor in forging this accommodation. “The Spanish and the Pueblos came to need each other, for surrounding them were other Indians who increasingly preyed upon Spaniard and Pueblo alike and were preyed upon in turn.”<sup>131</sup> The Spanish called these tribes *bárbaros*, and they included the Comanches, Faraone Apaches, and initially the Navajos.<sup>132</sup> “Against these *bárbaros* the Spaniards, the Pueblos, and usually the Utes stood together,” constituting “the

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121. IVERSON, *supra* note 47, at 16.

122. *Id.* at 38.

123. *Id.*

124. TREUER, *supra* note 41, at 167.

125. *Id.*; see also WHITE, *supra* note 114, at 10 (“[M]ounted and armed with metal weapons, the Apache, Navajo, and Ute raiders became far more dangerous opponents than they had ever been before the Spanish arrived.”).

126. TREUER, *supra* note 41; see also WHITE, *supra* note 114.

127. WHITE, *supra* note 114, at 11.

128. *Id.* at 10.

129. *Id.*

130. *Id.* at 12.

131. *Id.* at 13.

132. *Id.*

most successful Indian alliance the Spanish would forge in their northern provinces.”<sup>133</sup>

When Mexico gained independence from Spain in 1821, human relationships in and around the Colorado River Basin changed yet also stayed the same.<sup>134</sup> During their quarter century of rule, Mexicans followed in their predecessors’ footsteps by self-identifying as “bearers of civilization.”<sup>135</sup> In this way, they perpetuated ancient Europe’s constructed hierarchy between “barbarian” and “civilized” peoples.<sup>136</sup> Mexicans “were just as certain as the Spaniards that their own kind of culture was civilization and that they had a mission to civilize the Indians.”<sup>137</sup> The content of the civilizing program showed some continuity as well. Mexicans “still regarded Castillian Spanish . . . as an important element, and they still emphasized rectangular houses of some sort and men’s trousers.”<sup>138</sup> Where things changed a bit was with other elements of the civilizing program—namely, (1) granting of full citizenship to Native peoples, (2) political incorporation of all citizens (Native peoples included) into the nation-state, and (3) equitable distribution of land in individual parcels adequate to support families.<sup>139</sup> These new measures aimed to move Mexico—with Native communities assimilated into it—away from “the system of bad government and economic stagnation which had characterized the final phase of Spanish rule.”<sup>140</sup> Unintended consequences nonetheless followed.

A familiar pattern of Native resistance and Mexican forcible imposition ensued. Native communities received the civilizing program in its Mexican mold “as a new form of oppression and a threat to a well-established way of life.”<sup>141</sup> Resistance varied across communities, on the one hand prompting flight from the new measures, on the other hand armed revolt.<sup>142</sup> But Mexican officials doubled down.<sup>143</sup> Rather than modifying the civilizing program’s new measures, they strove to force their acceptance.<sup>144</sup> “[W]henver the Indian reaction took the form of determined resistance, the Mexican policy became one of simple force”—that is, “forcible ‘civilizing’ of the Indians”—including wholesale killing of Native peoples, destruction of their crops, “nondestructive military colonization” of their

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133. *Id.*

134. For a map depicting the Spanish presence in the region as of 1821, see WEBER, *supra* note 72, at 69. See also *id.* at 67 (discussing Spanish population figures in 1821 within California, Texas, Arizona, and New Mexico).

135. SPICER, *supra* note 50, at 5.

136. *Id.* at 281.

137. *Id.* at 5.

138. *Id.*

139. *Id.* at 334–35.

140. *Id.* at 335.

141. *Id.* at 336.

142. *Id.*

143. *Id.*

144. *Id.*

communities, and deportation.<sup>145</sup> It takes little effort to surmise what rationalization came into play here, perhaps above all else in relation to what was considered the “cornerstone of a solution of the Indian problems”: “[t]he concept of individual ownership of plots of land.”<sup>146</sup> “The view developed that the Indian tendencies toward tribal separatism and the corporate community were a species of *barbarism* which had to be destroyed if Mexico was to become a functioning nation.”<sup>147</sup> This rationalization would reveal the cyclical nature of time as the nineteenth century unfolded.

### C. Americans

Choosing the proper entry point for U.S. colonization of the Colorado River Basin and broader West is more difficult than may appear at first blush. Given his role in the Louisiana Purchase and the Lewis and Clark Expedition, however, President Thomas Jefferson is certainly high up on the shortlist, particularly a continental vision articulated by him in 1801, roughly two years before the “imperial fire sale” with Napoleon.<sup>148</sup>

However our present interests may restrain us within our own limits, it is impossible not to look forward to distant times, when our rapid multiplication will expand itself beyond those limits and cover the whole northern, if not the southern continent, with a people speaking the same language, governed in similar form by similar laws.<sup>149</sup>

Two decades after this statement, in 1821, Mexico’s independence from Spain created a gap for Jefferson’s continental vision—at least the northern part of it—with Euro-Americans streaming into the present-day U.S. Southwest “for the first time in significant numbers as Mexico nullified Spanish restrictions against foreign residents and foreign commerce.”<sup>150</sup> “[T]he American era was about to begin,” and the stream “would soon turn into a flood.”<sup>151</sup>

There was a preset channel (channels, really) through which the flood would surge, though some of the new immigrants held themselves high above it, displaying “little curiosity about the Hispanics who had preceded them.”<sup>152</sup> Rather, “blinded by anti-Spanish and anti-Mexican biases, many of the earliest Anglo Americans preferred to imagine the trans-Mississippi West as a virgin land and

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145. *Id.* at 338–39.

146. *Id.* at 338.

147. *Id.* (emphasis added).

148. WHITE, *supra* note 114, at 61–62, 119–21.

149. ROXANNE DUNBAR-ORTIZ, AN INDIGENOUS PEOPLES’ HISTORY OF THE UNITED STATES 3 (2014).

150. WEBER, *supra* note 72, at 21.

151. IVERSON, *supra* note 47, at 41.

152. WEBER, *supra* note 72, at 47.

readily overlooked the region's long Hispanic past."<sup>153</sup> A rich, ironic sense of cultural supremacy and cultural inferiority thus accompanied the new era.

Initially, Anglo Americans dismissed the long Spanish-Mexican tenure in the region as a time of despotism, religious intolerance, and economic stagnation and Hispanics themselves as indolent, vicious and superstitious (characteristics that Spaniards had often applied to Indians). Painting the Hispanic past in dark hues enabled Anglo Americans to draw a sharp contrast with the enlightened institutions that they imagined they had imposed on the region.<sup>154</sup>

Central to the preset channel—despite the new immigrants' ethnocentrism—was a continued, albeit reoriented focus on "civilization" and ultimately conquest. Conceptions of "civilization" differed partly, though not fully, as between the new immigrants and the Spanish and Mexican colonists.<sup>155</sup> Yet the "civilizing" program's end goal for Native communities in and around the Colorado River Basin reverberated.<sup>156</sup> As the program played out between 1848 and 1922—the former reflecting the Treaty of Guadalupe Hidalgo's formation, the latter marking the Colorado River Compact's drafting—the new immigrants crafted novel laws and policies governing their relationships with the region's lands and waters.<sup>157</sup> These developments reflected the same heavy truth as the "civilizing" program. "The Anglo American migrants had come as conquerors."<sup>158</sup> "They had envisioned a West with little or no room for the life that had been previously lived there," and they "felt free to impose their own language, government, economic organization, law, and customs to their adopted land."<sup>159</sup>

To be clear, although the 1848 Treaty of Guadalupe Hidalgo formally heralds the United States' assumption of sovereignty over most of the Colorado River Basin's land mass, a good deal of groundwork had been undertaken prior to the treaty.

Some groundwork had taken place on the physical landscape. Consider the expeditions adjacent to and across the basin by Zebulon Pike (1806-1807), Stephen Long (1819-1820), and Benjamin Bonneville (1832-1836), as well as wide-ranging

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153. *Id.*

154. *Id.* at 73.

155. The distinct features yet familiar end goal of the American "civilizing" program between 1848 and 1922 are discussed *infra* notes 177–222 and accompanying text.

156. *Id.*

157. The doctrinal features and underlying environmental ethics of these novel laws and policies are surveyed *infra* notes 222–241 and accompanying text.

158. WHITE, *supra* note 114, at 181.

159. *Id.*

travels of mountain men such as Jim Bridger, William Ashley, and Jedediah Smith.<sup>160</sup> The U.S. Army Corps of Topographical Engineers likewise came into existence during this period, in 1838, encompassing within its work John C. Fremont's extensive explorations in and around the basin during the 1840s.<sup>161</sup> A clear goal drove government explorers and scientists in the field at this time:

They sought to establish American hegemony and dominance in the West, to give reliable descriptions of Indian cultures, to assess resources with scientific exactness, and generally to record an account of the West that would enable Anglo American settlers to make it the site of a complex industrial civilization.<sup>162</sup>

Other groundwork had fallen in the domain of politics and public consciousness. It involved the creation and dissemination of a durable construct—one harkening back to Thomas Jefferson's continental vision and similar expansionist sentiments by Benjamin Franklin, John Adams, and James Monroe.<sup>163</sup> The construct was "manifest destiny."<sup>164</sup> Coined by newspaper editor John L. O'Sullivan in 1845, the phrase surfaced during debates over Texas's annexation into the United States.<sup>165</sup> In O'Sullivan's rhetoric, foreign interference in that annexation threatened to thwart "the fulfillment of our manifest destiny to overspread the continent allotted [*sic*] by Providence for the free development of our yearly multiplying millions."<sup>166</sup> Thus, "before the claims of Providence, legal claims of other nations, let alone the unmentioned claims of Indians" were mere "cobweb tissues" in O'Sullivan's view.<sup>167</sup> Although the aggressive tone and nationalistic zeal of "manifest destiny" did *not* reflect a consensus across U.S. society at this time, the construct's expansionist nature found expression in the Mexican-American War from 1846 to 1848—a "war of conquest" provoked by U.S. federal officials.<sup>168</sup>

Through this act of imperialism the Colorado River Basin was annexed into the United States, and the stage was set for the nation's western borders to coalesce. The Treaty of Guadalupe Hidalgo was the main legal instrument. "For 15 million

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160. *Id.* at 47–48, 121–22. Trading posts opened by American traders during this period "extended as far west as the Gunnison River in Colorado and the Uintah River in Utah, where Antoine Robidoux, a French-American who had obtained Mexican citizenship, opened posts among the Utes." *Id.* at 52. See also MILNER, *supra* note 40, at 159, 162–63.

161. WHITE, *supra* note 114, at 122–25.

162. *Id.* at 122.

163. MILNER, *supra* note 40, at 166.

164. *Id.*

165. *Id.*

166. *Id.* As further professed by O'Sullivan: "The American claim is by the right of our manifest destiny to overspread and to possess the whole of the continent which Providence has given us for the development of the great experiment of liberty and federative self-government entrusted to us." WHITE, *supra* note 114, at 73.

167. WHITE, *supra* note 114, at 73.

168. *Id.* at 79–81; MILNER, *supra* note 40, at 166.



dollars and the assumption of all claims by American citizens against Mexico,” the United States assumed sovereignty over a vast portion of the West that included parts of present-day Texas, New Mexico, Colorado, Arizona, Utah, Nevada, and California.<sup>169</sup> A few years later, in 1853, the Gadsden Purchase went through, incorporating into the United States a 29,000 square-mile strip across what are now southern Arizona and southwestern New Mexico.<sup>170</sup> “With the Gadsden Purchase the boundaries of the modern American West were complete.”<sup>171</sup> These borders did not realize manifest destiny’s full ambition. Nor did they contemplate equality for all peoples within them:

The federal government willingly acquired new land, but it did not willingly embrace the people inhabiting that land. As for the people within the Mexican cession to the United States, they were left on the margins of American society. A clear sense of racial hierarchy, based on the assumption of white cultural superiority, often led to legal, political, and social exclusion for racial minorities.<sup>172</sup>

Dovetailing with their aggregation of land, the Treaty of Guadalupe Hidalgo and the Gadsden Purchase transplanted something foundational from the legal realm into the Colorado River Basin and its environs: the U.S. Constitution. It put into place a framework of legal relations that has fundamentally shaped human habitation in and around the basin since the mid-nineteenth century. This habitation consists not only of human relations—for example, those between the new Euro-American immigrants’ communities, pre-existing Spanish and Mexican communities, and longstanding Native communities—but also relations between human beings and other parts of nature (human-nature relations)—for example, those between human beings and the Colorado River itself. The Property Clause,<sup>173</sup> Treaty Clause,<sup>174</sup> Indian Commerce Clause,<sup>175</sup> Compact Clause,<sup>176</sup> and other provisions set legal parameters around which later subconstitutional laws (treaties, statutes, executive orders, regulations, etc.) would be composed and according to which human habitation in the region would be molded.

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169. WHITE, *supra* note 114, at 83.

170. *Id.*

171. *Id.*

172. MILNER, *supra* note 40, at 168. *See also id.* at 157 (“Acquisition was simply a claim to western lands that were already occupied by an incredible variety of native peoples, a distinct population of Hispanic settlers, and a diverse representation of fur trappers.”).

173. “Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States.” U.S. CONST. art. IV, § 3.

174. “The President . . . shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur.” *Id.* at art. II, § 2.

175. “Congress shall have Power . . . To Regulate Commerce . . . with the Indian Tribes.” *Id.* at art. I, § 8.

176. Phrased in an inverse manner, the Compact Clause provides: “No State shall, without the Consent of Congress, . . . enter into any Agreement or Compact with another State.” *Id.* at art. I, § 10.

These constitutional provisions anchored the United States' program for "civilizing" Native communities within and beyond the Colorado River Basin. To appreciate the program's genesis and nature, however, the story must meander to earlier chapters of U.S. history.

During the decades leading up to the Treaty of Guadalupe Hidalgo, there hadn't been a "civilizing program" per se—at least not in the sense that emerged in and around the Colorado River Basin later in the nineteenth century. Rather, there had been an isolation policy whose roots traced to English colonization of North America. "Throughout the period preceding the formation of the United States, the British failed to conceive of an empire which should include the Indians as an integral part of its citizenship."<sup>177</sup> Instead, as English settlers pushed west from the Eastern Seaboard, "the result was the growth of a territory inhabited almost entirely by Europeans with few persisting Indian communities."<sup>178</sup> This practice of isolating Native American communities from English settlers set a precedent for the United States in 1776—namely, the vision of "a wholly non-Indian nation which might grow by pushing Indians westward where they would be free to live in whatever way they cared to, providing they remained peaceful with the Whites settled at the borders of their territory."<sup>179</sup> Put differently, early U.S. policy posited that "the solution to conflicts over land and way of life lay in isolating the Indians as completely as possible from the Whites and letting them go their own way."<sup>180</sup> By calling for removal and isolation rather than incorporation, the policy differed sharply from the Spanish and Mexican "civilizing" programs. It embodied a cold "truth" perceived by the new immigrants: "civilization" was "something peculiarly their own and not for the Indians."<sup>181</sup>

Yet O'Sullivan's "multiplying millions,"<sup>182</sup> in the rhetoric of manifest destiny, forced the isolation policy to morph—though not break—following its arrival in and around the Colorado River Basin. Euro-American immigration into and across the basin accelerated rapidly after the Treaty of Guadalupe Hidalgo.<sup>183</sup> Pre-treaty government expeditions and fur trading had laid groundwork as described above,<sup>184</sup> with Jedediah Smith's "rediscovery" of Wyoming's South Pass through the Rocky Mountains being especially notable, as it spawned a proverbial settler "super-

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177. SPICER, *supra* note 50, at 344.

178. *Id.*

179. *Id.* See also COHEN'S HANDBOOK OF FEDERAL INDIAN LAW 45–54 (2005) (discussing removal policy) [hereinafter COHEN'S].

180. SPICER, *supra* note 50, at 345.

181. *Id.* at 5. See also *id.* at 344 ("For the most part the Anglo approach was dominated by the idea of pushing the Indians out of their way and keeping them apart from themselves. In general, the settlers thought in terms of extermination or forcible isolation, rather than Christian conversion.").

182. MILNER, *supra* note 40, at 166.

183. WHITE, *supra* note 114, at 189.

184. *Id.* at 47–48, 121–25.

highway.”<sup>185</sup> Euro-American immigrants bound for the Oregon country would rely on South Pass, as would the Mormons in their initial journey and successive migrations to the Salt Lake Valley.<sup>186</sup> Upon their 1847 arrival in that valley, the Mormons petitioned Congress to establish the massive State of Deseret—a request that ultimately fell flat, but nonetheless marked the onset of an expansive colonization effort throughout the basin and beyond.<sup>187</sup> So, too, did droves of Forty-Niners traverse South Pass on their way to California’s glittering gold.<sup>188</sup> All told, from 1840 to 1860, approximately 300,000 immigrants traveled to the Far West on the overland trails: 200,000 to California (120,000 during the Gold Rush years), 53,000 to Oregon in search of farms, and 43,000 to Utah as a haven from religious persecution.<sup>189</sup>

Immigration and settlement of this sort caused unprecedented incursions into tribal homelands in and around the Colorado River Basin<sup>190</sup>—a pattern facilitated by the federal government with transformative results for the isolation policy. One example of this facilitation involved government expeditions cutting across different parts of the basin and its environs during the 1850s to select a transcontinental railroad route.<sup>191</sup> That selection would not be made until after the Civil War, but the federal government responded to the immediate “need of western settlers for a transportation network” with wagon roads, constructing thirty-four of them in the West between 1850 and 1860.<sup>192</sup> Further facilitation occurred over the next two decades with federal surveys of the basin and broader region by Clarence King, George Wheeler, Ferdinand Hayden, and John Wesley Powell.<sup>193</sup> These surveys would “reveal to settlers the conditions that they would encounter and the resources they could develop. Any such endeavor created a vision of the West.”<sup>194</sup> And the surveys overlapped with yet another facilitator: the U.S. military.<sup>195</sup> Indian wars spanned the latter half of the nineteenth century within

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185. *Frontiersman Jedediah Smith is Born*, HISTORY, <https://www.history.com/this-day-in-history/mountain-man-jedediah-smith-is-born> (last updated Jan. 4, 2021).

186. See *Mormon Pioneer National Historic Trail*, NATIONAL PARK SERVICE, <https://www.nps.gov/mopi/planyourvisit/maps.htm> (last updated Jan. 28, 2021) (showing an interactive map of the Mormon Pioneer National Historic Trail).

187. MILNER, *supra* note 40, at 172; WHITE, *supra* note 114, at 163–66.

188. MILNER, *supra* note 40, at 189. Miners also traveled to the California gold fields via a southern route through the Colorado River Basin that included portions of present-day New Mexico, Arizona, and California. *Travelers on the California Leg of the Southern Route 1849-1852*, CALIFORNIA DEPT. OF PARKS AND RECREATION, [https://www.parks.ca.gov/?page\\_id=24680](https://www.parks.ca.gov/?page_id=24680) (last visited April 24, 2021).

189. WHITE, *supra* note 114, at 189.

190. *Id.* at 90. See also COHEN’S, *supra* note 179, at 64 (“Indian tribes were engulfed in the stream of western migration.”).

191. WHITE, *supra* note 114, at 125. See also MILNER, *supra* note 40, at 161.

192. WHITE, *supra* note 114, at 127.

193. *Id.* at 128–35. These surveys were consolidated into the U.S. Geological Survey in 1879. *Id.* at 132. A useful map of the surveys can be found in Milner, *supra* note 160, at 186.

194. WHITE, *supra* note 114, at 135.

195. MILNER, *supra* note 40, at 173–83.

the basin and across the West.<sup>196</sup> “[N]ot all Indian tribes fought American troops” during this period, “but all Indians came under the federal government’s policy of cultural assimilation” detailed below.<sup>197</sup> That was the context for the surveys. They were inseparable from the Indian wars, providing military officials with maps and wagon-road surveys, as well as facilitating Euro-American migration and settlement that inherently appropriated resources on which Native communities historically had depended.<sup>198</sup> So much for being left alone.

These factors brought into being a “civilizing” program implemented by the United States in and around the Colorado River Basin after the 1848 Treaty of Guadalupe Hidalgo. An outgrowth of the pre-existing isolation policy, the concept that “dominated Anglo thought about Indians” at this time was the reservation.<sup>199</sup> It reflected the reality that Euro-American immigrants were gradually overrunning tribal homelands.<sup>200</sup> “No spot in the United States could any longer be thought of as a permanently isolated area.”<sup>201</sup> Thus, “[t]he reservation policy became a form of internal removal within the West.”<sup>202</sup> It was “an application of the peace-through-isolation program and consisted of forcing conquered Indians into those parts of their territory least desirable to White settlers and keeping them there through force.”<sup>203</sup> When considered in the context of the Indian wars, General William T. Sherman’s harsh description of the reservation policy’s impact on Native communities tied a bow around things. The policy entailed “a double process of *peace* within their reservation and war *without*.”<sup>204</sup>

But not only did reservations serve an isolating function. They were conceived as “civilizing” tools with a limited shelf life. Putting Native communities onto the “white road”—in the Colorado River Basin and elsewhere—is ultimately what reservations aimed for.<sup>205</sup> Devised to foster eventual cultural assimilation into mainstream U.S. society, reservations were constructed as places where “Indians were to be individualized and detribalized . . . Indians would break their communal bonds, give up their tribal identity, and then as individuals enter white society.”<sup>206</sup> Temporary segregation was the prescription and prognosis, with the acculturation process involving conversion to agriculture, Christianity, English, and private

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196. *Id.*

197. *Id.* at 173.

198. *Id.* at 129–30.

199. SPICER, *supra* note 50, at 345.

200. COHEN’S, *supra* note 179, at 64.

201. SPICER, *supra* note 50, at 347.

202. MILNER, *supra* note 40, at 174.

203. SPICER, *supra* note 50, at 346.

204. MILNER, *supra* note 40, at 174.

205. *Id.*

206. WHITE, *supra* note 114, at 92. *See also* COHEN’S, *supra* note 179, at 65 (“The reservations were, in effect, envisioned as schools for civilization, in which Indians under the control of the agent would be groomed for assimilation.”).

property.<sup>207</sup> Boarding schools were instrumental to this end—particularly in the U.S. Southwest—“isolating children from their tribe, forcing them to speak English, and compelling them to follow Anglo American customs.”<sup>208</sup> The paramount goal—as infamously described by Indian “educator” Richard Henry Pratt—was to “kill the Indian and save the man.”<sup>209</sup> And the U.S. military’s role again cannot be overlooked. It kept tribes isolated—forcibly bound to the “civilizing” process—on reservations.<sup>210</sup> While this policy is deeply troubling from a present-day perspective, General Sherman’s statement above throws into relief what was an even more dismal alternative at the time: outright extermination of Native peoples.<sup>211</sup>

Although reservations (or portions thereof) did prove temporary for some tribes, it wasn’t because they achieved their assimilationist goals. Quite the opposite. Rather, “[a]n important complement to the reservation policy was the device of allotment.”<sup>212</sup> Recall the cornerstone of the Mexican “civilizing” program, “[t]he concept of individual ownership of plots of land,” as well as its underlying premise, “the basis of civilization consisted in knowing how to handle individual property.”<sup>213</sup> This measure came full circle. Allotment was similarly regarded as a “fundamental feature” of the U.S. “civilizing” program.<sup>214</sup> Premised on the belief that “private property and individual autonomy formed the heart of civilization,” allotment of communally held reservation lands into individual parcels reflected a prevailing view among federal officials: “As long as Indians held their land in common . . . the entire ‘civilizing’ process could not take place.”<sup>215</sup> Although allotment provisions had appeared in treaties and other instruments creating reservations earlier in the nineteenth century, the General Allotment Act of 1887 (Dawes Act) was the comprehensive piece of legislation that ushered in the allotment era.<sup>216</sup> Eastern reformers considered the policy vital to the “civilizing” program, while Western settlers and developers supported it to gain access to reservation lands, as unallotted lands were deemed “surplus” and opened for Euro-

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207. See, e.g., MILNER, *supra* note 40, at 173 (“Through education and missionization, the government hoped to transform tribal peoples into independent Christian farmers.”).

208. WHITE, *supra* note 114, at 113. See also SPICER, *supra* note 50, at 348 (“It was believed . . . that the Indian societies with their barbaric influences could be broken apart more quickly if all the Indian children were required to be educated in Anglo schools, whether they and their parents wished it or not.”). According to Spicer, the boarding-school program extended widely throughout the U.S. Southwest, with “a fourth or more of the generation coming of school age from the 1890’s to the 1930’s experiencing boarding-school life.” *Id.* at 349.

209. WHITE, *supra* note 114, at 113.

210. COHEN’S, *supra* note 179, at 65.

211. See WHITE, *supra* note 114, at 91 (describing “reservations as alternatives to extermination”).

212. COHEN’S, *supra* note 179, at 66.

213. SPICER, *supra* note 50, at 338, 348.

214. *Id.* at 348.

215. WHITE, *supra* note 114, at 114.

216. COHEN’S, *supra* note 179, at 77.

American settlement under public land laws.<sup>217</sup> The policy's cumulative impact was astounding. "Indian land holdings were reduced from 138 million [acres] in 1887 to 48 million [acres] in 1934," and "an additional 60 million acres that were either ceded outright or sold to non-Indian homesteaders and corporations as 'surplus' lands are not included in the 90 million acre loss."<sup>218</sup> Colorado River Basin tribes were not immune from this process. The Southern Ute lost 33,473 acres, and the Ute Indian Tribe of the Uintah and Ouray Reservation lost nearly 30,000 acres.<sup>219</sup> Small portions of other reservations were also allotted.<sup>220</sup>

To summarize, during the roughly seventy-five-year period between the 1848 Treaty of Guadalupe Hidalgo's formation and the 1922 Colorado River Compact's drafting, the U.S. "civilizing" program for Native communities in and around the basin evolved as follows:

The Anglo-Americans, when they came into possession of the northern part of New Spain, thought of civilization at first as something peculiarly their own and not for the Indians. They began by setting up reservations as places where Indians could be isolated from the requirements of civilization. But speedily, as settlers encircled the reservations, the Anglo-Americans also began to think of themselves as bearers of civilization. They identified civilization with the American variety of the English language, the agricultural technology of the United States at that time, elementary schools with religious instruction, the holding of land by individual title, and usually some one of the Protestant varieties of Christianity.<sup>221</sup>

Many other relational developments paralleled this "civilizing" program as it came into effect across the Colorado River Basin. During the latter half of the nineteenth century, the basin proved to be a place where human beings held distinct views on their relationships with other parts of nature (again, human-nature relations). Such distinctions can be seen across the layers of community. In the minds of most Euro-American immigrants, "nature existed largely as a collection of commodities [T]hey valued plants, animals, and minerals according to their utility" to humans.<sup>222</sup> Christian theology laid beneath this view: "God, they believed, had created nature for individual human beings to use, and it was their duty to make use of it."<sup>223</sup> A similar perspective prevailed in the earlier Spanish and Mexican

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217. *Id.*; WHITE, *supra* note 114, at 115.

218. COHEN'S, *supra* note 179, at 79.

219. Daniel Cordalis & Amy Cordalis, *Civilizing Public Land Management in the Colorado River Basin*, in VISION & PLACE, *supra* note 12, at 252.

220. SPICER, *supra* note 50, at 349.

221. *Id.* at 5–6.

222. WHITE, *supra* note 114, at 212.

223. *Id.*

communities—which also saw “nature as a set of commodities and resources”—albeit with the dominant focus on community versus individual ownership.<sup>224</sup> Among Native communities in and around the basin there was much variation in beliefs about human-nature relations.<sup>225</sup> As a whole, however, they differed by “their tendency to endow nature with a spiritual dimension largely lacking in white thought. Plants and animals were no more a simple commodity than were humans.”<sup>226</sup>

Important line drawing—paralleling the creation of Indian reservations—also took place during this period. Evolving views on human-nature relations were partly at play. As a threshold matter, the seven states with territory located inside the Colorado River Basin were carved out, California being the first to attain statehood in 1850, and Arizona and New Mexico being the last to do so in 1912.<sup>227</sup> So, too, did public land policy pivot. While the latter half of the nineteenth century marked the zenith of the disposal era—privatization of federal lands being the paradigm driving the 1862 Homestead Act and its counterparts—retention of federal lands also emerged as a counterbalancing priority.<sup>228</sup> Witness the geneses of the Organic Administration Act of 1897 underpinning the National Forest System, the Antiquities Act of 1906 authorizing national monuments, and the 1916 Organic Act establishing the National Park Service.<sup>229</sup> Distinct values animated these novel laws emphasizing public ownership: conservation in some instances, preservation in others.<sup>230</sup> As applied to the basin’s landscape (e.g., Grand Canyon National Park’s 1919 designation)<sup>231</sup> and beyond, the laws revealed a nascent shift in American thought about relations between human beings and other parts of nature.<sup>232</sup>

Laws governing human relations with and over water also surfaced at this time.<sup>233</sup> Born in the mining camps of the California Gold Rush, the legal doctrine of

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224. *Id.*

225. *Id.*

226. *Id.* at 212–13.

227. For a map depicting these statehood dates, see *The U.S. Today, with Dates of Statehood Wall Map*, MAPS.COM, <https://www.maps.com/products/the-us-today-with-dates-of-statehood-wall-map-910xml> (last visited April 24, 2021).

228. See, e.g., Paul Hirt, *Who Is the “Public” on the Colorado River Basin’s Public Lands?*, in VISION & PLACE, *supra* note 12, at 126.

229. See, e.g., Robert B. Keiter, *John Wesley Powell and the National Park Idea*, in VISION & PLACE, *supra* note 12, at 109–10, 113.

230. Hirt, *supra* note 228, at 129; Keiter, *supra* note 229, at 113.

231. An Act to Establish the Grand Canyon National Park in the State of Arizona, 40 Stat. 1175, 1177 (Feb. 26, 1919).

232. This shift is most pronounced in relation to the national parks. As set forth in the 1916 Organic Act, their purpose is illustrative: “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” An Act to Establish a National Park Service, and for Other Purposes, 39 Stat. 535, 535 (Aug. 25, 1916).

233. See, e.g., Matthew McKinney & John E. Thorson, *Resolving Water Conflicts in the American West*, 17 WATER POL’Y 679, 687–91 (2015).

prior appropriation affords one example.<sup>234</sup> It hinges the existence of water rights on ongoing “beneficial use” of the water afforded by them—“use it or lose it”—and calls for allocating water according to temporal priority when not all water rights can be satisfied—“first in time, first in right.”<sup>235</sup> Prior appropriation spread like wildfire across the Colorado River Basin and broader West over the latter half of the nineteenth century.<sup>236</sup> While prior appropriation is state law, however, another paradigm-shifting piece of federal legislation came into existence around the twentieth century’s turn: the Reclamation Act of 1902.<sup>237</sup> It brought into being the U.S. Reclamation Service (later renamed Bureau of Reclamation) and facilitated the construction, operation, and maintenance of federal water projects throughout the basin and region.<sup>238</sup> The beneficiaries of prior appropriation and the Reclamation Act were the same Euro-American settlers whose mass migration compelled the U.S. “civilizing” program for Native communities.<sup>239</sup> At the same time, tribes were not wholly invisible to the law during this period—at least on paper.<sup>240</sup> In 1908, the U.S. Supreme Court handed down *Winters v. United States*, holding that the creation of Indian reservations for agricultural purposes implicitly reserved tribal water rights.<sup>241</sup>

Would the values embedded in *Winters*, or those espoused by the National Park Service’s 1916 Organic Act, come to make a difference within the Law of the River? Its nearly century-long evolution began not long after these milestones.<sup>242</sup> Over the past century, which communities have *mattered* in Colorado River governance, and which communities have not? Looking at the big picture, how well has Colorado River governance navigated the reality of the basin as a community of communities? The answer undoubtedly lies in the eye of the beholder. And it’s to this confluence of the basin’s communities and institutions that we now turn.

### III. LAYERS OF INSTITUTIONS

Nothing about the story above should suggest the Colorado River Basin’s cultural fabric has been static as the American period has continued to play out. Change has been constant in both ancient and new communities within and

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234. See, e.g., *Irwin v. Phillips*, 5 Cal. 140 (1855). Prior appropriation was initially recognized as formal law in this case.

235. See, e.g., JASON ANTHONY ROBISON & A. DAN TARLOCK, *LAW OF WATER RIGHTS AND RESOURCES* 286–87, 354–59 (2020).

236. See ROBERT G. DUNBAR, *FORGING NEW RIGHTS IN WESTERN WATERS* 59–133 (1983) (elegantly chronicling this pattern).

237. See DONALD J. PISANI, *TO RECLAIM A DIVIDED WEST: WATER, LAW, AND PUBLIC POLICY, 1848-1902* (1992), for a rich exploration of the Reclamation Act’s backstory.

238. See, e.g., *The Bureau of Reclamation: A Very Brief History*, U.S. BUREAU OF RECLAMATION, <https://www.usbr.gov/history/borhist.html> (last updated Aug. 15, 2018).

239. See *supra* Part II.

240. See, e.g., *Winters v. United States*, 207 U.S. 564 (1908).

241. *Id.*

242. See *supra* Part III.



adjacent to the basin throughout the Law of the River's evolution. This trajectory has been richly tracked in other writings.<sup>243</sup> An unmistakable aspect of it has been explosive growth, as captured famously by the concept of the "Big Buildup."<sup>244</sup> Cities in and around the basin "organized a concerted campaign" during the mid-twentieth century for "the rapid, wholesale development of . . . energy and water," resulting in "one of the most prodigious peacetime exercises of industrial might in the history of the world."<sup>245</sup> In this fashion, the Big Buildup "made the modern Southwest," transforming it "from a backwater region of 8 million people at the end of World War II into a powerhouse of 32 million" by the century's end.<sup>246</sup> Diversity accompanied this growth.<sup>247</sup> Not only with respect to the types of parties entitled to use Colorado River system water, but even more significantly in public attitudes about the types of uses to which this water *ought* to be put.<sup>248</sup>

So human communities in and around the Colorado River Basin have increased in both scale and value pluralism since the Law of the River's 1922 genesis—a pattern circling back to the big-picture question posed a moment ago. How well has Colorado River governance navigated the reality of the basin as a community of communities? Put differently, how visible is the multi-colored character of the *whole* basin community in the institutions developed for Colorado River governance? We pursue these questions in two threads.

#### A. Relational Foundation

Our initial thread is foundational in nature. It accounts for the roughly forty-year period from 1922 to 1963 during which the Colorado River Compact,<sup>249</sup> U.S.-Mexico Treaty,<sup>250</sup> Upper Colorado River Basin Compact,<sup>251</sup> and U.S. Supreme Court decision in *Arizona v. California*<sup>252</sup> came about. Taken together, these four instruments make up the Law of the River's international and interstate water

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243. See, e.g., ADLER, *supra* note 12; FLECK, *supra* note 22; PHILIP L. FRADKIN, *A RIVER NO MORE: THE COLORADO RIVER AND THE WEST* (1981); MARK W.T. HARVEY, *A SYMBOL OF WILDERNESS: ECHO PARK AND THE AMERICAN CONSERVATION MOVEMENT* (1994); MICHAEL HILTZIK, *COLOSSUS: HOOVER DAM AND THE MAKING OF THE AMERICAN CENTURY* (2010); RUSSELL MARTIN, *A STORY THAT STANDS LIKE A DAM: GLEN CANYON AND THE STRUGGLE FOR CONTROL OF THE WEST* (1989); DAVID OWEN, *WHERE THE WATER GOES: LIFE AND DEATH ALONG THE COLORADO RIVER* (2018); MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* (1986); APRIL R. SUMMIT, *AN ENVIRONMENTAL HISTORY OF THE COLORADO RIVER* (2013); CHARLES WILKINSON, *FIRE ON THE PLATEAU: CONFLICT AND ENDURANCE IN THE AMERICAN SOUTHWEST* (1999).

244. WILKINSON, *supra* note 243, at xii.

245. *Id.*

246. *Id.*

247. See, e.g., Robison et al., *supra* note 21, at 18–19 (discussing value pluralism in the era of limits).

248. *Id.*

249. Compact, *supra* note 24.

250. Treaty, *supra* note 27.

251. Upper Colorado River Basin Compact, ch. 48, 63 Stat. 31 (1949) [hereinafter Upper Basin Compact].

252. *Arizona v. California*, 373 U.S. 546 (1963).

allocation framework.<sup>253</sup> Even more critical than their allocation function, however—at least for present purposes—are the precedents they set for the relationships that make up Colorado River governance. They shaped both human relations and human-nature relations in and around the basin in ways reverberating here and now.

### 1. Colorado River Commission

It is again the cornerstone of the nearly century-old maze of laws and policies collectively known as the “Law of the River”: the Colorado River Compact.<sup>254</sup> Yet the compact’s legacy in the area of governance is somewhat confounding. While it placed federal-state relations over the Colorado River system into a mold that has persisted, the specific body that negotiated the compact, the Colorado River Commission, disbanded once the ink on the signature line had dried.<sup>255</sup> There is no basinwide commission for Colorado River governance—“[n]o compact provision establishe[d] a commission or other permanent agency for administration of the agreement.”<sup>256</sup> But that is not to say the compact is irrelevant in this space.

It took the Colorado River Commission approximately ten months to negotiate the compact—an undertaking spanning from January to November of 1922.<sup>257</sup> The commission was composed of representatives from the federal government and the seven states whose boundaries overlie the basin—again, Colorado, Wyoming, Utah, and New Mexico on the one hand (colloquially, the “Upper Basin states”), and Arizona, California, and Nevada on the other (colloquially, the “Lower Basin states”).<sup>258</sup> As this lineup shows, the federal sovereign and basin state sovereigns had seats at the table and voices in shaping the Law of the River’s cornerstone. The same is *not* true for other communities whose connections to the basin ran and still run much deeper. Tribal representation on the commission? That question sadly may have provoked laughter at the negotiations, as they occurred during the allotment era of federal Indian policy and embodied its bullheaded focus on “civilization and assimilation” of Native peoples.<sup>259</sup> The Colorado River Commission

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253. Jason Anthony Robison, *The Colorado River Revisited*, 88 U. COLO. L. REV. 475, 480–81 (2017).

254. Compact, *supra* note 24.

255. See NORRIS HUNDLEY, JR., *WATER AND THE WEST: THE COLORADO RIVER COMPACT AND THE POLITICS OF WATER IN THE AMERICAN WEST* (2d ed. 2009), for the seminal work on the Colorado River Compact’s legal history; see also ERIC KUHN & JOHN FLECK, *SCIENCE BE DAMMED: HOW IGNORING INCONVENIENT SCIENCE DRAINED THE COLORADO RIVER* (2019), for an complementary source; see also *Minutes and Record of the First Eighteen Sessions of the Colorado River Commission Negotiating the Colorado River Compact of 1922*, <http://www.riversimulator.org/Resources/LawOfTheRiver/MinutesColoradoRiverCompact.pdf> (last visited April 24, 2021).

256. Charles J. Meyers, *The Colorado River*, 19 STAN. L. REV. 1, 13 (1966).

257. HUNDLEY, *supra* note 255, at 138–214.

258. See Compact, *supra* note 24, at preamble, for the identities of the federal and state commissioners.

259. COHEN’s, *supra* note 179, at 77 (internal quotations omitted).

made “[n]o attempt . . . to discover how many Indians were in the basin or what their water needs were.”<sup>260</sup> While *Winters* had been on the books for fourteen years, “[t]he commission simply assumed that the water rights of Indians were negligible.”<sup>261</sup> “Indians were a forgotten people in the Colorado Basin, as well as in the country at large.”<sup>262</sup> And so, too, was Mexico pushed to the margins. It formally requested to be “represented” on the commission and “given consideration in the studies and projects.”<sup>263</sup> But that ask went nowhere; instead, the commission relegated Mexico to observer status.<sup>264</sup>

The relationships animating the compact negotiations can be gleaned on the document’s face—by what’s there and what’s not. There is a clear focus on informal cooperation between the federal and state sovereigns on technical aspects of Colorado River governance. Article V actually uses the term “cooperate” in this vein.<sup>265</sup> Neither it nor its dispute-resolution-focused counterpart, Article VI, suggest anything resembling a formal governance entity, however.<sup>266</sup> Whatever the Colorado River Commission was, it had evaporated.

Precisely what the compact does at the margins should also be brought to light. The invisibility of the basin’s tribal sovereigns not only can be seen from the negotiations. It’s unmistakable in Article VII’s text: “Nothing in this compact shall be construed as affecting the obligations of the United States of America to Indian tribes.”<sup>267</sup> Despite *Winters* and the federal trustee’s obligations, this provision is the compact’s sole mention of the Colorado River Basin’s thirty tribal sovereigns—a one-sentence disclaimer. And the condescension and dismissiveness accompanying the provision’s drafting cannot be ignored, both characteristics illuminated brilliantly by the Colorado River Commission’s chairman, Herbert Hoover:

“You always find some congressmen . . .,” he explained, “who will bob up and say, ‘What is going to happen to the poor [I]ndian?’ We thought we would settle it while we were at it.” And the way to settle

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260. HUNDLEY, *supra* note 255, at 211. According to Hundley, there were “nearly sixty thousand Indians on about thirty reservations in the basin” at this time. *Id.* at 80.

261. *Id.* at 211 (internal quotations omitted). The U.S. Supreme Court handed down *Winters* in 1908. 207 U.S. 564 (1908).

262. HUNDLEY, *supra* note 255, at 80.

263. *Id.* at 175.

264. *Id.* at 175–76.

265. Compact, *supra* note 22, at Art. V (calling for cooperation between the “chief official of each signatory State charged with the administration of water rights,” the “Director of the United States Reclamation Service,” and the “Director of the United States Geological Survey.”). Meyers, *supra* note 256, at 13 (“Article V requires certain state and federal officials to cooperate in gathering and disseminating information regarding run-off and use of system water.”).

266. Compact, *supra* note 22, at Art. VI. Meyers, *supra* note 256, at 13 (“[A]rticle VI contemplates the appointment of ad hoc commissioners to settle controversies arising between the signatory states.”).

267. Compact, *supra* note 22, at Art. VII.

it, he suggested, was his “wild Indian article” ..... The commissioners unanimously approved his suggestion.<sup>268</sup>

Mexico fared slightly better in the compact’s text. It anticipated a future treaty and prescribed how treaty flows would be supplied by the basin states.<sup>269</sup> Of further note at the margins is the Colorado River system itself, as the compact not only reflected contemporary views on human relationships with the river system, but also set the stage for future conflicts involving competing views on that subject. Should the river system be treated as a mere conduit for human water consumption? Or might it be approached as a *living* river system? The compact clearly pointed Colorado River governance in the former direction, with its core, animating concern being “beneficial consumptive use” of Colorado River system water.<sup>270</sup>

## 2. International Boundary and Water Commission

Colorado River governance at the international level looks quite different than at the domestic basinwide level in the United States. While the Colorado River Compact’s signing in 1922 marked the end of the line for the Colorado River Commission, the U.S.-Mexico Treaty’s formation in 1944 brought into being a new (or updated) body to navigate the nation-states’ relations over the Colorado River.<sup>271</sup> The International Boundary and Water Commission (IBWC) constitutes a formal entity for Colorado River governance. In this characteristic, the IBWC stands apart from the informal, ad hoc federal-state arrangements called for by Articles V and VI of the compact,<sup>272</sup> not to mention the defunct commission.

It took several decades during the first half of the twentieth century for the U.S.-Mexico Treaty—and thus the IBWC—to come into existence.<sup>273</sup> When the treaty ultimately appeared towards the end of World War II, the IBWC supplanted its predecessor, the International Boundary Commission, and was entrusted with

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268. HUNDLEY, *supra* note 255, at 212.

269. Compact, *supra* note 22, at Art. III(c).

270. Beneficial consumptive use of Colorado River system water is what frames the compact’s apportionment in Article III. *Id.* at Art. III(a)–(b). Further indicia of this orientation appear in Article II’s definition of “domestic use” and Article IV’s water-use hierarchy. *Id.* at Arts. II(h), IV(a)–(b).

271. Treaty, *supra* note 25. The treaty also applies to the Rio Grande and Tijuana River.

272. Compact, *supra* note 22, at Art. V.

273. Succinct coverage of the treaty’s formation can be found in Norris Hundley, Jr., *The West Against Itself: The Colorado River—An Institutional History*, in *NEW COURSES FOR THE COLORADO RIVER* 9 (Gary D. Weatherford & F. Lee Brown eds., 1986). More extensive studies include Charles J. Meyers & Richard L. Noble, *The Colorado River: The Treaty with Mexico*, 19 *STAN. L. REV.* 367 (1966), and NORRIS HUNDLEY, JR., *DIVIDING THE WATERS: A CENTURY OF CONTROVERSY BETWEEN THE UNITED STATES AND MEXICO* (1966).

treaty administration.<sup>274</sup> Consisting of a U.S. Section and a Mexican Section,<sup>275</sup> the treaty spells out the IBWC's composition, including a requirement that each Section shall have an Engineering Commissioner as its head.<sup>276</sup> Likewise, the treaty specifies the IBWC's powers and duties, which involve a host of technical matters (e.g., installation of gaging stations, recordkeeping and dissemination of treaty-flow data),<sup>277</sup> but also extend to critical non-technical subjects. Examples of the latter sort include the IBWC's authority over treaty enforcement and dispute resolution.<sup>278</sup> More significant than the details of these aspects of international Colorado River governance is the core fact that the treaty creates and defines the composition of a formal governance entity.<sup>279</sup>

Yet one aspect of the IBWC's approach to treaty administration deserves special attention: the minutes system.<sup>280</sup> It has proven clutch over the roughly seventy-five years of the treaty's existence, with no fewer than 325 minutes adopted as of this writing.<sup>281</sup> Treaty minutes are implementation agreements—agreements adopted by the IBWC to implement the treaty's provisions without amending its text.<sup>282</sup> More specifically, the treaty calls for the IBWC to record its decisions as minutes, and maps out a process through which minutes take effect.<sup>283</sup> The default rule is that silence by either government during a thirty-day period following a minute's pronouncement by the IBWC constitutes approval.<sup>284</sup> Conversely, if either government expresses disapproval of a minute during the thirty-day period, the treaty requires the governments to “take cognizance of the matter” and work toward an agreement.<sup>285</sup> All told, this component of international

274. Treaty, *supra* note 25, at Art. 2. Specifically, the IBWC was entrusted with “[t]he application of the present Treaty, the regulation and exercise of the rights and obligations which the two Governments assume thereunder, and the settlement of all disputes to which its observance and execution may give rise.” *Id.*

275. *Welcome*, INTERNATIONAL BOUNDARY & WATER COMMISSION, UNITED STATES AND MEXICO, UNITED STATES SECTION, <https://www.ibwc.gov/home.html> (last visited April 24, 2021); *Notas de Actualidad*, COMISIÓN INTERNACIONAL DE LÍMITES Y AGUAS ENTRE MÉXICO Y ESTADOS UNIDOS, <https://cila.sre.gob.mx/cilanorte/> (last visited April 24, 2021).

276. Treaty, *supra* note 25, at Art. 2. “The Commissioner, two principal engineers, a legal adviser, and a secretary . . . shall be entitled in the territory of the other country to the privileges and immunities appertaining to diplomatic officers.” *Id.*

277. *Id.* at Arts. 12(d), 24(f).

278. *Id.* at Arts. 24(c)–(d).

279. The IBWC has not been immune from criticism as a governance entity. See generally Robert J. McCarthy, *Executive Authority, Adaptive Treaty Interpretation, and the International Boundary and Water Commission, U.S.-Mexico*, 14 U. DENVER WATER L. REV. 197 (2011).

280. Treaty, *supra* note 25, at Art. 25.

281. *Minutes Between the United States and Mexican Sections of the IBWC*, INT’L BOUNDARY & WATER COMMISSION, U.S. AND MEX., U.S. SECTION, [https://www.ibwc.gov/Treaties\\_Minutes/Minutes.html](https://www.ibwc.gov/Treaties_Minutes/Minutes.html) (last visited April 24, 2021).

282. Robison, *supra* note 253, at 505.

283. Treaty, *supra* note 27, at Art. 25.

284. *Id.*

285. *Id.*

Colorado River governance has enabled the treaty to be implemented adaptively in the face of challenges that either weren't anticipated or prioritized when the instrument was adopted—delta restoration and climate change being prime examples.<sup>286</sup>

Although the treaty's approach to governance is much different than the Colorado River Compact's, there are a couple pieces of notable commonality. First, just as Native communities had no voice in the compact's formation, Indigenous Peoples on either side of the international border do not appear to have had any hand in the treaty's formation.<sup>287</sup> Its text is silent about Indigenous Peoples.<sup>288</sup> Not even an analogue to the compact's perfunctory "Wild Indian article" (*i.e.*, Article VII) can be seen.<sup>289</sup> Second, the treaty embodies the notion of the Colorado River system as a conduit for human water consumption. There is no reference to the Colorado River Delta's ecology (or the like), the water-use hierarchy prioritizes consumptive uses, and Mexico's allocation is expressed as a quantified allocation to be delivered annually by the United States.<sup>290</sup> No sense of a *living* river system emanates from the document.

### 3. Upper Colorado River Commission

Moving far upstream from the international border—to the vast high desert country, majestic mountains, and sheer canyons above Lee Ferry—it becomes apparent that the Colorado River Compact is not the only interstate agreement superimposed on the Colorado River system. It has a counterpart with the Upper Colorado River Basin Compact (Upper Basin Compact).<sup>291</sup> In its approach to governance, this instrument resembles the U.S.-Mexico Treaty more closely than it does the cornerstone, establishing a formal governance entity ("interstate administrative agency") in the Upper Basin called the Upper Colorado River Commission (UCRC).<sup>292</sup>

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286. *See, e.g.*, INT'L BOUNDARY & WATER COMM'N, EXTENSION OF COOPERATIVE MEASURES AND ADOPTION OF A BINATIONAL WATER SCARCITY CONTINGENCY PLAN IN THE COLORADO RIVER BASIN, MINUTE NO. 323 (Sept. 21, 2017), <https://www.ibwc.gov/Files/Minutes/Min323.pdf> [hereinafter MINUTE 323]; INT'L BOUNDARY & WATER COMM'N, INTERIM INTERNATIONAL COOPERATIVE MEASURES IN THE COLORADO RIVER BASIN THROUGH 2017 AND EXTENSION OF MINUTE 318 COOPERATIVE MEASURES TO ADDRESS THE CONTINUED EFFECTS OF THE APRIL 2010 EARTHQUAKE IN THE MEXICALI VALLEY, BAJA CALIFORNIA, MINUTE 319 (Nov. 20, 2012), [https://www.ibwc.gov/Files/Minutes/Minute\\_319.pdf](https://www.ibwc.gov/Files/Minutes/Minute_319.pdf) [hereinafter MINUTE 319]. Minutes 319 and 323 illustrate adaptive treaty implementation in these areas. *Id.*

287. *See, e.g.*, HUNDLEY, *supra* note 255; Meyers & Noble, *supra* note 273. Neither Hundley nor Meyers and Noble mention Indigenous Peoples in their lengthy studies of the treaty's legal history. *Id.*

288. *See Treaty, supra* note 27.

289. Compact, *supra* note 24, at Art. VII; HUNDLEY, *supra* note 255, at 212.

290. Treaty, *supra* note 27, at Arts. 3, 10. The hierarchy does address the non-consumptive use of international waters for hydropower, navigation, and fishing and hunting. *Id.* at Art. 3.

291. *See* Upper Basin Compact, *supra* note 251.

292. *Id.* at Art. VIII.

The Upper Basin Compact's genesis—and thus that of the UCRC—was heralded by much less fanfare (read: drama) than the Colorado River Compact's. Preceded by two years of data gathering and field meetings, the Upper Basin Compact's negotiation took place in Vernal, Utah—adjacent to Dinosaur National Monument—over a three-week period in July 1948.<sup>293</sup> The catalyst at this time was a shared interest among Upper Basin leaders in securing water infrastructure for which a compact had been deemed a prerequisite.<sup>294</sup> Similar to the Colorado River Compact, the Upper Basin Compact was shaped by representatives of the federal sovereign, Upper Basin state sovereigns, and the State of Arizona—collectively, the “Upper Colorado River Basin Compact Commission.”<sup>295</sup> This body adjourned *sine die* in Salt Lake City on August, 5, 1949, but not without creating a successor for compact administration.<sup>296</sup>

The UCRC is a federal-state entity largely, though not wholly, in the mold of the negotiating body that brought it about.<sup>297</sup> Composed of one commissioner from each Upper Basin state—as well as a federal commissioner “if designated by the President”—the UCRC employs a secretary and any “engineering, legal, clerical and other personnel as, in its judgment, may be necessary for the performance of its functions.”<sup>298</sup> To administer the compact's apportionment,<sup>299</sup> the UCRC is charged with determining “the quantity of the consumptive use of water” from the Colorado River system by each Upper Basin state.<sup>300</sup> And the UCRC is vested with a host of related powers: installing gaging stations, engaging in cooperative water-supply studies, collecting and disseminating hydrological data, and making findings about critical subjects such as “the quantity of water deliveries at Lee Ferry” and “the necessity for and the extent of the curtailment of use” by the Upper Basin states to

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293. *E.g.*, HUNDLEY, *supra* note 255, at 300–01; Norris Hundley, Jr., *Clio Nods: Arizona v. California and the Boulder Canyon Act – A Reassessment*, 3 W. HIST. Q. 17, 28–29 (1972); Meyers, *supra* note 256, at 27–31.

294. Hundley, *supra* note 293, at 28.

295. See Upper Basin Compact, *supra* note 251, at preamble. The identities of these representatives are noted in the preamble of the Upper Basin Compact. *Id.* Arizona was represented in the negotiations because its northeastern corner lies in the Upper Basin. The Upper Colorado River Basin Compact Commission compiled an official record of its proceedings and related documents in three volumes. Volumes 1 and 2 contain a record of the Commission's eleven meetings, while Volume 3 contains the Engineering Advisory Committee's Final Report and an Inflow-Outflow Manual. An overview of the volumes and chronological list of the meetings can be found in the Explanatory Note at the beginning of UPPER COLORADO RIVER BASIN COMPACT COMMISSION, OFFICIAL RECORD, VOL. I (1949) (on file with author) [hereinafter OFFICIAL RECORD].

296. The adjournment date appears in the Explanatory Note at the beginning of OFFICIAL RECORD, *supra* note 295.

297. Although it was represented at the Upper Basin Compact negotiations, Arizona does not have a commissioner on the UCRC. Upper Basin Compact, *supra* note 251, at preamble, Art. VIII.

298. Upper Basin Compact, *supra* note 251, at Art. VIII(a), (c); *About the UCRC*, UPPER COLORADO RIVER COMMISSION, <http://www.ucrccommission.com/about-us/> (last visited April 24, 2021).

299. Upper Basin Compact, *supra* note 251, at Art. III.

300. *Id.* at Art. VI.

ensure compliance with the Colorado River Compact.<sup>301</sup> Notably, although the UCRC’s findings “shall constitute prima facie evidence of the facts found” in any judicial or administrative proceeding, the Upper Basin Compact does *not* vest the UCRC with compact-enforcement power.<sup>302</sup>

At the margins of the Upper Basin Compact—though less so than with the Colorado River Compact—are Native communities whose ancestors inhabited and visited the Colorado Plateau and diverse ranges of the Rocky Mountains for centuries or millennia before Euro-American settlers began filling in Utah’s Wasatch Front, Colorado’s Front Range, and other Upper Basin locales. Tribal sovereigns have no seat at the UCRC’s table.<sup>303</sup> It is exclusively a federal-state body.<sup>304</sup> Nor did tribal sovereigns have an opportunity to participate in negotiating the Upper Basin Compact.<sup>305</sup> It was born during the termination era of federal Indian policy—“the most concerted drive against Indian property and Indian survival since the removals following the act of 1830 and the liquidation of tribes and reservations following 1887.”<sup>306</sup>

Yet Native communities were on the commissioners’ minds to some extent at the negotiations.<sup>307</sup> And the Upper Basin Compact’s text does show some progress compared to what was done in the Colorado River Compact.<sup>308</sup> An analogue to the dismissive “wild Indian article” appears in the Upper Basin Compact: “Nothing in this Compact shall be construed as . . . [a]ffecting the obligations of the United States of America to Indian tribes.”<sup>309</sup> But this broad disclaimer coexists with provisions prohibiting Upper Basin states from “deny[ing] the right of the United States of America . . . to acquire rights to the use of water,” and mandating that “[t]he consumptive use of water by the United States of America or any of its . . .

301. *Id.* at Arts. IV, VIII(d).

302. *Id.* at Art. VIII(g); Meyers *supra* note 256, at 34–35.

303. *See* Upper Basin Compact, *supra* note 251.

304. *Id.* at Art. VIII(a).

305. COHEN’s, *supra* note 179.

306. *Id.* at § 1.06.

307. For specific excerpts within the negotiation minutes, *see* the “Indian rights, art. xix” entry on page xi of the Subject Index at the beginning of OFFICIAL RECORD, *supra* note 295. One compelling excerpt comes from the remarks of Mr. Paul B. Palmer—affiliated with the Bureau of Reclamation’s Hammond Project—which were delivered to the commission at its third meeting on November 2, 1946, in Farmington, New Mexico:

There are a lot of things I could tell you about why the Navajo Indian situation is a national disgrace. It is also a disgrace to the State of New Mexico and to the State of Arizona in particular. But something should be done by this body to recognize the rights of these people and to do something about it. I am not telling you what to do but I think something should be done and we should recognize that these people have some rights because they were here a long time before we were here. Thank you. (Applause.)

*Id.* at 140.

308. *See* Upper Basin Compact, *supra* note 251.

309. *Id.* at Art. XIX(a).



wards shall be charged as a use by the State in which the use is made.”<sup>310</sup> No doubt “wards” is a loaded term. *Winters*, however, at least implicitly shows up (*contra* the Colorado River Compact).

As far as human-nature relations within Colorado River governance, the Upper Basin Compact didn’t break new ground. The “Colorado River system as conduit” perspective reigned at the time—or, put differently, the notion of a *living* river system remained at the margins. It is impossible to miss the Upper Basin Compact’s consumptive-use orientation in its apportionment, water-use hierarchy, and definition provisions.<sup>311</sup> What happened with the Bureau of Reclamation’s proposed siting of dams in Dinosaur National Monument a few years after these provisions had been penned, however, marked a cultural shift that still echoes through Colorado River governance.<sup>312</sup> It also made Arizona want its turn.

#### 4. Lower Colorado River Watermaster

*Arizona v. California* federalized the Lower Colorado River in 1963.<sup>313</sup> Filed eleven years earlier to lay groundwork for the wildly coveted Central Arizona Project, the case wasn’t Arizona’s first attempt to enlist the Supreme Court’s help in resolving conflicts with a 1,000-pound-gorilla neighbor, California, over the states’ shared border.<sup>314</sup> On this occasion, however, the Court granted Arizona’s request—a solicitation revealing dysfunction in Lower Basin relationships that contrasted starkly with what the Upper Basin states had been able to accomplish a few years before.<sup>315</sup> And distinctions of this sort don’t end there.

Lower Colorado River governance can be summed up succinctly: the Secretary of the Interior is the watermaster. For the first time in U.S. history, the Supreme

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310. *Id.* at Arts. VII, IX(a).

311. *See id.* at Art. II(m) (defining “domestic use” as “use of water for household, stock, municipal, mining, milling, industrial, and other like purposes”), Art. III(a) (apportioning “consumptive use of water” among Upper Basin states and Arizona), Art. XV(a) (prioritizing water “use and consumption . . . for agricultural and domestic purposes” above water “impounded and used for the generation of electrical power.”).

312. *See HARVEY, supra* note 243, for a discussion of the epic fight over proposed siting of the Echo Park and Split Mountain dams in Dinosaur National Monument.

313. *Arizona v. California*, 373 U.S. 546 (1963). In conjunction with the case’s fiftieth anniversary in 2013, the University of Colorado law library created a collection of primary sources associated with the case. *Arizona v. California*, WILLIAM A. WISE LAW LIBRARY, DIGITAL ARCHIVE, <https://lawcollections.colorado.edu/arizona-v-california/> (last visited April 24, 2021). The *Arizona Journal of Environmental Law & Policy* also published a series of articles about the case and its legacy. *See* Lawrence J. MacDonnell, *Arizona v. California: Its Meaning and Significance for the Colorado River and Beyond after Fifty Years*, 4 ARIZ. J. ENVTL. L. & POL’Y 88 (2013). Additional historical scholarship is widely available. *See, e.g.,* Meyers, *supra* note 256, at 38–43, 43 n.184; HUNDLEY, *supra* note 255, at 302–06, 306 nn.50–51.

314. Arizona had filed three prior suits in the U.S. Supreme Court during the 1930s. *Arizona v. California*, 298 U.S. 558 (1936); *Arizona v. California*, 292 U.S. 341 (1934); *Arizona v. California*, 283 U.S. 423 (1931); *see also* HUNDLEY, *supra* note 255, at 288–95.

315. *Arizona v. California*, 373 U.S. 546 (1963).

Court held in *Arizona v. California* that Congress had established a statutory apportionment for an interstate river, the Lower Colorado River (excluding its tributaries), when enacting the Boulder Canyon Project Act (BCPA) in 1928.<sup>316</sup> “It would have amazed the Congress of thirty-five years earlier to know what it was supposed to have done.”<sup>317</sup> But irrespective of whether the Court got *Arizona v. California* wrong, its decree and the BCPA placed a dizzying array of hats atop the Interior Secretary’s head. Most notably, it is the secretary who implements the decree’s apportionment, annually assessing water-supply conditions along the Lower Colorado River, and allocating water among parties in Arizona, California, and Nevada.<sup>318</sup> Not all water users enjoy secretarial water storage and deliveries, however, but rather only those with whom the secretary has formed contracts (or reserved rights holders).<sup>319</sup> Formation of such contracts and hydropower counterparts was a condition precedent for federal financing and construction of the infrastructure authorized by the BCPA: Hoover Dam and the All-American Canal.<sup>320</sup> Piling on these infrastructural and contractual responsibilities, the secretary is also the Lower Colorado River accountant, obligated by the *Arizona v. California* decree to publish reports with data on water releases and consumption under the apportionment and the U.S.-Mexico Treaty.<sup>321</sup>

This federalized governance structure is plainly different than the UCRC as outlined in the Upper Basin Compact, as well as the disbanded Colorado River Commission that drafted the Colorado River Compact. Yet there is important overlap between these earlier instruments and the *Arizona v. California* decree. It concerns how the Colorado River system is seen—again, as a conduit for human water consumption. The decree’s apportionment is revealing, hinging the Secretary of the Interior’s water-supply determination on the amount of Lower Colorado River water available to satisfy quantified levels of “annual consumptive use” within

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316. *Id.* at 560; see also Boulder Canyon Project Act, P.L. No. 642 (1928). The Court issued a 5-3 split opinion in the case. *Arizona v. California*, 373 U.S. at 546. Justice Black authored the majority opinion, while Justice Harlan and Justice Douglas wrote lengthy dissents. *Id.* The majority’s holdings largely (though not wholly) reflected legal conclusions set forth in a 451-page report prepared by Special Master Simon Rifkind. *Arizona v. California*, Simon H. Rifkind, *Special Master*, Report (Dec. 5, 1960), <http://hdl.handle.net/10974/312> [hereinafter Rifkind Report].

317. Hundley, *supra* note 273, at 32. For a thorough critique of the decision, see Hundley, *supra* note 293.

318. A three-tier structure governs this process as outlined in Art. II(B)(1)-(3) of the Court’s consolidated decree. *Arizona v. California*, 547 U.S. 150, 155–56 (2006). The secretary also has authority under Art. II(B)(6) of the decree to reallocate on a one-year basis apportioned but unused water among the Lower Basin states. *Id.* at 156.

319. This contract requirement appears in Art. II(B)(5) of the decree. *Id.* at 155. The proviso addressing water releases for reserved rights holders can be found in Art. II(D). *Id.* at 157.

320. BCPA, *supra* note 316, at § 4(b).

321. This record-keeping obligation is set forth in Art. V of the decree. *Arizona*, 547 U.S. at 164–65. The water accounting reports can be accessed at *Boulder Canyon Operations Office — Programs and Activities*, BUREAU OF RECLAMATION, <https://www.usbr.gov/lc/region/g4000/wtracct.html> (last visited April 24, 2021).

the Lower Basin states.<sup>322</sup> So, too, do the decree's water-use hierarchy and definitions section lack any notion of the Lower Colorado River as a *living river*.<sup>323</sup> It appears inanimate on the page.

*Arizona v. California*, however, did stretch Colorado River governance in one key way relevant to human-nature relations. Building on *Winters* a half-century earlier, the Supreme Court broke new ground in *Arizona v. California* by extending the reserved rights doctrine from Indian reservations to federal reservations. Without offering an independent analysis, the Court adopted Special Master Simon Rifkind's ruling that "the principle underlying the reservation of water rights for Indian Reservations was equally applicable to other federal establishments."<sup>324</sup> *Arizona v. California* thus recognized federal reserved rights for three reservations along the Lower Colorado River: Lake Mead National Recreation Area, Havasu Lake National Wildlife Refuge, and Imperial National Wildlife Refuge.<sup>325</sup> To fulfill their purposes, the Court's decree spells out annual amounts of water that may be diverted or consumed from the river.<sup>326</sup>

And that's not all there is to say at the historical margins of Colorado River governance. *Arizona v. California* took *Winters* in a new direction with respect to Indian reserved rights, too. How much water should tribes be authorized to use under them? More precisely, what method should be employed to quantify Indian reserved rights implicitly created upon the establishment of Indian reservations for agricultural purposes? Not only did the Supreme Court lay to rest any question about *Winters'* adherence within the Colorado River Basin when vetting those questions, it also announced the practicably irrigable acreage (PIA) standard as a quantification method.<sup>327</sup> At stake were reserved rights claims asserted for five Indian reservations along the Lower Colorado River: Chemehuevi, Cocopah, Fort Yuma, Colorado River, and Fort Mojave.<sup>328</sup> Both to elucidate *Arizona v. California*, as well as to connect the case to the U.S. "civilizing" program described in the previous Part,<sup>329</sup> the Court's penetrating description of the tribes' reservations and water's essentiality to them should be quoted:

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322. The phrase "annual consumptive use" appears throughout Art. II(B)(1)-(3). *Arizona*, 547 U.S. at 155-56.

323. The decree's water-use hierarchy in Art. II(A) lists irrigation and domestic uses as consumptive uses and river regulation, navigation, flood control, and hydropower as non-consumptive uses. *Id.* at 154-55. The decree's definitions of "consumptive use" and "domestic use" in Art. I are also notable. *Id.* at 153-54.

324. *Arizona v. California*, 373 U.S. 546, 601 (1963); Rifkind Report, *supra* note 316, at 291-300.

325. *Arizona*, 373 U.S. at 601. The Court also recognized a federal reserved right for the Gila National Forest, which lies within the Gila River Basin in southwestern New Mexico. *Id.*

326. These federal reserved rights appear in Art. II(D)(6)-(8) of the decree. *Arizona*, 547 U.S. at 158-59.

327. *Arizona*, 373 U.S. at 600-01.

328. *Id.* at 595 n.97.

329. See *supra* Part II.C.

It can be said without overstatement that when the Indians were put on these reservations they were not considered to be located in the most desirable area of the Nation. It is impossible to believe that when Congress created the great Colorado River Indian Reservation and when the Executive Department of this Nation created the other reservations they were unaware that most of the lands were of the desert kind—hot, scorching sands—and that water from the river would be essential to the life of the Indian people and to the animals they hunted and the crops they raised.<sup>330</sup>

Thus, alongside the federal reserved rights just mentioned, the *Arizona v. California* decree sets forth Indian reserved rights for the five tribal sovereigns.<sup>331</sup> These rights are substantial in scope—at least on paper—authorizing annual diversions of 719,248 acre-feet from the Lower Colorado River in the case of the Colorado River Indian Tribes.<sup>332</sup> In addition, although serving to quantify the reserved rights, the PIA standard was explicitly not intended to be a straitjacket on the types of uses to which water could be put under the rights. Rather, the PIA standard “shall constitute the means of determining quantity of adjudicated water rights but shall *not* constitute a restriction of the usage of them to irrigation or other agricultural application.”<sup>333</sup>

#### B. Relational Adaptation

But not only did *Arizona v. California* and its predecessors lay a distributional foundation in and around the Colorado River Basin—a foundation for how Colorado River system water would be apportioned by the Law of the River’s allocation framework.<sup>334</sup> Arguably of even greater consequence is the fact that the instruments laid a relational foundation for how the river system would be governed. Which formal or informal bodies would be engaged? Who would have a voice within those entities? How would they be composed—structures, processes, etc.—to enable the basin’s community of communities to participate? What space, if any, would there be for the notion of a *living* river system? In one form or another, all these issues were broached, explicitly or implicitly, while the relational foundation took shape.

Adaptation has been paramount ever since. Just as the Law of the River’s allocation framework has been forced to adapt to climate change’s impacts on the Colorado River Basin’s hydrology, so too has Colorado River governance witnessed

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330. *Arizona*, 373 U.S. at 598–99.

331. The Indian reserved rights appear in Art. II(D)(1)–(5) of the decree. *Arizona*, 547 U.S. at 157–58.

332. *Id.* at 158.

333. *Id.* at 168 (emphasis added).

334. Robison, *supra* note 253, at 480–81.

a variety of adaptations since *Arizona v. California* was handed down.<sup>335</sup> Both the Law of the River's distributional foundation and relational foundation have proven adaptive—at least up to a point.

Governance adaptations have surfaced in several forms involving human-nature relations and human relations. One form consists of collaborative efforts to address biodiversity loss and ecosystem protection and restoration. Another form centers on tribal water rights—collaborative endeavors to better understand them and to secure their legal recognition and quantification. And a final form has been driven by climate change and collaborative undertakings to adapt the Law of the River's allocation framework to it. Taken as a whole, adaptations of these sorts show how Colorado River governance is evolving, albeit gradually and incrementally, along a path whose defining values include a game changer: inclusivity. It has transformative power—the power to align Colorado River governance institutions with the Colorado River Basin as a community of communities. That's exactly what the future should hold.

### 1. Biodiversity & Ecosystems

The Colorado River Delta is a good place to start for evidence of the collaborative trend. Minutes 319 and 323 of the U.S.-Mexico Treaty are a proverbial smoking gun.<sup>336</sup> Adopted via the treaty's minutes system in 2012 and 2017, respectively, both documents are replete with innovative content.<sup>337</sup> Most important for present purposes is one critical priority involving human-nature relations that is impossible to overlook: the delta's ecology.

Collaborative efforts aimed at protecting and restoring the Colorado River Delta trace back at least two decades to Minute 306 and a preceding joint declaration.<sup>338</sup> "Collaboration is growing between [national] authorities," described Minute 306, "as well as between scientific, academic, and non-government organizations in the two countries which have an interest in preserving the Colorado River delta ecology."<sup>339</sup> In line with this pattern, the minute broke new ground in Colorado River governance by institutionalizing cooperation over the

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335. See *generally id.* (examining pattern of "adaptive framing" within allocation framework).

336. MINUTE 323, *supra* note 286; MINUTE 319, *supra* note 286.

337. See *infra* Part III.B.3 for a discussion of Minute 323's novel, collaborative approach to implementation of the international apportionment.

338. INT'L BOUNDARY & WATER COMM'N, MINUTE NO. 306: CONCEPTUAL FRAMEWORK FOR UNITED STATES-MEXICO STUDIES FOR FUTURE RECOMMENDATIONS CONCERNING THE RIPARIAN AND ESTUARINE ECOLOGY OF THE LIMITROPHE SECTION OF THE COLORADO RIVER AND ITS ASSOCIATED DELTA (2000), <https://www.ibwc.gov/Files/Minutes/Min306.pdf> [hereinafter MINUTE 306]; JOINT DECLARATION BETWEEN THE DEPARTMENT OF THE INTERIOR (DOI) OF THE UNITED STATES OF AMERICA AND THE SECRETARIAT OF ENVIRONMENT, NATURAL RESOURCES AND FISHERIES (SEMARNAP) OF THE UNITED MEXICAN STATES TO ENHANCE COOPERATION IN THE COLORADO RIVER DELTA (2000), [https://law2.arizona.edu/library/research/guides/portals/Original%20Appendices/08\\_2000JointDeclaration.pdf](https://law2.arizona.edu/library/research/guides/portals/Original%20Appendices/08_2000JointDeclaration.pdf).

339. MINUTE 306, *supra* note 338, at 1.

delta. Specifically, it established “a framework for cooperation by the United States and Mexico through the development of joint studies that include possible approaches to ensure use of water for ecological purposes in this reach and formulation of recommendations for cooperative projects, based on the principle of an equitable distribution of resources.”<sup>340</sup>

Minutes 319 and 323 are outgrowths of this cooperative framework. Minute 319 established an environmental flows pilot program for the Colorado River Delta that called for the delivery of 158,088 acre-feet of water as base flow and pulse flow.<sup>341</sup> Participants in the program not only included the United States and Mexico, but also a binational coalition of environmental organizations, all of which were represented on an Environmental Flows Team that developed a delivery plan for the flows.<sup>342</sup> Five years later, Minute 323 carried the torch further, adopting a new environmental flows program that reflects “continued interest” in the delta’s ecology.<sup>343</sup> Yet again the relationships bridging this program are key. The United States, Mexico, and a binational coalition of environmental organizations teamed up to contribute 210,000 acre-feet of water and \$27 million dollars in one-third increments, though even larger contributions had been recommended by a Binational Environmental Work Group.<sup>344</sup> Composed of representatives from the United States, Mexico, and the binational coalition, that Work Group will implement the program until Minute 323’s expiration on December 31, 2026.<sup>345</sup>

Floating upstream from the delta, related collaboration in Colorado River governance can be seen in the U.S. portion of the basin, growing partly from the Endangered Species Act (ESA) and partly from the Grand Canyon Protection Act.<sup>346</sup> Three multi-stakeholder programs have spawned from the former statute, all of which aim to recover (or work toward the recovery of) endangered or threatened fish species: (1) the Upper Colorado River Endangered Fish Recovery Program

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340. *Id.* at 2.

341. MINUTE 319, *supra* note 286, at 11–14. 52,696 acre-feet and 105,392 acre-feet were specified for base flow and pulse flow, respectively. *Id.* at 14. The environmental results of the pilot program are addressed in INT’L BOUNDARY & WATER COMM’M, MINUTE 319 COLORADO LIMITROPHE AND DELTA ENVIRONMENTAL FLOWS MONITORING FINAL REPORT (2018), [https://www.ibwc.gov/Files/Minute\\_319\\_Monitoring\\_Report\\_112818\\_FINAL.pdf](https://www.ibwc.gov/Files/Minute_319_Monitoring_Report_112818_FINAL.pdf) [hereinafter FINAL REPORT]. Base flow volumes of 57,621 acre-feet ended up being delivered to three restoration areas (Miguel Aleman, El Chausse, and Laguna Grande) and to the Colorado River channel in Mexico during Minute 319’s term. *Id.* at 11. The pulse flow was delivered over an eight-week period from March 23, 2014 to May 18, 2014. *Id.*

342. MINUTE 319, *supra* note 286, at 12; FINAL REPORT, *supra* note 341, at 6.

343. MINUTE 323, *supra* note 286, at 15–18.

344. *Id.* at 16.

345. *Id.* at 16–17, 22.

346. Endangered Species Act, 16 U.S.C. §§ 1531-1544 (2019); Grand Canyon Protection Act of 1992, Pub. L. No. 102-575, § 1802(a), 106 Stat. 4669 [hereinafter GCPA].

(“Upper Basin Program”),<sup>347</sup> (2) the San Juan River Basin Recovery Implementation Program (“San Juan Program”),<sup>348</sup> and (3) the Lower Colorado River Multi-Species Conservation Program (“Lower Colorado River Program”).<sup>349</sup> Extending from the latter statute, in turn, is the Glen Canyon Dam Adaptive Management Program (GCDAMP).<sup>350</sup>

The dual orientation of these programs is, respectfully, a head trip. Consider the Upper Basin Program’s purpose for illustration: “[T]o recover endangered fish in the Upper Colorado River Basin while water development proceeds in accordance with federal and state laws and interstate compacts.”<sup>351</sup> The San Juan and Lower Colorado River programs are similarly driven by mixed recovery-development mandates.<sup>352</sup> Although anchored in a different statute, the GCDAMP exists in a confined institutional space as well. Any recommendations for Glen Canyon Dam’s operation offered to the Secretary of the Interior must heed two congressional commands. The Secretary must operate the dam “in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established.”<sup>353</sup> Yet the Secretary must fulfill that mandate “in a manner fully consistent with and subject to” the pre-existing swath of laws governing “allocation, appropriation, development, and exportation of the waters of the Colorado River Basin”—Colorado River Compact, U.S.-Mexico Treaty, Upper Basin Compact, *Arizona v. California* decree, etc.<sup>354</sup> What stories are we telling ourselves in this

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347. *General Information*, UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM, <https://coloradoriverrecovery.org/general-information/general-information.html> (last visited April 25, 2021).

348. *Welcome*, SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM, <https://www.fws.gov/southwest/sjrrip/index.cfm> (last visited April 25, 2021).

349. *General Program*, LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM, [https://www.lcrmscp.gov/general\\_program.html](https://www.lcrmscp.gov/general_program.html) (last visited April 25, 2021).

350. *Glen Canyon Dam Adaptive Management Program*, BUREAU OF RECLAMATION, <https://www.usbr.gov/uc/progact/amp/index.html> [hereinafter GCDAMP] (last visited April 25, 2021).

351. *About the Upper Colorado River Endangered Fish Recovery Program*, UPPER COLORADO RIVER ENDANGERED FISH PROGRAM, <https://coloradoriverrecovery.org/general-information/about.html> [hereinafter *About*] (last visited April 25, 2021).

352. *See Welcome*, *supra* note 348 (“The SJRIP was established to recover the Colorado pikeminnow and the razorback sucker while allowing water development and management activities to continue in the San Juan River Basin.”); *General Program*, *supra* note 349 (describing Lower Colorado River Program as “work[ing] toward the recovery of species currently listed under the [ESA],” “reduc[ing] the likelihood of additional species listings,” “accommodat[ing] current water diversions and power production,” and “optimiz[ing] opportunities for future water and power development by providing ESA compliance.”).

353. GCPA, *supra* note 346, at § 1802(a).

354. *Id.* § 1802(b).

space? No doubt the prospect of irreconcilability is heavy.<sup>355</sup> Are we avoiding that truth?

Despite their dual orientation, one unmistakable thing about these programs is their place within the collaborative trend in Colorado River governance. For context, they came into being in 1988 (Upper Basin Program),<sup>356</sup> 1992 (San Juan Program),<sup>357</sup> 1997 (GCDAMP),<sup>358</sup> and 2005 (Lower Colorado River Program).<sup>359</sup> Their structures vary in scope and composition but uniformly take multi-stakeholder collaborative forms. The most extensive is the Lower Colorado River Program, which encompasses in its Steering Committee fifty-seven entities, including “state and Federal agencies, water and power users, municipalities, Native American tribes, conservation organizations, and other interested parties.”<sup>360</sup> The other programs are smaller in scale yet involve similar stakeholder representation.<sup>361</sup> In total, a dozen tribal sovereigns collaborate in one or more of the programs.<sup>362</sup> Whether their mixed mandates are indeed capable of reconciliation—and what specific actions should be taken to that end—are matters entrusted to the representatives of those Native communities alongside their collaborators.

## 2. Tribal Water Rights

An adjacent area of collaborative Colorado River governance springs directly from *Arizona v. California*. Recall how *Winters* established the existence of Indian reserved rights, and how *Arizona v. California* affirmed that existence in the

355. The most thoughtful, exhaustive source on the efficacy of these programs is ADLER, *supra* note 15. Also notable is Joseph M. Feller, *Collaborative Management of Glen Canyon Dam: The Elevation of Social Engineering over Law*, 8 NEV. L.J. 896 (2008).

356. *About*, *supra* note 351.

357. U.S. FISH & WILDLIFE SERV., ASSESSMENT AND REVIEW OF THE SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM’S PROGRESS TOWARD RECOVERY (2018).

358. GCDAMP, *supra* note 350.

359. *History*, LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM, <https://www.lcrmscp.gov/history.html> (last visited April 25, 2021).

360. *General Information*, *supra* note 347.

361. *About*, *supra* note 351; *Program Partners*, SAN JUAN RIVER BASIN RECOVERY IMPLEMENTATION PROGRAM, [https://www.fws.gov/southwest/sjrip/GB\\_PP.cfm](https://www.fws.gov/southwest/sjrip/GB_PP.cfm) (last visited April 25, 2021); *Glen Canyon Dam, Adaptive Management Program, Adaptive Management Work Group*, BUREAU OF RECLAMATION, <https://www.usbr.gov/uc/progact/amp/amwg.html> (last visited April 25, 2021) [hereinafter *Work Group*].

362. No tribal sovereigns participate in the Upper Basin Program. *General Information*, *supra* note 347. The Jicarilla Apache Nation, Navajo Nation, Southern Ute Indian Tribe, and Ute Mountain Ute Indian Tribe participate in the San Juan Program. *Program Partners*, *supra* note 361. The Hualapai Tribe, Hopi Tribe, Navajo Nation, Pueblo of Zuni, Southern Paiute Consortium (Kaibab Band of Paiute Indians and Paiute Indian Tribe of Utah), and San Juan Southern Paiute Tribe are members of the GCDAMP’s Adaptive Management Work Group. *Work Group*, *supra* note 361; *Southern Paiute Consortium*, KAIBAB BAND OF PAIUTES, <https://www.kaibabpaiute-nsn.gov/SPC.html> (last visited April 25, 2021). The Hualapai Tribe, Colorado River Indian Tribes, and Chemehuevi Tribe are members of the Lower Colorado River Program’s Steering Committee. *Steering Committee*, LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM, [https://www.lcrmscp.gov/steer\\_committee/governance.html](https://www.lcrmscp.gov/steer_committee/governance.html) (last visited April 25, 2021).



Colorado River Basin, as well as announced the PIA quantification standard.<sup>363</sup> As mentioned earlier, the Supreme Court applied these holdings along the Lower Colorado River to recognize and to quantify the reserved rights of five tribes with reservations adjacent to the mainstem.<sup>364</sup> But what about the twenty-five basin tribes whose reserved rights weren't adjudicated in *Arizona v. California*? How should their water rights be addressed, and what should be understood about them (as well as the adjudicated rights) at this time, particularly given the basinwide supply-demand imbalance? Two lines of collaboration stem from these questions.

Tribal water rights settlements are an initial line. *Arizona v. California* illustrates adjudication as an adversarial path for addressing Indian reserved rights. Colorado River Basin tribes (and others) who walk it may “win the battle but lose the war” as it were. They may succeed in gaining recognition and quantification of their reserved rights in a judicial decree—securing “paper water”—but nonetheless be stranded without funding and infrastructure to translate the “paper water” into “wet water” within their communities, not to mention being encumbered by hefty legal bills and potential carnage to their relationships with other litigants.<sup>365</sup> While it is not utopic, negotiation exists as an alternative, cooperative path for avoiding these drawbacks.<sup>366</sup> It's been the preferred path for basin tribes in *Arizona v. California's* wake,<sup>367</sup> and the same goes for their trustee—the federal government—particularly since 1990.<sup>368</sup>

A total of thirty-six tribal water rights settlements have been formed in the United States—a trend whose genesis can be traced to the Colorado River Basin with the Ak-Chin Indian Water Rights Settlement Act in 1978.<sup>369</sup> Fourteen additional settlements have been forged by basin tribes since then,<sup>370</sup> and two pending

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363. *Winters v. United States*, 207 U.S. 564, 576–77 (1908); *Arizona v. California*, 373 U.S. 546, 600–01 (1963).

364. *Arizona v. California*, 547 U.S. 150, 157–58 (2006).

365. *See, e.g.*, CONGRESSIONAL RESEARCH SERVICE, INDIAN WATER RIGHTS SETTLEMENTS 2 (2020), <https://crsreports.congress.gov/product/pdf/R/R44148> [hereinafter CRS REPORT].

366. For a thoughtful study of negotiated settlements as an alternative to adjudications, *see* DANIEL MCCOOL, NATIVE WATERS: CONTEMPORARY INDIAN WATER SETTLEMENTS AND THE SECOND TREATY ERA (2002).

367. To be clear, adjudications may prompt negotiated settlements. CRS REPORT, *supra* note 365, at 3.

368. *Id.* at 1–3. U.S. Dept. of the Interior, Criteria and Procedures for the Participation of the Federal Government in Negotiations for the Settlement of Indian Water Rights Claims, 55 Fed. Reg. 9223 (Mar. 12, 1990) (“It is the policy of this Administration . . . that disputes regarding Indian water rights should be resolved through negotiated settlements rather than litigation.”), [https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/1990-03-12\\_Criteria%20%26%20Procedures%20IWR\\_C%26P.pdf](https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/1990-03-12_Criteria%20%26%20Procedures%20IWR_C%26P.pdf).

369. CRS REPORT, *supra* note 365, at 6–8.

370. These settlements include the Southern Arizona Water Rights Settlement Act (1982); Salt River Pima-Maricopa Indian Community Water Rights Settlement Act (1988); Fort McDowell Indian

settlements involving basin tribes are currently in Congress.<sup>371</sup> How these settlements are composed varies by instrument. They differ in terms of the amounts of water use authorized; types of water sources from which tribal water rights will be fulfilled (*e.g.*, surface water versus groundwater); types of water uses in which tribes can engage (*e.g.*, domestic, irrigation, instream flows); permissibility of off-reservation water marketing; and funding sources and cost-share requirements.<sup>372</sup> What these features look like depends upon context—or, put differently, relationships. And that circles back to the core point. Negotiated settlements touch on interests, often essential values and aspirations, held by a host of parties: basin tribes; diverse, sometimes conflicting federal agencies; basin-state and local water resource agencies; non-Indian water users; environmental organizations, etc.<sup>373</sup> Despite these parties' diverse interests—and how they shape particular negotiated settlements—the takeaway is simply that the settlements trend since the late 1970s shows a willingness to seek common ground through cooperation. That's a different angle on dispute resolution than *Arizona v. California*. And it is a defining thread in the history of Colorado River governance.

A parallel line of developments has accompanied the settlements trend, too. The heightened imbalance in basinwide water supplies and demands over the past two decades has correlated with a heightened interest in the status of tribal water rights across the community of communities. How many basin tribes' water rights have not yet been recognized and quantified through negotiated settlements or adjudications? To what extent are basin tribes whose water rights have been recognized and quantified currently utilizing those rights? What are basin tribes' plans for future water development? These questions speak to a fitting metaphor: tribal water rights as a post-*Arizona v. California* "cloud" hovering over the Colorado River Basin.<sup>374</sup> It arguably looms larger than ever because of the supply-demand imbalance.

Yet again, though, collaboration is being used for adaptation—specifically, for gaining a better understanding of basin tribes' water rights as informed by the questions above.

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Community Water Rights Settlement Act (1990); Jicarilla Apache Tribe Water Rights Settlement Act (1992); San Carlos Apache Tribe Water Rights Settlement Act (1992); Ute Indian Rights Settlement Act (1992); Yavapai-Prescott Indian Tribe Water Rights Settlement Act (1994); Shivwits Band of the Paiute Indian Tribe of Utah Water Rights Settlement Act (2000); Zuni Indian Tribe Water Rights Settlement Act (2003); Arizona Water Settlements Act (2004); Northwestern New Mexico Rural Water Projects Act (2009); White Mountain Apache Tribe Water Rights Quantification Act (2010); Bill Williams River Water Rights Settlement Act (2014). *Id.* at 6–8.

371. These settlements are the Navajo Utah Water Rights Settlement Act and the Hualapai Tribe Water Rights Settlement Act. *Id.* at 18–19.

372. *Id.* at 6–8, 11–14, 16.

373. BONNIE G. COLBY, JOHN E. THORSON & SARAH BRITTON, NEGOTIATING TRIBAL WATER RIGHTS: FULFILLING PROMISES IN THE ARID WEST 31–38 (2005).

374. See generally Amy Cordalis & Daniel Cordalis, *Indian Water Rights: How Arizona v. California Left an Unwanted Cloud over the Colorado River Basin*, 5 ARIZ. J. ENVTL. L. & POL'Y 333 (2014).

Partly fitting this bill is the Bureau of Reclamation's Colorado River Basin Water Supply and Demand Study (Basin Study) completed in 2012.<sup>375</sup> Projecting a potential basinwide supply-demand imbalance of 3.2 million acre-feet (maf) annually by 2060,<sup>376</sup> the study was collaborative in several respects, including its crowdsourcing of options for addressing the imbalance.<sup>377</sup> Content on tribal water rights appeared in the study, including (1) a determination that "quantified tribal diversion rights comprise about 2.9 maf in the Basin," and (2) an acknowledgment that a dozen tribes have unquantified rights and claims for which future demand "will be a factor impacting Basin-wide water availability."<sup>378</sup> Of greatest relevance here, however, is the fact that the study was a mixed bag from the standpoint of relationships—federal-tribal relations in particular:

At the outset of the Study, the [tribes of the Ten Tribes Partnership] were not represented on the steering committee established for the Study; membership was limited to representatives of the Bureau and the Basin States. Nor did the Ten Tribes feel that they had much of a role in it because they were relegated to participation on sub-teams that were used to develop technical data for the Study. Because it

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375. COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, BUREAU OF RECLAMATION, <https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/index.html> (last updated Dec. 11, 2018).

376. BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, STUDY REPORT SR-34 to -35 (2012), [https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Study%20Report/CRBS\\_Study\\_Report\\_FINAL.pdf](https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Study%20Report/CRBS_Study_Report_FINAL.pdf) [hereinafter STUDY REPORT].

377. This crowdsourcing is apparent in BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, TECHNICAL REPORT F—DEVELOPMENT OF OPTIONS AND STRATEGIES (2012), [https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20F%20-%20Development%20of%20Options%20and%20Strategies/TR-F\\_Development\\_of\\_Ops&Strats\\_FINAL.pdf](https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20F%20-%20Development%20of%20Options%20and%20Strategies/TR-F_Development_of_Ops&Strats_FINAL.pdf) [hereinafter TECHNICAL REPORT F]; BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, TECHNICAL REPORT G—SYSTEM RELIABILITY ANALYSIS AND EVALUATION OF OPTIONS AND STRATEGIES (2012), [https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20G%20-%20System%20Reliability%20Analysis%20and%20Evaluation%20of%20Options%20and%20Strategies/TR-G\\_System\\_Reliability\\_Analysis\\_FINAL.pdf](https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20G%20-%20System%20Reliability%20Analysis%20and%20Evaluation%20of%20Options%20and%20Strategies/TR-G_System_Reliability_Analysis_FINAL.pdf) [hereinafter TECHNICAL REPORT G].

378. BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, TECHNICAL REPORT C—WATER DEMAND ASSESSMENT C-38 (2012), [https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20C%20-%20Water%20Demand%20Assessment/TR-C-Water\\_Demand\\_Assessment\\_FINAL.pdf](https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20C%20-%20Water%20Demand%20Assessment/TR-C-Water_Demand_Assessment_FINAL.pdf) [hereinafter TECHNICAL REPORT C]. The Basin Study identified the following tribes as holding unquantified rights and claims: Navajo Nation, Ute Mountain Ute Tribe, Havasupai Tribe, Hopi Tribe, Hualapai Tribe, Kaibab Band of Paiute Indians, Pascua Yaqui Tribe, San Carlos Apache Tribe, San Juan Southern Paiute Tribe, Tohono O'odham Nation, Tonto Apache Tribe, and Yavapai-Apache Nation. *See also* BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, TECHNICAL REPORT C—WATER DEMAND ASSESSMENT, APPENDIX C9, TRIBAL WATER DEMAND SCENARIO QUANTIFICATION (2012), [https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20C%20-%20Water%20Demand%20Assessment/TR-C\\_Appendix9\\_FINAL.pdf](https://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Technical%20Report%20C%20-%20Water%20Demand%20Assessment/TR-C_Appendix9_FINAL.pdf).

appears that the study was to be a decision document which could significantly adversely impact tribal water rights and the tribal usage of water in the future[,] exclusion from the steering committee became a matter of great concern of the Partnership. This shortcoming and other concerns were raised with the Bureau of Reclamation reminding the Bureau of the United States' trust responsibility to them in the protection of their water and of the tribes' sovereign status in control of their water.<sup>379</sup>

In short, the study got off to a rocky start. To its credit, the Bureau responded by engaging in outreach with basin tribes, which yielded the tribal water rights content above.<sup>380</sup> What was clear from the landmark project, though, was the need for further collaboration.<sup>381</sup>

Enter the Colorado River Basin Ten Tribes Partnership Tribal Water Study (Tribal Water Study).<sup>382</sup> Completed six years after the Basin Study, in 2018, the Tribal Water Study's most salient feature for present purposes yet again concerns relationships—namely, the study's joint preparation by the Bureau of Reclamation and the Ten Tribes Partnership. As described by Reclamation Commission Brenda Burman in her foreword:

Recognizing the importance of furthering the understanding of tribal water (both currently and in the decades ahead), the Bureau of Reclamation and the Ten Tribes Partnership collaborated in this Study to document Partnership Tribes' water use and potential future water development to better facilitate planning and decision-making throughout the Basin. The partnerships forged and strengthened

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379. *Colorado River Basin Tribes Partnership, Hearing Before the Subcomm. on Water and Power of the Comm. on Energy and Natural Resources United States Senate*, 113th Cong. 1st Sess. 20 (July 16, 2013) (testimony of T. Darryl Vigil, Chairman), <https://www.govinfo.gov/content/pkg/CHRG-113shrg86774/pdf/CHRG-113shrg86774.pdf> [hereinafter Vigil Testimony]. The Ten Tribes Partnership consists of the Cocopah Indian Tribe, Chemehuevi Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Indian Tribe, Jicarilla Apache Nation, Navajo Nation, Southern Ute Indian Tribe, Ute Indian Tribe of the Uintah and Ouray Reservation, and Ute Mountain Ute Indian Tribe. *Tribes of the Colorado River Basin*, TEN TRIBES PARTNERSHIP, <https://tentribespartnership.org/tribes-of-the-colorado-river-basin/> (last visited April 25, 2021). Formed in 1992, the Ten Tribes Partnership's goal is "to increase the influence of tribes in Colorado River management and provide support for the protection and use of tribal water resources." *Keepers of the River*, TEN TRIBES PARTNERSHIP, <https://tentribespartnership.org/> (last visited April 25, 2021).

380. Vigil Testimony, *supra* note 379, at 20–21.

381. COLORADO RIVER BASIN TRIBES PARTNERSHIP & U.S. DEPT. OF INTERIOR, AGREEMENT REGARDING IMPORTANCE OF THE COLORADO RIVER BASIN TRIBAL WATER STUDY AS IDENTIFIED IN THE COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY (2013), <https://www.usbr.gov/lc/region/programs/crbstudy/agreement.pdf> [hereinafter TRIBAL WATER STUDY AGREEMENT].

382. TRIBAL WATER STUDY, *supra* note 19.

during this Study will prove to be critical as we collaboratively address the significant challenges ahead.<sup>383</sup>

This sentiment echoed an accompanying foreword by the Ten Tribes Partnership:

We hope this Report informs, resolves some uncertainty about how tribes perceive the future for their water uses, and establishes a baseline for discussions and development of relationships among tribes, states, the federal government, water managers, and water users throughout the Basin.

No doubt the study did that baseline job. Like the Basin Study, the Tribal Water Study is extensive, but one key figure connecting the documents deserves a sober look: “Partnership Tribes have reserved water rights, including unresolved claims, to divert nearly 2.8 million acre-feet per year (AFY) of water from the Colorado River and its tributaries.”<sup>384</sup> To reiterate, accounting for twenty-eight basin tribes (versus just the Partnership Tribes), the Basin Study calculated “quantified tribal diversion rights comprise about 2.9 maf in the Basin,” and also identified a dozen tribes with “unquantified rights and claims.”<sup>385</sup> That’s *huge*—a cloud indeed. And, to be clear, the Tribal Water Study painted a clear picture of what the future holds. Basin tribes intend to have outstanding reserved rights claims resolved.<sup>386</sup> They plan to secure water infrastructure projects promised to them, to maximize on-reservation use of water, and to pursue off-reservation transfers.<sup>387</sup> Further, as an overarching priority, they aim to ensure “[t]he federal government firmly asserts and exercises its trust responsibility to protect the [tribes’] reserved water rights in all its management actions related to the Colorado River.”<sup>388</sup> Negotiation and implementation of the new management framework are precisely such actions.

### 3. Allocation Framework

Before turning to the new management framework in earnest, one final strand of collaborative Colorado River governance must be brought to light. It, too, involves deep concerns about equity and climate change, albeit from a slightly different angle than the collaborations over tribal water rights. A seemingly basic question drives this final strand: How should the Law of the River’s allocation framework adapt to climate change? The past two decades have seen a wide range

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383. *Id.* at i.

384. *Id.* at 5.11-1.

385. TECHNICAL REPORT C, *supra* note 378, at C-38, C-40.

386. TRIBAL WATER STUDY, *supra* note 19, at appx. 1B-1.

387. *Id.*

388. *Id.*

of answers to this question, internationally and domestically, all of which reveal incremental (versus transformative) adaptation. While the substance of these novel measures is important, even more so are their collaborative origins.

Understanding things at the international level requires circling back to Minutes 319 and 323. Not to touch on Colorado River Delta restoration this go-around,<sup>389</sup> but rather to consider an equally timely, compelling topic: implementation of the international apportionment in the face of climate change. The U.S.-Mexico Treaty itself deserves brief mention in this vein. It includes an “escape clause” in Article 10(b) ostensibly allowing the United States to reduce annual treaty flow deliveries to Mexico in the case of “extraordinary drought” or “serious accident to the irrigation system in the United States.”<sup>390</sup> Unfortunately, however, problems with the clause’s text make it difficult if not impossible to apply on the ground.<sup>391</sup> “All told, it seems extremely unlikely that the United States can, as a practical matter, ever expect to rely on article 10 to reduce deliveries to Mexico.”<sup>392</sup> A natural question thus arises: how exactly should the treaty be implemented given climate change’s impacts on the basin’s hydrology?

Minutes 319 and 323 brought about some creative, collaborative solutions—innovations that will stay in effect until December 31, 2026 under the latter minute.<sup>393</sup>

Shortage sharing is one angle. With its adoption in 2012, Minute 319 put into place a shortage-sharing regime for treaty flows, hinging annual deliveries on Lake Mead’s elevation—specifically, on elevation tiers with graduated delivery reductions that tracked domestic counterparts established in 2007 by the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (Interim Guidelines).<sup>394</sup> Five years later, in 2017, Minute 323 picked up this thread. Recognizing “it is in their mutual interests to continue to proactively address the potential for unprecedented reductions on the Colorado River,” the United States and Mexico not only agreed to an analogue to Minute 319’s shortage-sharing regime, but also mapped out a binational water scarcity contingency plan.<sup>395</sup> It was framed around updated elevation tiers for Lake Mead mirroring those of a domestic Lower Basin Drought Contingency Plan in the works

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389. Delta restoration is discussed *supra* Part III.B.1.

390. Treaty, *supra* note 27, at Art. 10(b).

391. Robison, *supra* note 253, at 503–05.

392. Meyers & Noble, *supra* note 273, at 413.

393. MINUTE 323, *supra* note 286, at 22. Although our focus here is on Minutes 319 and 323, they came on the heels of important predecessor Minutes also illustrative of the collaborative trend. See, e.g., 7D REVIEW, *supra* note 29, at 7–9 (identifying cooperative elements of Minutes 316, 317, and 318).

394. MINUTE 319, *supra* note 286, at 6–7; U.S. DEP’T OF THE INTERIOR, RECORD OF DECISION, COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD (2007), <https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf> [hereinafter INTERIM GUIDELINES].

395. MINUTE 323, *supra* note 286, at 3–8.

at the time of Minute 323's adoption.<sup>396</sup> The binational plan would take effect once the domestic plan had.<sup>397</sup>

Another area of innovation involves what looks like international water banking, though those terms were purposefully not used in Minutes 319 or 323.<sup>398</sup> The basic idea in this space is to enable Mexico to store unused treaty flows in Lake Mead—U.S. infrastructure—for delivery at a later date. Minute 319 provided for this arrangement in two circumstances: (1) where Mexico was unable to use treaty flows due to infrastructure repairs from a 2010 earthquake in Mexicali, and (2) where Mexico chose to rely on water yielded from conservation projects (*e.g.*, canal lining) or augmentation projects (*e.g.*, desalination plants) in lieu of treaty flows.<sup>399</sup> As with the shortage-sharing regime, Minute 323 carried this cooperation forward. Unified under a concept dubbed “Mexico’s Water Reserve,” Minute 323 authorizes Mexico to store unused treaty flows in Lake Mead in both circumstances just noted, and also establishes a replenishable “Revolving Account for Mexican waters in storage in the United States.”<sup>400</sup>

This collaboration over the international apportionment hasn’t occurred in a vacuum, but rather in conversation with domestic developments. Climate change has spurred the invention and implementation of a host of measures within the U.S. portion of the basin during the past two decades. For sake of brevity, two instruments make the shortlist here: the 2007 Interim Guidelines and the 2019 Drought Contingency Plans.<sup>401</sup>

Climate change hit reservoirs and relationships hard when the megadrought set on in the Colorado River Basin in 2000.<sup>402</sup> A few years into the ordeal, “tensions among the Basin States brought the basin closer to multi-state and inter-basin litigation than perhaps any time since the adoption of the [Colorado River

396. *Id.* at 6–8.

397. *Id.* at 7.

398. Robison, *supra* note 253, at 507.

399. MINUTE 319, *supra* note 286, at 4, 7–10.

400. MINUTE 323, *supra* note 286, at 8–9. Treaty flows stored in the first circumstance are called “Emergency Storage,” while treaty flows stored in the second circumstance are called “Intentionally Created Mexican Allocation” (ICMA). *Id.* at 8.

401. INTERIM GUIDELINES, *supra* note 394. Several documents constitute the Upper Basin and Lower Basin drought contingency plans. *Colorado River Basin Drought Contingency Plans*, BUREAU OF RECLAMATION, <https://www.usbr.gov/dcp/finaldocs.html> (last visited April 25, 2021). The collaborative trend in Colorado River governance can also be gleaned from various complementary domestic measures commenced in 2014: a Pilot System Conservation Program, a Memorandum of Understanding for Pilot Drought Response Actions, and a host of conservation agreements, including several involving basin tribes. 7D REVIEW, *supra* note 29, at 9, 37 tbl. 4.

402. 7D REVIEW, *supra* note 29, at 2 (“During the years 2000 through 2004, the Colorado River Basin . . . experienced the lowest five-year average annual hydrology in the observed record, reducing combined storage in Lake Powell and Lake Mead from 55.7 million acre-feet (maf) (approximately 94 percent of capacity) to 29.7 maf (approximately 52 percent of capacity).”). *See also id.* at 6 (“From October 1, 1999 through September 30, 2007, storage in Colorado River reservoirs fell from 55.8 maf (approximately 94 percent of capacity) to 32.1 maf (approximately 54 percent of capacity), and was as low as 29.7 maf (approximately 52 percent of capacity) in 2004.”).

Compact]” in 1922.<sup>403</sup> How should the flow obligations central to the compact’s apportionment be implemented—particularly the obligation to contribute treaty flows to Mexico—in this heated environment?<sup>404</sup> The Upper Basin and Lower Basin states did not see eye to eye.<sup>405</sup> Thankfully, though, they chose not to stage a twenty-first-century reenactment of *Arizona v. California*, instead seeking resolution of their differences by participating in a process initiated by Secretary of the Interior Gale Norton under the National Environmental Policy Act (NEPA).<sup>406</sup> That process was not a panacea—including with respect to its treatment of basin tribes’ and their water rights—but nonetheless showed earnest efforts by the Bureau of Reclamation to afford opportunities for participation across the basin’s community of communities.<sup>407</sup> Two years later, in 2007, the process bore fruit.<sup>408</sup>

The Interim Guidelines contain a host of collaborative pieces. As is the case at the international level, our focus is on the broad categories of shortage sharing and water banking, though dispute resolution is also discussed in relation to a complementary agreement.

With respect to shortage sharing, what the Interim Guidelines essentially did is find mutually acceptable ways to implement the apportionments of the Colorado River Compact and the *Arizona v. California* decree on an interim basis in response to climate change.<sup>409</sup> Reservoir operating regimes were the tool employed for this purpose.<sup>410</sup>

Relevant to the Colorado River Compact’s apportionment, the Interim Guidelines adopted a coordinated operating regime for Lake Powell and Lake Mead that serves to implement the flow obligations just described as having pushed the basin states toward an *Arizona v. California* repeat upon the megadrought’s onset.<sup>411</sup> In lieu of U.S. Supreme Court litigation aimed at interpreting those flow obligations (and related compact terms), the coordinated operating regime prescribes annual releases from Lake Powell and Lake Mead tailored to the reservoirs’ respective elevations.<sup>412</sup> The collaborative nature of the Interim Guidelines’ formation finds expression in the professed goal for the coordinated operating regime: “to avoid curtailment of uses in the Upper Basin, minimize

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403. INTERIM GUIDELINES, *supra* note 394, at 11.

404. *See* Compact, *supra* note 24, at Arts. III(c)–(d).

405. *See, e.g.*, Robison, *supra* note 253, at 517–19.

406. Robison, *supra* note 253, at 519.

407. Concerns about the treatment of basin tribes and their water rights are acknowledged in 7D REVIEW, *supra* note 29, at 12, 14.

408. INTERIM GUIDELINES, *supra* note 394.

409. These apportionments appear in Article III of the Compact and Article II(B) of the Decree. Compact, *supra* note 24, at Art. III; *Arizona v. California*, 547 U.S. 150, 155–56 (2006).

410. Compact, *supra* note 24.

411. INTERIM GUIDELINES, *supra* note 394, at 49–53.

412. *Id.*



shortages in the Lower Basin[,] and not adversely affect the yield for development available in the Upper Basin.”<sup>413</sup>

As for the *Arizona v. California* decree, the Interim Guidelines provided much-needed specificity about how its Lower Colorado River apportionment would be implemented in the event of a shortage declaration by the Secretary of the Interior (again, the federal watermaster).<sup>414</sup> Hitched to Lake Mead’s elevation—*i.e.*, elevation tiers with graduated delivery reductions—it was this domestic reservoir operating regime that shaped the international counterparts in Minutes 319 and 323 mentioned above.<sup>415</sup> Notably, however, California was not called upon to do *any* sharing under the regime—something time would remedy.<sup>416</sup>

In addition to these shortage-sharing measures, the Interim Guidelines also turned Lake Mead into an interstate water bank, though that terminology was not used in the Record of Decision.<sup>417</sup> Rather, the mechanism being referenced is the Intentionally Created Surplus (ICS) program.<sup>418</sup> It was designed to promote conservation and flexibility in the use of Lower Colorado River water, to bolster storage in Lake Mead and Lake Powell, and to avoid or minimize the impacts of a secretarial shortage declaration.<sup>419</sup> Parties in the Lower Basin states entitled to use Lower Colorado River water (“contractors”) are able to generate ICS through water conservation (“Extraordinary Conservation ICS” or “Tributary Conservation ICS”), capital contributions to water system efficiency projects (“System Efficiency ICS”), and imports of non-Colorado River system water into the mainstem (“Imported ICS”).<sup>420</sup> Once a contractor has created ICS in one of these forms, the contractor can later request the Secretary of the Interior to deliver the ICS, so long as certain conditions are met—*e.g.*, the Secretary has determined an “ICS Surplus Condition” exists within the meaning of the Interim Guidelines.<sup>421</sup> From the perspective of collaboration, it is critical to note that the ICS program rests on a forbearance agreement entered into by Lower Basin contractors.<sup>422</sup> But for this forbearance agreement, the ICS program could *not* have been stood up, as the Secretary’s

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413. *Id.* at 49.

414. See *supra* Part III.A.4; INTERIM GUIDELINES, *supra* note 394, at 36–37.

415. See *supra* Part III.A.4; MINUTE 323, *supra* note 286, at 3–6; MINUTE 319, *supra* note 286, at 6–7.

416. INTERIM GUIDELINES, *supra* note 394, at 36–37.

417. *Id.* at 38–43.

418. The ICS program was preceded by an interstate water banking program adopted by federal regulations in 1999 focusing on offstream storage of Lower Colorado River water—*i.e.*, storage in groundwater aquifers or reservoirs off the mainstem. 43 C.F.R. Pt. 414 (2007). In addition to the ICS program, the Interim Guidelines also established a Developed Shortage Supply (DSS) program that has not been utilized up to this point, as a secretarial shortage declaration has not yet been made. INTERIM GUIDELINES, *supra* note 394, at 44–46.

419. INTERIM GUIDELINES, *supra* note 394, at 27.

420. *Id.* at 38–39.

421. *Id.* at 42–43.

422. *Id.* at 24–25.

deliveries of surplus water would be bound by percentage-based allocations prescribed by the *Arizona v. California* decree.<sup>423</sup>

Beyond the four corners of the Interim Guidelines, a complementary agreement joined by the basin states (Basin States' Agreement) should also be highlighted vis-à-vis the collaborative trend.<sup>424</sup> The agreement addresses dispute resolution—a subject whose importance cannot be overstated given the basinwide relationship stressor that is climate change.<sup>425</sup> The consensus reached by the basin states in the document squarely rebukes *Arizona v. California*:

The Parties recognize that judicial or administrative proceedings are not preferred alternatives to the resolution of claims or controversies concerning the law of the river. In furtherance of this Agreement, the Parties desire to avoid judicial or administrative proceedings, and agree to pursue a consultative approach to the resolution of any claim or controversy.<sup>426</sup>

Consultation is required before any judicial or administrative proceeding can be initiated over the Colorado River Compact's flow obligations or related parts of the Law of the River.<sup>427</sup>

In terms of timeline, a couple things about the Interim Guidelines and the Basin States' Agreement are crucial to flag. First, both are temporary instruments.<sup>428</sup> December 31, 2025 is the Interim Guidelines' general expiration date.<sup>429</sup> That's when the shortage sharing schemes (*i.e.*, reservoir operating regimes) are slated to expire, as well as most parts of the ICS program.<sup>430</sup> The dispute resolution provision (*i.e.*, mandatory consultation requirement) of the Basin States' Agreement will survive an additional five years.<sup>431</sup> Second, the Interim Guidelines included an important measure that would be triggered leading up to the interim period's close: "Beginning no later than December 31, 2020, the Secretary [of the Interior] shall initiate a formal review for purposes of evaluating the effectiveness of these Guidelines."<sup>432</sup> The colloquial term for this formal review is the "7.D. Review," and much more is said about it below.<sup>433</sup>

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423. *Id.* at 27 (Article II(B)(2) of the decree contains the percentage-based allocations); *Arizona v. California*, 547 U.S. 150, 155 (2006).

424. *Agreement Concerning Colorado River Management and Operations* (Apr. 23, 2007), <https://www.usbr.gov/lc/region/programs/strategies/FEIS/App1.pdf> [hereinafter BASIN STATES' AGREEMENT]. This agreement appears as attachment A of the linked document.

425. *Id.* at 10.

426. *Id.*

427. *Id.*

428. *Id.* at 13; INTERIM GUIDELINES, *supra* note 394, at 57–58.

429. INTERIM GUIDELINES, *supra* note 394, at 57–58.

430. *Id.*

431. BASIN STATES' AGREEMENT, *supra* note 424, at 10, 13.

432. INTERIM GUIDELINES, *supra* note 394, at 56.

433. 7D REVIEW, *supra* note 29.

Plugging the Drought Contingency Plans into this storyline, 2012 and 2013 witnessed the lowest two-year runoff period on record in the Colorado River Basin, a turning point in the megadrought that prompted the basin states and Bureau of Reclamation to begin work on these plans.<sup>434</sup> The process spanned several years.<sup>435</sup> Initially scheduled for completion in December 2018, the basin states ultimately submitted the plans to Congress for approval in March 2019,<sup>436</sup> with passage of the Colorado River Drought Contingency Plan Authorization Act following one month later.<sup>437</sup> A massive collaborative effort was required to get there. As Reclamation Commissioner Brenda Burman testified before Congress: “Interior is proud to have worked collaboratively with the States, tribes, non-governmental organizations and other Basin stakeholders on the DCPs. We look forward to continuing our work with the States, tribes, NGOs, key water districts, and Mexico on implementation of the DCPs once they become effective.”<sup>438</sup> And, indeed, basin tribes had been instrumental in making the plans a reality. Perhaps most notable is engagement by the Colorado River Indian Tribes and the Gila River Indian Community in the Lower Basin on the Arizona Drought Contingency Plan Steering Committee—though the tribes had *not* been invited to participate at the start of the process.<sup>439</sup> At the end of the day, with a signing ceremony atop Hoover Dam on May 20, 2019, the Drought Contingency Plans went into effect, marking “an historic accomplishment” in the basin.<sup>440</sup>

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434. *Id.* at 7–8.

435. *See id.* at 8–9.

436. *Drought Contingency Plans Basin States Transmittal Letter and Attachments from the Basin States to Congress* (Mar. 19, 2019), <https://www.usbr.gov/dcp/docs/DroughtContingencyPlansBasinStates-TransmittalLetter-508-DOI.pdf>. After the December 2018 deadline went unmet, the Department of the Interior published in the Federal Register a notice and request for input from the basin states’ governors, alluding to the prospect of unilateral federal actions to ensure water security given the megadrought. Responding to Historic Drought and Ongoing Dry Conditions in the Colorado River Basin: Request for Input, 84 Fed. Reg. 2244, 2245 (Feb. 6, 2019). The Department of the Interior rescinded this notice and request for input once the basin states had submitted the Drought Contingency Plans to Congress. *Department of the Interior Statement: March 19, 2019. Transmittal of Drought Contingency Plans by the Seven Colorado River Basin States and Key Water Districts to Congress for Implementation*, UNITED STATES DEP’T OF THE INTERIOR (Mar. 19, 2019), <https://www.usbr.gov/dcp/docs/BORTransmittal-Statement-508-DOI.pdf>.

437. Colorado River Drought Contingency Plan Authorization Act, Pub. L. No. 116-14, 133 Stat. 850 (2019).

438. Brenda Burman, *Commissioner, Bureau of Reclamation, Statement at the Energy and Natural Resources Committee, Subcommittee on Water and Power, U.S. Senate on Efforts in the Colorado River Basin on the Drought Contingency Plans* (Mar. 27, 2019), <https://www.energy.senate.gov/services/files/3EF1EAC6-51A0-44DC-8DF3-6B17A40B5A12> [hereinafter Burman Testimony].

439. MIKHAIL SUNDUST ET AL., ARIZ. STATE UNIV., *THE ARIZONA DROUGHT CONTINGENCY PLAN: A TRIBAL PERSPECTIVE*, 7–10 (Oct. 2019), [https://aiipi.asu.edu/sites/default/files/the\\_arizona\\_dcp\\_-\\_a\\_tribal\\_perspective.pdf](https://aiipi.asu.edu/sites/default/files/the_arizona_dcp_-_a_tribal_perspective.pdf).

440. Press Release, Bureau of Reclamation, Interior and States Sign Historic Drought Agreements to Protect Colorado River (May 20, 2019), <https://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=66103>.

Simply put, the Drought Contingency Plans are concerned with reservoir protection—*i.e.*, reducing “the likelihood of reaching critical elevation levels in Lake Powell and Lake Mead . . . .”<sup>441</sup> To this end, the plans reflect a common understanding that “additional actions beyond those contemplated in the 2007 Interim Guidelines” are necessary.<sup>442</sup>

The Upper Basin Drought Contingency Plan aims to maintain Lake Powell’s storage to ensure compliance with the Colorado River Compact’s flow obligations, and to sustain hydropower generation and associated revenues at Glen Canyon Dam.<sup>443</sup> Directed toward these goals, the plan includes (1) a Drought Response Operations Agreement generally focused on coordinating operations at Colorado River Storage Project Act reservoirs to keep Lake Powell at a target elevation, and (2) a Demand Management Storage Agreement generally addressing the potential establishment of an Upper Basin Demand Management Program.<sup>444</sup>

As for the Lower Basin Drought Contingency Plan, it’s oriented similarly with respect to maintaining Lake Mead’s storage to avoid secretarial shortage declarations along the Lower Colorado River—as well as hydropower generation and revenues at Hoover Dam—and also outlining how shortages will be shared among the Lower Basin states.<sup>445</sup> The Interim Guidelines’ shortage sharing regime is built out through a scheme of “DCP Contributions” and more extensive elevation tiers that contemplate California shouldering some of the shortage burden (*contra* the guidelines).<sup>446</sup> It is this updated regime that corresponds with Minute 323’s binational water scarcity contingency plan discussed earlier.<sup>447</sup> Lastly, the Lower Basin Drought Contingency Plan modifies the ICS program—including further

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441. AGREEMENT CONCERNING COLORADO RIVER DROUGHT CONTINGENCY MANAGEMENT AND OPERATIONS, BUREAU OF RECLAMATION (May 20, 2019), <https://www.usbr.gov/dcp/docs/final/Companion-Agreement-Final.pdf> [hereinafter COMPANION AGREEMENT].

442. *Id.* See also Burman Testimony, *supra* note 438, at 2 (“Since 2007, the drought has persisted and more action . . . is needed to protect these reservoirs that are essential to our environment and economy.”). The source cited immediately before the parenthetical is where the quote is drawn from.

443. See, e.g., Burman Testimony, *supra* note 438, at 3.

444. BUREAU OF RECLAMATION, AGREEMENT FOR DROUGHT RESPONSE OPERATIONS AT THE INITIAL UNITS OF THE COLORADO RIVER STORAGE PROJECT ACT (2019), <https://www.usbr.gov/dcp/docs/final/Attachment-A1-Drought-Response%20Operations-Agreement-Final.pdf> [hereinafter DROUGHT RESPONSE OPERATIONS AGREEMENT]; BUREAU OF RECLAMATION, AGREEMENT REGARDING STORAGE AT COLORADO RIVER STORAGE PROJECT ACT RESERVOIRS UNDER AN UPPER BASIN DEMAND MANAGEMENT PROGRAM (2019), <https://www.usbr.gov/dcp/docs/final/Attachment-A2-Drought-Management-Storage-Agreement-Final.pdf> [hereinafter DEMAND MANAGEMENT STORAGE AGREEMENT]. These documents are accompanied by COMPANION AGREEMENT, *supra* note 441.

445. The plan includes BUREAU OF RECLAMATION, LOWER BASIN DROUGHT CONTINGENCY PLAN AGREEMENT (2019), <https://www.usbr.gov/dcp/docs/final/Attachment-B-LB-DCP-Agreement-Final.pdf> [hereinafter LOWER BASIN DCP]; BUREAU OF RECLAMATION, EXHIBIT 1 TO THE LOWER BASIN DROUGHT CONTINGENCY PLAN AGREEMENT (2019), <https://www.usbr.gov/dcp/docs/final/Attachment-B-Exhibit-1-LB-Drought-Operations.pdf> [hereinafter EXHIBIT 1]. Again, these documents are accompanied by COMPANION AGREEMENT, *supra* note 441.

446. EXHIBIT 1, *supra* note 445, at 2–5.

447. MINUTE 323, *supra* note 286, at 6–8.

incentivizing participation—so as to bolster Lake Mead’s status as an interstate water bank.<sup>448</sup>

While far more could be said about both Drought Contingency Plans’ content, the main point to convey again concerns relationships. Imagine how much time and effort it took to iron out the details above. Consider, too, how much more of the same it will take for the plans’ implementation. Just like the Interim Guidelines on which they rest, the plans are truly massive collaborative projects. And a final connecting thread drives this point home just a bit more. Recall the Basin States’ Agreement accompanying the Interim Guidelines.<sup>449</sup> Its dispute-resolution provision disavows “judicial or administrative proceedings” as “preferred alternatives to the resolution of claims or controversies or controversies concerning the law of the river.”<sup>450</sup> A consultative approach is called for instead—that is, consultation is mandated as a prerequisite to initiating any such proceedings.<sup>451</sup> Connecting this provision to the Drought Contingency Plans, the exact same approach to dispute resolution appears in those documents.<sup>452</sup>

Looking ahead, the Interim Guidelines’ general expiration date—again, December 31, 2025—also applies to the Drought Contingency Plans.<sup>453</sup> Implementation of the plans over the next several years are scheduled to “occur while Basin State representatives . . . Tribes, NGOs, and the public, begin efforts to develop agreements on longer-term operations that would be adopted beyond 2026.”<sup>454</sup> The plans are thus a “bridge” to the new management framework.<sup>455</sup> Taking place in parallel has been the 7.D. Review. The Bureau of Reclamation undertook it throughout 2020, and one prevalent thread involves the topic animating this whole discussion: “increasing inclusivity of diverse stakeholders and partners” in Colorado River governance.<sup>456</sup> “Since the adoption of the Guidelines,”

448. EXHIBIT 1, *supra* note 445, at 9–12.

449. BASIN STATES’ AGREEMENT, *supra* note 424.

450. *Id.* at 10.

451. *Id.*

452. COMPANION AGREEMENT, *supra* note 441, at 4–5; DROUGHT RESPONSE OPERATIONS AGREEMENT, *supra* note 444, at 11–12; DEMAND MANAGEMENT STORAGE AGREEMENT, *supra* note 444, at 10; LOWER BASIN DCP, *supra* note 445, at 7.

453. The general expiration date is incorporated into COMPANION AGREEMENT, *supra* note 441, at 2, 8; DROUGHT RESPONSE OPERATIONS AGREEMENT, *supra* note 444, at 10; DEMAND MANAGEMENT STORAGE AGREEMENT, *supra* note 444, at 7; *see* EXHIBIT 1, *supra* note 445, at 1. If an Upper Basin Demand Management Program is established, certain provisions bearing on conserved water stored in and released from Colorado River Storage Project Act units will persist until 2057. DEMAND MANAGEMENT STORAGE AGREEMENT, *supra* note 444, at 5–6. The Lower Basin Drought Contingency Plan Agreement is scheduled to terminate “on the later of (i) December 31, 2026; or (ii) the date on which all ICS Accounts and DCP ICS Accounts are reduced to zero ” LOWER BASIN DCP, *supra* note 445, at 2. While the general expiration date applies to this plan’s shortage-sharing regime, nuanced expiration dates apply to the ICS provisions. EXHIBIT 1, *supra* note 445, at 13.

454. Burman Testimony, *supra* note 438.

455. *Id.*

456. 7D REVIEW, *supra* note 29, at 10.

described the Bureau, “the ongoing drought has driven Basin partners to cultivate cooperative relationships for addressing Basin-wide challenges through consensus and collaboration.”<sup>457</sup> And past is prologue. “This expanded inclusivity will continue to forge and strengthen partnerships that will be critical as we address the significant challenges ahead.”<sup>458</sup> It is this continued expansion that we now advocate for.

#### IV. NEXT-GENERATION GOVERNANCE

We can do even better in the Colorado River Basin. While the past several decades have witnessed an array of collaborative governance approaches, existing institutions need to continue evolving to better align with the full sweep of the basin’s community of communities. A key aspect of this pattern involves treating the thirty tribal sovereigns as just that—*sovereigns*—alongside the federal government and the basin states, not as a special type of stakeholder. In this spirit, the material below is woven around a vital, invigorating goal: imagination. Our aim is to envision how next-generation Colorado River governance institutions can be composed to reflect more fully the basin’s character as a community of communities—particularly, though not solely, the new management framework taking shape over the next several years. To clarify, we use the phrase “new management framework” as a reference to the collective body of domestic and international instruments negotiated between now and 2026 stemming from the general expiration of the Interim Guidelines, Drought Contingency Plans, and Minute 323.

We draw heavily on cutting-edge work by the Water & Tribes Initiative (WTI) in this exercise.<sup>459</sup> In February 2019, WTI initiated a conversation at a basinwide workshop about designing a collaborative process to facilitate meaningful participation by tribes and other communities in developing the new management framework.<sup>460</sup> WTI then completed more than 100 confidential interviews with tribal and other leaders in and around the basin to solicit input on process

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457. *Id.* at 14.

458. *Id.*

459. The Water & Tribes Initiative is an ad hoc partnership catalyzed in 2017 to pursue two complimentary objectives: (1) enhance the capacity of tribes to advance their needs and interests with respect to water management in the Colorado River Basin, and (2) advance sustainable water management through collaborative problem-solving. *Water & Tribes Initiative*, UNIV. OF MONT., CTR. FOR NAT. RES. & ENVTL. POLICY, <https://naturalresourcespolicy.org/projects/water-tribes-colorado-river-basin/default.php> (last visited April 25, 2021). WTI is guided by a broad-based Leadership Team, does not speak for any tribe or other entity, and pursues its objectives through facilitation, policy research, and education. *Id.*

460. WATER & TRIBES INITIATIVE, TOWARD A SENSE OF THE BASIN: DESIGNING A COLLABORATIVE PROCESS TO DEVELOP THE NEXT SET OF GUIDELINES FOR THE COLORADO RIVER SYSTEM 2 (2020), <http://naturalresourcespolicy.org/docs/colorado-river-basin/basin-report-2020.pdf> [hereinafter SENSE OF THE BASIN].

options.<sup>461</sup> These interviewees are anonymously referred to as “basin leaders” below. WTI’s interview findings were initially presented at the Colorado River Water Users Association annual meeting in December 2019—where Reclamation Commissioner Brenda Burman encouraged attendees to reflect on past processes, to highlight lessons learned, and to explore options for the future—and the findings were discussed at greater length at a basinwide workshop convened by WTI in February 2020.<sup>462</sup> Ultimately, WTI summarized the results of this work in a report released in June 2020, *Toward a Sense of the Basin*,<sup>463</sup> which both responded to Commissioner Burman’s request and serves as this Part’s foundation.<sup>464</sup>

To be clear, however, the intent in the pages that follow is not only to report what more than 100 basin leaders have said about next-generation Colorado River governance. We also offer our own conclusions and prescriptions to guide the new management framework’s development over the next few years. In addition, building on feedback from many basin leaders during WTI’s interviews, we cast our eyes further into the future, suggesting how these short-term negotiations should be understood and harnessed as a path toward more inclusive, adaptive, and resilient approaches to Colorado River governance beyond 2026.

#### A. Vision

Form should follow function. That proposition is our entry point into next-generation governance institutions for the Colorado River system. They should strive to embody the collective vision of the *whole* community of communities. Whether designed for short- or long-term purposes, Colorado River governance entities and processes should be guided by and responsive to the values and aspirations of the basin community in its entirety. Anything less is exclusionary, provincial, undemocratic, and suspect in light of the basin’s history.

Yet there is a major problem. No recognized forum exists to bring together the basin’s community of communities for dialogue of this sort, and thus there have been few, if any, attempts to forge a consensus-based vision. WTI has sought to bridge this gap.

As a threshold matter, WTI’s interviews with basin leaders throughout 2019 began by asking about their respective visions for the Colorado River system looking out twenty-five, fifty, or even a hundred years.<sup>465</sup> Responses generally fell into two camps, “policy-oriented” visions and “process-oriented” visions,<sup>466</sup> as synthesized below.

From a policy perspective, the most common vision articulated is that next-

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461. *Id.*

462. *Id.*

463. *Id.*

464. *Id.* at 14.

465. *Id.* at 16.

466. *Id.* at 18.

generation governance institutions should foster sustainable, resilient use of the Colorado River system for human beings *and* the rest of nature.<sup>467</sup> Some basin leaders even referred to the new management framework as “sustainability” guidelines.<sup>468</sup> This vision is a call to move away from antiquated institutions that treat the river system as mere plumbing for human beings, and toward contemporary institutions that manage the river system holistically—as an interconnected ecosystem encompassing human beings and the rest of nature.

As for basin leaders’ perspectives on process, four key points were emphasized.<sup>469</sup> First, collaboration should be used as a process of first resort in Colorado River governance, in lieu of litigation or other adversarial options.<sup>470</sup> Second, governance institutions should evolve from ad hoc collaboration to more intentional, ongoing systems of collaborative problem-solving and decision-making.<sup>471</sup> Third, existing institutions should move toward a more adaptive management framework that supports modifying the river system’s operation in sync with changing hydrological conditions.<sup>472</sup> And fourth, Colorado River governance should continue progressing in the direction of a unified system of water management across the basin—*i.e.*, throughout the Upper Basin and Lower Basin and within the United States and Mexico.<sup>473</sup>

Taken together, some basin leaders viewed this combination of policy- and process-oriented visions as marking a paradigm shift too cumbersome and unworkable to guide the new management framework’s development.<sup>474</sup> Conversely, other basin leaders suggested it is important to seek consensus on an overarching vision for the Colorado River system, and then to realize that vision incrementally through a variety of public processes, including but not limited to those associated with the new management framework.<sup>475</sup> In line with the latter view, the basin community should adopt a worldview of “pragmatic idealism,” as described by one basin leader,<sup>476</sup> an unabashedly bold vision coupled with a gradual, incremental approach.

Complementing its interviews with basin leaders, WTI delved more deeply into visions for the Colorado River system by examining those expressed by Native communities.<sup>477</sup> In a policy brief released in October 2020, *A Common Vision for the*

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467. *Id.*

468. *Id.*

469. *Id.* at 16–17.

470. *Id.* at 16.

471. *Id.* at 17.

472. *Id.*

473. *Id.*

474. *Id.*

475. *Id.*

476. *Id.*

477. WATER & TRIBES INITIATIVE, POLICY BRIEF #3, A COMMON VISION FOR THE COLORADO RIVER SYSTEM: TOWARD A FRAMEWORK FOR SUSTAINABILITY (2020), <http://naturalresourcespolicy.org/docs/policybrief3finalweb.pdf> [hereinafter POLICY BRIEF #3].



*Colorado River System*, WTI synthesized vision statements prepared by four tribal groups.<sup>478</sup> They included (1) the Ten Tribes Partnership vision statement; (2) the tribal vision for protecting the Colorado River prepared and ratified by the Cocopah, Chemehuevi, Fort Mojave, Hualapai, and Colorado River Indian Tribes in 2015, and endorsed by the Quechan Tribe in 2019; (3) the Bluff Principles generated through a series of conversations among Hopi and other tribal leaders in Moab and Bluff, Utah in 2016; and (4) the Tribal Water Study jointly completed by the Ten Tribes Partnership and the Bureau of Reclamation in 2018.<sup>479</sup>

Relying on these Native voices, and blending them with what basin leaders had shared during interviews and at related gatherings, WTI identified a number of common values and themes, incorporating them into the following “Resolution for Sustainability”:

*Whereas* water is life; it is a precious, life-giving resource;

*Whereas* water is sacred; it is valued for spiritual, cultural, and ecological purposes as well as for sustaining human populations and economies;

*Whereas* water is foundational to the identities of tribes in the Basin and provides an intrinsic connection to their wellbeing and homelands;

*Whereas* water in the Colorado River system is essential to urban and rural communities; municipal, agricultural, industrial, recreational, and other uses; and to more than 40 million people in two countries, seven states, and [30] sovereign Indian nations; and

*Whereas* natural and cultural resource conservation are connected.

Now, therefore, be it resolved that the next framework to govern the Colorado River system should:

- Promote and support the sustainable, resilient use of the River system for people and the rest of nature;
- Ensure the spiritual, cultural, and ecological integrity of the River system while providing water for human use and consumption;

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478. *Id.*

479. *Id.* at 1–4. See also TRIBAL WATER STUDY, *supra* note 19.

- Equitably allocate water by considering the contemporary diversity of needs, interests, and priorities; historical use patterns; and the realities of drought and climate change;
- Promote and support reliable access to clean water for all residents of the Colorado River system;
- Leave the earth and its water systems better than we found them;
- Honor, respect, and realize the federal government’s trust responsibility toward the Basin’s tribes in a manner that acknowledges their sovereignty and human right to self-determination;
- Engage in collaboration as the action of first resort to develop policy and solve problems; and
- Integrate traditional indigenous knowledge with western science to better understand the River system and the consequences of alternative management scenarios.<sup>480</sup>

This resolution is a great place to begin—a starting point for next-generation Colorado River governance institutions. While it may not exhaustively reflect the values and aspirations of the entire Colorado River Basin community, it does so for a broad segment of that community, articulating a vision for the river system that embraces human beings and the rest of nature, instrumental and intrinsic values, land and water—in short, a holistic vision for a *living* river system. As tribal and other leaders imagine a new management framework over the next several years, we encourage them to think deliberately about this sustainability resolution, and to embrace the wisdom of “pragmatic idealism.” In the spirit of collaboration, these leaders should create opportunities for representatives from diverse communities in and around the basin to discuss the resolution, including how its vision might be refined to account more fully for the values and aspirations of the whole community of communities.

#### B. Navigation

Of course, the vision needs to be realized, too. And the basin community—leaders and otherwise—must be mindful of opportunities and challenges associated with navigating the vision from the realm of values and aspirations to the realm of action. Such navigation involves many questions. Which elements of

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480. POLICY BRIEF #3, *supra* note 477, at 5 (internal citations omitted).

the vision should shape the new management framework for the Colorado River system—the framework itself as well as negotiation processes—and which elements should be addressed elsewhere? Similarly, which elements should be acted on sooner rather than later, and which elements should be approached with a long-sighted view? Further, how should cultural and ecological values be integrated into modeling and decision-making processes used to develop the new management framework? And, in the final analysis, how should the basin community address trade-offs to find an optimal balance between consumptive uses (e.g., drinking water, agriculture, industry, etc.) and non-consumptive uses (e.g., instream flows for fish and wildlife, sustaining plants for traditional and subsistence purposes, ceremonial and spiritual uses, etc.)? Vision-driven navigation of this sort is the essence of collaborative decision-making—working together to achieve shared goals—and should be regarded as the foundation of next-generation Colorado River governance.

This perspective does not come out of the blue. Rather, it has roots in opportunities and challenges shared by basin leaders during WTI's interviews throughout 2019—again, as summarized in *Toward a Sense of the Basin*.<sup>481</sup>

Opportunities abound for next-generation Colorado River governance right now. Time is of the essence. *Carpe diem*. Recall the confluence described above—the synced expiration of the Interim Guidelines, Drought Contingency Plans, and Minute 323 at the end of 2025 and 2026.<sup>482</sup> This confluence creates a blank slate of sorts to bring fresh, creative ideas to bear on governance institutions. Many basin leaders explained that, while it is important to build on lessons learned and existing institutions, the confluence presents a unique opportunity to consider alternative arrangements for managing the river system. It is an exceptional time to encourage experiments and pilot projects aimed at achieving sustainable and resilient water use. Basin leaders pointed to a host of measures involving variations on (1) augmenting supply, (2) reducing demand, (3) modifying operations, and (4) facilitating governance and implementation of operating guidelines and water management strategies.<sup>483</sup> Several basin leaders also noted that the new

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481. SENSE OF THE BASIN, *supra* note 460.

482. *See supra* Part III.B.3.

483. The Bureau of Reclamation's Basin Study addressed numerous measures in these areas. TECHNICAL REPORT F, *supra* note 377; TECHNICAL REPORT G, *supra* note 377. Building on these measures, basin leaders suggested a variety of tools should be more fully developed and employed, at least experimentally: (1) augmenting supply—water recycling/reuse, aquifer recharge/underground storage, desalination, and stormwater collection; (2) reducing demand—new system conservation programs, ICS creation at Lake Powell, drought management at Colorado River Storage Project units, classification of water conservation as a “beneficial use” in basin states, conservation easements for unused tribal water, and compensation for water non-use, including to tribes; (3) modifying operations—incentivizing and

management framework provides a chance to institutionalize ongoing systems of engagement and decision-making.<sup>484</sup> “It is time to acknowledge and accept all the uncertainties facing the basin and that we are going to live in a state of perpetual negotiation to manage the river,” explained one leader.<sup>485</sup> In line with this viewpoint, the confluence marks a special moment for building innovative systems of collaborative, adaptive governance and moving away from more centralized, stationary approaches to decision-making.<sup>486</sup>

What exactly should be done with the new management framework in this moment? It’s no surprise most basin leaders agree the framework should include operational elements similar to those in the Interim Guidelines, Drought Contingency Plans, and Minute 323, including shortage-sharing regimes and coordinated reservoir operations.<sup>487</sup> Many tribal and other leaders, however, also

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liberalizing water trading and sharing in relation to developed and undeveloped tribal water rights, interstate and inter-basin transfers, and agriculture-to-urban transfers; and (4) facilitating governance and implementation—managing growth and linking land use and water planning. *SENSE OF THE BASIN*, *supra* note 460, at 20. Many basin leaders commented that the future of Colorado River system management is less about acquiring and developing water rights (except for tribes) and more about sharing available water resources through trading and other exchange mechanisms. *Id.* at 22 n.4. This perspective is evident in several tools just identified within the reducing demand and modifying operations categories.

484. *SENSE OF THE BASIN*, *supra* note 460, at 20.

485. *Id.*

486. Many basin leaders expressed interest in building on the basin’s collaborative culture and moving slowly—but intentionally—from ad hoc collaborative processes to ongoing collaborative systems of decision-making. *Id.* at 22 n.5. The rationale for this transformation revolves around three observations: (1) the basin community is in an era where decisions must be made in the face of uncertainty, and thus there is an ongoing need to learn what is working or not working and to adapt management; (2) it should be possible to build flexibility into decisional documents (*e.g.*, records of decision entered pursuant to the National Environmental Policy Act) to allow decision-makers to engage in adaptive management without multi-year negotiations and/or congressional consent; and (3) there are significant transaction costs to starting-up basinwide collaborative processes every three to five years. *Id.* In sum, basin leaders are aware of the need to work together, and thus the idea is to establish a more permanent system of collaborative governance to do so efficiently and effectively. Some leaders take this process issue one step further, suggesting the basin community should move (albeit slowly) toward a unified system of management and governance, drawing on increased coordination between the United States and Mexico under Minute 323 and between the Upper Basin and Lower Basin under the Drought Contingency Plans. *Id.* The idea here is to strive for incremental progress toward sustainable water use, to realize that climate change and other external forces are accelerating the timeline for institutional change, and therefore to adjust the basic architecture for governance. By contrast, other leaders prefer an “if it ain’t broke, don’t fix it” approach. *Id.* In other words, the existing ad hoc system of collaborative problem-solving is perceived as working, so let it be and make marginal improvements where it is quick and easy to do so. *Id.* Some leaders also suggested that the basin states may resist this evolution in governance given (1) the Lower Basin states’ (uneasy) partnership with the Bureau of Reclamation along the Lower Colorado River, and (2) the Upper Basin states’ more autonomous system facilitated by the UCRC. *Id.* Another key tension seems to be the degree to which tribes should be treated as co-equal sovereigns alongside the federal and state governments. *Id.*

487. *Id.* at 20. These aspects of the Interim Guidelines, Drought Contingency Plans, and Minute 323 are discussed *supra* Part III.B.3.

suggested it's time to move beyond managing the river system as plumbing for cities and farms, and toward a more robust scheme that better accommodates multiple needs and interests, including tribal sacred and cultural values, ecological and recreational values, and the integration of land and water management.<sup>488</sup> Consistent with WTI's sustainability resolution, the intent here is to articulate a holistic vision for a *living* river system, and then to make incremental progress toward realizing that vision—again, “pragmatic idealism.”<sup>489</sup> During such vision-driven navigation, the basin's community of communities needs to carefully consider trade-offs between water-supply goals and ecosystem-protection and restoration objectives, and to move from a system focused on water use to watershed management.<sup>490</sup>

As for specific issues that should be addressed during the new management framework's development, basin leaders pointed to three Gordian knots of

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488. Many basin leaders acknowledged negotiations over the new management framework will most likely start with existing agreements—particularly, the Drought Contingency Plans—and suggested a logical path forward is to identify gaps in those plans and ways in which they could be improved. By contrast, several leaders suggested that with the synced expiration of the Interim Guidelines, Drought Contingency Plans, and Minute 323, nothing should be placed off the table at the negotiations (at least at the start), and participants should carefully evaluate tradeoffs and return on investment associated with vetting particular issues and solutions. Many leaders endorsed the idea that the negotiations should strike a balance between addressing the most urgent needs and interests (*e.g.*, refining the coordinated operating regime for Lake Powell and Lake Mead) and underlying, unresolved problems (*e.g.*, the structural deficit in the Lower Basin and the Upper Basin states' flow obligations under the Colorado River Compact). The intent in this vein is to consider broader issues as well as to generate an operational plan. The basic rationale is that things have changed in some fundamental ways since the Interim Guidelines were adopted. The basin's community of communities needs to better accommodate the interests of Mexico, tribes, recreationalists, and environmentalists, as well as to acknowledge the reality of climate change. The immediate goal should be to find the sweet spot between the perfect and the practical—again, to craft an inclusive long-term vision and then to take incremental steps towards realizing it.

489. Basin leaders framed this subject in different ways. Here is a representative sample of specific aspects of it: (1) seek agreement on standards or principles for shortage sharing and provide equity in processes and policies for shortage sharing between the United States and Mexico, tribal sovereigns vis-à-vis state and federal sovereigns, the Upper Basin and Lower Basin, agricultural and municipal water users, consumptive and non-consumptive water users, etc.; (2) integrate a shortage-sharing regime(s) with the Glen Canyon Dam Long-Term Experimental and Management Plan, Lower Colorado River Program, Upper Basin Program, San Juan Program, salinity control program, and operating guidelines for all dams and reservoirs in the system; (3) address ecological conditions in the Colorado River Delta as well as issues in and around the Salton Sea; (4) address fish, wildlife, and recreational issues alongside hydropower issues and provide recreational/environmental flows; and (5) produce a comprehensive environmental impact statement and long-term basinwide plan rather than addressing issues in a siloed or fragmented way.

490. Along these lines, some basin leaders commented on the need to clarify legal foundations for ecological protection and restoration in the Colorado River Basin, as well as specific goals and targets for different stretches of the river system (*e.g.*, the Grand Canyon and Colorado River Delta). Without such information water-supply decisions will continue driving the system by default. A few leaders suggested John Wesley Powell's watershed-commonwealths proposal should inform a long-term vision for a sustainable, resilient river system. Powell's proposal is discussed *supra* Part I.

Colorado River governance.<sup>491</sup>

The Lower Basin's "structural deficit" is the first Gordian knot. It generally refers to the imbalance between water supplies and demands in the Lower Basin.<sup>492</sup> Numerous basin leaders raised concerns about it.<sup>493</sup> Most leaders seem to view this imbalance as resulting from multiple years of below-average supplies and excess depletions, and to favor Lower Basin policymakers developing a long-term plan with a realistic water budget aimed at (1) increasing supplies (*e.g.*, augmentation from desalination or other sources); (2) reducing losses (including ways to account for reservoir evaporation and other unavoidable losses); and (3) reducing consumption (*e.g.*, strategies for reducing water demands for agricultural, industrial, and municipal uses through conservation and voluntary purchases or retirement of water rights).<sup>494</sup> Many basin leaders cautioned that the structural deficit will be increasingly difficult to address if water demands increase in the Upper Basin while climate change continues to diminish water supplies.<sup>495</sup>

The second Gordian knot involves the Upper Basin states' flow obligations to the Lower Basin states and Mexico under the Colorado River Compact.<sup>496</sup> Nearly every basin leader commented that the new management framework should address this issue. Many leaders see it as closely tied to the Lower Basin's structural deficit.<sup>497</sup> The general question seems to be whether existing expectations associated with the flow obligations are equitable in light of climate change and potential future development of tribal and/or state water rights in the Upper Basin.<sup>498</sup> Some leaders believe the Upper Basin states need to come to terms with the fact that they will not be able to consume more than 4.5 maf annually from the river system.<sup>499</sup> This issue thus implicates potential development and implementation of a demand management program under the Upper Basin

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491. SENSE OF THE BASIN, *supra* note 460, at 21.

492. More detailed treatment of the structural deficit can be found in Robison, *supra* note 253, at 536–42.

493. SENSE OF THE BASIN, *supra* note 460, at 21.

494. *Id.*

495. *Id.* at 18.

496. Compact, *supra* note 24, at Art. III(c)–(d). One leader explained that the "minimum objective release" from Lake Powell is 8.23 maf annually, accounting for 7.5 maf as an annual average release under Article III(d) plus 750,000 acre-feet as an equal share of Mexico's treaty water under Article III(c). Another leader explained that the 8.23 maf "minimum objective release" from Lake Powell was a function of the Long-Range Operating Criteria's 602(a) storage provision, which is currently superseded by the 2007 Interim Guidelines' elevation tier-based coordinated operating regime for Lake Powell and Lake Mead.

497. SENSE OF THE BASIN, *supra* note 460, at 21.

498. Do climate change's impacts rise to the level of "extraordinary drought" within the meaning of Article 10(b) of the U.S.-Mexico Treaty? Treaty, *supra* note 27, at Art. 10(b). Several basin leaders suggested this issue should be addressed and resolved during negotiations over the new management framework.

499. SENSE OF THE BASIN, *supra* note 460, at 21.

Drought Contingency Plan.<sup>500</sup>

The third issue that rose to the level of a Gordian knot vis-à-vis the new management framework is the recognition, quantification, and utilization of tribal water rights. The Colorado River Basin's tribal sovereigns have quantified rights to divert a large portion of the basin's flows. Alongside the figures noted above from the Basin Study and Tribal Water Study,<sup>501</sup> the most recent counterpart from the Bureau of Reclamation comes from the 7.D. Review.<sup>502</sup> "In addition to currently unquantified rights, Reclamation recognizes that tribes hold quantified rights to a significant amount of water from the Colorado River and its tributaries (approximately 3.4 maf of annual diversion rights) "503 That 3.4 maf figure equates to approximately 23 percent of average annual natural flows at Lees Ferry.<sup>504</sup> Many tribes are not fully using their quantified water rights, however, due to lack of infrastructure, lack of funding, or antiquated and inefficient water systems.<sup>505</sup> In addition, a dozen tribes have unquantified water rights.<sup>506</sup> Yet basinwide demands *already* exceed supplies.<sup>507</sup> While tribes expect to fully use their water rights to satisfy social, economic, and environmental interests, non-Indian parties are concerned about the integration of tribal water rights with existing and future water uses. Recall the cloud metaphor.<sup>508</sup> Although there has been progress in recent decades to address tribal water rights without displacing non-Indian water uses, this issue remains a major concern.

The process of developing a new management framework for the Colorado River system thus provides an ideal opportunity for tribes to work with the federal government, basin states, and other stakeholders to address a number of critical questions about tribal water rights:

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500. DEMAND MANAGEMENT STORAGE AGREEMENT, *supra* note 444.

501. TECHNICAL REPORT C, *supra* note 378, at C-38 (identifying 2.9 maf of quantified annual diversion rights plus a dozen tribes with unquantified rights and claims); TRIBAL WATER STUDY, *supra* note 19, at 5.11-1 ("Partnership Tribes have reserved water rights, including unresolved claims, to divert nearly 2.8 million acre-feet per year . . . from the Colorado River and its tributaries.").

502. 7D REVIEW, *supra* note 29.

503. *Id.* at 14. See also WATER & TRIBES INITIATIVE, POLICY BRIEF #4, THE STATUS OF TRIBAL WATER RIGHTS IN THE COLORADO RIVER BASIN 1 (2021) ("There are 30 federal recognized tribes in the Colorado River Basin. Twenty two of these tribes have recognized rights to use 3.2 million-acre feet (maf) of Colorado River system water annually, or approximately 22 to 26 percent of the Basin's average annual water supply."), <http://www.naturalresourcespolicy.org/publications/policy-brief-4-final-4.9.21-.pdf> [hereinafter POLICY BRIEF #4].

504. Natural flows at Lees Ferry averaged 14.76 maf annually from 1906 to 2018. HOMA SALEHABADI ET AL., CENTER FOR COLORADO RIVER STUDIES, UTAH STATE UNIV., THE FUTURE HYDROLOGY OF THE COLORADO RIVER BASIN 1-2 (2020), <https://qcnr.usu.edu/coloradoriver/files/WhitePaper4.pdf>.

505. This underutilization pattern can be seen in TECHNICAL REPORT C, *supra* note 378, at C-41 fig. C-18.

506. POLICY BRIEF #4, *supra* note 503, at 1, 7 tbl. 3.

507. STUDY REPORT, *supra* note 376, at SR-34 fig. 12.

508. Cordalis & Cordalis, *supra* note 374.

- How can the new management framework encourage the development and use of tribal water rights in a way that is consistent with the principle of tribal self-determination? In other words, what types of provisions should be included in the framework that provide flexibility and opportunities for tribes to use their water rights as they see fit—*e.g.*, to provide access to clean water in Native communities,<sup>509</sup> to sustain cultural and ecological values, and/or to transfer water rights or share them with other water users?
- How can the future development of unused tribal water rights be reconciled with the overall goal of rectifying the basinwide supply-demand imbalance?
- What does the status of tribal water rights in the basin suggest in terms of modeling and scenario planning for the development of the new management framework? What type of information would help tribal and other leaders shape policy options aimed at accommodating tribal water rights and existing non-Indian water uses?

Many basin leaders suggested it is time to explicitly acknowledge the role of tribal sovereigns and their water rights in resolving the basinwide supply-demand imbalance—an approach partly illustrated by the role played by tribes in developing the Lower Basin Drought Contingency Plan.<sup>510</sup> For many basin leaders—particularly, tribal leaders—the role of tribes in the future should be based upon the fundamental principle of self-determination.<sup>511</sup> Tribes should be allowed to develop and use their water rights as they see fit for economic, public health, ecological, or ceremonial reasons. If tribes are interested, the new management framework potentially could establish mechanisms enabling short-term water transfers during shortages, as well as long-term water transfers to better align basinwide supplies and demands. Any such options would move the basin’s community of communities toward a key tenet of next-generation Colorado River governance: respect for tribal sovereignty and self-determination.

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509. For an excellent source on this subject, see WATER & TRIBES INITIATIVE, UNIVERSAL ACCESS TO CLEAN WATER FOR TRIBES IN THE COLORADO RIVER BASIN, EXECUTIVE SUMMARY (2021), <http://www.naturalresourcespolicy.org/projects/water-tribes-colorado-river-basin/3.20-wti-report-executive-summary-final.pdf> [hereinafter UNIVERSAL ACCESS EXECUTIVE SUMMARY].

510. SUNDUST et al., *supra* note 439, at 7–10.

511. Self-determination is the defining principle of federal Indian policy at this time. COHEN’S, *supra* note 179, at 97–113. Further, as set forth in the United Nations Declaration on the Rights of Indigenous Peoples, self-determination is a human right: “Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.” G.A. Res. 61/295, art. 3, United Nations Declaration on the Rights of Indigenous Peoples (Sept. 13, 2007).



### C. Institutions

Given the general consensus around a sustainability vision for the Colorado River system, along with the shortlist of pressing policy issues currently facing the basin, what types of institutions are needed to realize the vision and to navigate the policy issues? Put differently, how do we build on advancements in collaborative governance during recent decades to design next-generation institutions that reflect even more fully the whole character of the basin's community of communities? Questions of this sort about institutional design are critical. We roll out a sequence of ideas in the pages below.

#### 1. Guiding Principles

WTI's interviews with basin leaders in 2019—as summarized in *Toward a Sense of the Basin*<sup>512</sup>—again mark our entry point. Drawing on their experiences with recent processes in the Colorado River Basin, as well as lessons learned from planning and decision-making efforts in other transboundary basins, leaders offered eight key principles aimed not only at guiding the new management framework's development, but also shaping more durable institutions for Colorado River governance over the long haul. These principles are as follows:

- Use NEPA as the foundation for the new management framework's development, particularly provisions on public participation and alternatives analysis.<sup>513</sup>
- Encourage and support informal collaborative processes to supplement the formal NEPA process in order to build awareness, understanding, and consensus across the basin's community of communities.<sup>514</sup>
- Recognize the Secretary of the Interior and/or Reclamation Commissioner will have final decision-making authority in consultation with the basin states.<sup>515</sup>
- Provide opportunities for tribes to meaningfully engage in the new management framework's development as sovereigns, rather than as a special type of stakeholder.<sup>516</sup>
- Structure negotiations over the new management framework to be open,

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512. SENSE OF THE BASIN, *supra* note 460.

513. *Id.* at 26.

514. *Id.*

515. *Id.*

516. *Id.* at 26, 29.

transparent, and inclusive, and to provide opportunities for meaningful participation by any parties interested in or affected by the process.<sup>517</sup>

- Use the best available scientific and technical information, including Indigenous knowledge, to develop the new management framework.<sup>518</sup>
- Seek consensus as much as possible, particularly among basin sovereigns (*i.e.*, federal government, seven basin states, and thirty federally recognized tribes).<sup>519</sup>
- Allow for learning and adaptive management, as we will never have complete knowledge and information, and always manage the river system in the face of change and uncertainty.<sup>520</sup>

## 2. Decision-makers

As these guiding principles reveal, a threshold question in designing any transboundary water institution—including negotiation processes—is, “Who is going to make what decision?” In relation to the new management framework,

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517. *Id.* at 26.

518. In addition to modeling alternative scenarios, many basin leaders explained an informed process is one that fosters mutual learning, common understanding, and consideration of a variety of options. In line with this view, all sovereigns, water users, and stakeholders should have equal opportunities to share views and information. Some leaders suggested the process should provide sufficient time and space for creative, outside-the-box thinking to generate innovative ideas, options, and solutions, including those that might technically fall beyond constraints rooted in existing interpretations of the Law of the River. As one leader expressed, “the crisis of the moment is solved by whatever good ideas are laying around; so, an important part of preparing for and engaging in the next basin-wide negotiation process is to litter the field with good ideas so there are lots of resources available when the decision-making process catches up.” An informed process should also enable participants to develop a range of alternatives to address the purpose and need, realizing no one of them will be perfect. Rather, elements from several alternatives generated by different groups almost certainly will be cobbled together into an agreed-upon package. The Interim Guidelines themselves were based on an alternative that adopted large portions of a basin states’ proposal, but also incorporated concepts from others. BUREAU OF RECLAMATION, FINAL ENVIRONMENTAL IMPACT STATEMENT, COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD 6-3 to 6-5 (2007), <https://www.usbr.gov/lc/region/programs/strategies/FEIS/Chp6.pdf> [hereinafter INTERIM GUIDELINES FEIS].

519. As explained by one group of basin leaders, the goal is to “build a broad coalition of states, water users, tribes, stakeholders, and others that support the preferred alternative or recommendation in the Record of Decision.” SENSE OF THE BASIN, *supra* note 460, at 28.

520. *Id.* Many basin leaders favored development of a twenty-five-year plan rather than a series of three- to five-year plans given the transaction costs of starting and stopping every few years. From a longer-term perspective, the new management framework should create an ongoing process to monitor the Colorado River system, to learn, and to adjust or adapt management strategies. Similar to the Drought Contingency Plans, this process should include explicit triggers to initiate alternative management strategies (*e.g.*, reservoir elevations). *Id.*

basin leaders' answers to that question include a mix of contextual parameters and sovereign and non-sovereign actors.<sup>521</sup>

The foreseeable scenario is identified by the principles. NEPA will structure the formal process for negotiating the new management framework,<sup>522</sup> and the Secretary of the Interior and/or Reclamation Commissioner will have final decision-making authority.<sup>523</sup>

In addition to this dominant federal role, however, most basin leaders opined that the basin states should play a significant role in the new management framework's development. A host of reasons were given: (1) the Colorado River Compact apportions water between the Upper Basin and Lower Basin while recognizing state control over water administration within state boundaries;<sup>524</sup> (2) tribal water use is charged against basin states' apportionments under the Upper Basin Compact and *Arizona v. California* decree;<sup>525</sup> (3) basin states most likely will assume responsibility to build coalitions among diverse constituents within their boundaries; (4) states have constitutional authority to form interstate compacts and agreements;<sup>526</sup> and (5) the federal government generally defers to state water law outside specific contexts (*e.g.*, reserved rights).<sup>527</sup> In light of these parameters, some basin leaders suggested the new management framework might be developed through something akin to the negotiation process for the Drought Contingency Plans, where states initially negotiated agreements that were subsequently enacted as federal law and implemented by a federal agency.<sup>528</sup>

In the final analysis, the process of developing the new management framework most likely will be a hybrid model, where the basin states negotiate an

521. *Id.* at 29–33.

522. *Id.* at 26. NEPA requires federal agencies to prepare environmental impact statements for “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C) (2020). The new management framework's development and implementation qualify as such an action.

523. SENSE OF THE BASIN, *supra* note 460, at 26. Many basin leaders explained that the Bureau of Reclamation may play a host of roles in the negotiations beyond initiating and convening the formal NEPA process, including providing technical expertise, serving as facilitator or mediator, and advising on international negotiations with Mexico.

524. *See, e.g.*, Compact, *supra* note 24, at Art. IV(c).

525. Upper Basin Compact, *supra* note 251, at Art. VII; *Arizona v. California*, 547 U.S. 150, 159 (2006).

526. U.S. CONST. art. I, § 10, para. 3 (“No State shall, without the Consent of Congress . . . enter into any Agreement or Compact with another State . . .”).

527. The Colorado River Basin Project Act further addresses federal-state relations by declaring:

It is the policy of the Congress that the Secretary of the Interior shall continue to develop, after consultation with affected States and appropriate Federal agencies, a regional water plan, consistent with the provisions of this Act and with future authorizations, to serve as the framework under which projects in the Colorado River Basin may be coordinated and constructed.

43 U.S.C. § 1501(b) (2020).

528. SENSE OF THE BASIN, *supra* note 460, at 26.

agreement that is considered as one alternative in the NEPA process. The Interim Guidelines' formation illustrates such an approach.<sup>529</sup> Whether Congress ultimately would need to review the outcome of the NEPA process is an open question that seemingly revolves around which particular funding requests and policy measures are incorporated into the new management framework.

Looking beyond the dominant roles played by the federal and state sovereigns in developing the new management framework, many basin leaders favored the "community of decision-makers" being broader and more inclusive.<sup>530</sup> As noted above in the guiding principles, many leaders suggested that the thirty basin tribes, as sovereigns alongside the federal government and basin states, should have a seat at the decision-making table.<sup>531</sup> This expanded inclusivity in the "community of decision-makers" would not only level the playing field to an extent among basin sovereigns, but also treat tribes as partners with the federal government and basin states rather than as non-sovereign stakeholders per past processes.

To operationalize this idea, several basin leaders suggested creating a Sovereign Review Team comprising representatives from the federal government, basin states, and basin tribes.<sup>532</sup> This approach was used successfully in the Columbia River Basin—which encompasses portions of Idaho, Montana, Oregon, Washington, and Wyoming—to prepare for renegotiation of the Columbia River Treaty between the United States and Canada.<sup>533</sup> The basic premise of this arrangement is that federal, state, and tribal governments share a unique character in being sovereign—a character distinct from myriad non-sovereign stakeholders with interests in the Colorado River system. The sovereign status of these entities elevates them into the "community of decision-makers" if you will. In addition, some basin leaders analogized the Sovereign Review Team's structure to the structure of negotiations for tribal water rights settlements as described above, where federal, state, and tribal representatives collaborate to resolve Indian reserved rights claims.<sup>534</sup> Several basin leaders even suggested the Sovereign Review Team should also include Mexico as a neighboring federal sovereign, although doing so would not obviate the need for international negotiations under the auspices of the IBWC.

As an incremental step in expanding inclusivity within the "community of decision-makers," several basin leaders envisioned the Sovereign Review Team operating as an advisory group in the new management framework's development.

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529. See INTERIM GUIDELINES FEIS, *supra* note 518, at 2–8 to 2–12.

530. SENSE OF THE BASIN, *supra* note 460, at 26–27.

531. *Id.* at 26.

532. *Id.* at 29–30.

533. See, e.g., U.S. ENTITY, COLUMBIA RIVER TREATY 2014/2024 REVIEW RECENT STUDY RESULTS (2012), <https://www.bpa.gov/news/pubs/FactSheets/fs-201206-Columbia-River-Treaty-Review-Recent-Study-Results.pdf>.

534. SENSE OF THE BASIN, *supra* note 460, at 29. Tribal water rights settlements are discussed *supra* Part III.B.2.

In that capacity, it would (1) serve as the primary forum for receiving input and advice from various stakeholders, experts, and the public; (2) foster a common understanding and develop alternatives for the new management framework; (3) seek agreement on a preferred alternative; and (4) advise the Secretary of the Interior and/or Reclamation Commissioner as the final decision-makers in the NEPA process. An alternative option would be for the Sovereign Review Team to function as an advisory group that is supplementary to the federal government and basin states as principal decision-makers. In contrast to these options, several basin leaders suggested the Sovereign Review Team would be even more effective if the Secretary of the Interior established it not just as an advisory body, but instead as a formal entity within the decision-making process.

Some basin leaders agreed with the Sovereign Review Team concept in principle, but ultimately dismissed it as unworkable.<sup>535</sup> The primary concern revolved around efficiency: how to effectively represent the basin's sovereigns while still keeping the "community of decision-makers" small enough to get work done.<sup>536</sup> Several tribal and other leaders offered a range of creative solutions in response.<sup>537</sup> One way to operationalize the Sovereign Review Team would be to ask the federal government to designate one or two representatives; to ask each basin state to appoint one representative; and to ask basin tribes to select a limited

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535. SENSE OF THE BASIN, *supra* note 460, at 10. The Sovereign Review Team concept received mixed reviews at WTI's basinwide workshop in February 2020. On the one hand, many participants agreed it could provide a meaningful role for basin tribes, integrate more perspectives into planning and decision-making processes, and facilitate broad-based learning and education. Some participants suggested a Sovereign Review Team should facilitate transactional opportunities in addition to sharing information, building relationships, and refining the governance structure. Several participants also emphasized that a Sovereign Review Team makes sense as a supplement to other processes, but not as a replacement for formal consultation with basin tribes. Creating a Sovereign Review Team, according to many participants, would be a major step forward in Colorado River governance. On the other hand, many participants raised the issue described in the text concerning how all thirty basin tribes could be represented on the Sovereign Review Team, particularly in light of the variation in interests, capacities, and cultures. The priorities for some tribes may be to develop and use their water rights for economic purposes, while other tribes may be interested in developing and using their water rights for a mix of economic, environmental, and cultural objectives. Moreover, some tribes have unresolved water rights claims, while other tribes hold quantified rights. Participants also expressed concern about how a Sovereign Review Team could be structured to ensure its work would be given serious consideration by the ultimate decision-makers—*i.e.*, the Secretary of the Interior and/or Reclamation Commissioner—as the Sovereign Review Team itself is not envisioned as a formal decision-making body. Some participants likewise raised questions about whether the Sovereign Review Team would be subject to the Federal Advisory Committee Act, while other participants asked related questions about who would convene, staff, and fund a Sovereign Review Team, as well as how consensus might be reached among such a large, diverse group of participants. Other participants noted that basin states would need to work closely with basin tribes whose reservations lie within the states' boundaries to forestall potential attempts to use the Sovereign Review Team as an appeals process. And finally, some participants wondered whether a Sovereign Review Team would distract tribes from formal decision-making processes. *Id.*

536. *Id.*

537. *Id.* at 29–30.

number of representatives given that direct participation by thirty tribes would be cumbersome. Along these lines, it is important to emphasize each basin tribe is unique, and it may be difficult (if not impossible) to reach tribal consensus on all matters. Two potential options for tribal representation on the Sovereign Review Team are (1) selecting one tribal representative per basin state (*i.e.*, seven in total), or (2) selecting one or two tribal representatives for the Colorado River mainstem tribes, Central Arizona Project tribes, and Upper Basin tribes as groups. Both options would keep the “community of decision-makers” relatively small yet inclusive. Notably, tribal representatives would not speak for basin tribes that are not at the table *per se*, instead assuming responsibility for regularly communicating with those tribes, sharing information and ideas emerging in the Sovereign Review Team, and seeking input and advice.

Other basin leaders expressed concern about how the Sovereign Review Team, as envisioned here, would not represent non-sovereign stakeholders (*e.g.*, irrigators, municipal water users, environmental organizations, etc.).<sup>538</sup> These communities *would* continue to participate in collaborative processes much as they have in the past, including the NEPA process, state-led efforts, and other informal arrangements. To facilitate more inclusive engagement of non-sovereign stakeholders, however, the Sovereign Review Team could create working groups, delegate assignments, and ask working groups to generate reports and recommendations. The Sovereign Review Team could also convene public workshops to increase awareness and understanding and to seek broad-based input and advice. From this perspective, the Sovereign Review Team would be a significant step forward in creating next-generation governance institutions that better reflect the Colorado River Basin’s community of communities.

Taking the long view, some basin leaders suggested a Sovereign Review Team might shape Colorado River governance well beyond the new management framework’s development.<sup>539</sup> Perhaps over time the Sovereign Review Team would evolve into a standing body to facilitate adaptive management and collaborative decision-making. The catalyst for this line of thought is that a basinwide commission does not currently exist, and that right now might be an opportune moment to begin conceiving such an entity, given the complex problems facing the basin’s community of communities and the collaborative culture that has emerged among them in recent decades.<sup>540</sup> In other words, the Sovereign Review Team should be

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538. *Id.* at 10.

539. *Id.* at 30.

540. Basin leaders offered arguments for and against a basinwide commission. Arguments in favor included (1) establishing clear, consistent, transparent processes for making decisions and resolving disputes, and therefore avoiding the need to reinvent processes time and again; (2) dedicating staff

understood as a potential incremental adjustment to the “community of decision-makers” that could evolve over time into a transformative institution for next-generation Colorado River governance.

### 3. Role of Tribes

Yet the Sovereign Review Team idea certainly does not end our discussion of tribal engagement in Colorado River governance. It is a compelling topic for so many reasons. In addition to their sovereign nature, the basin’s thirty federally recognized tribes hold substantial, senior rights to Colorado River system water, as identified above—“approximately 3.4 maf of annual diversion rights” according to the 7.D. Review, roughly equivalent to 23% of average annual natural flows at Lees Ferry.<sup>541</sup> This share will increase as additional rights are recognized and quantified.<sup>542</sup> And basin tribes with quantified rights likewise plan to develop them.<sup>543</sup> The proverbial cloud is indeed a Gordian knot.

But you might not know it. History generally shows basin tribes at the margins of Colorado River governance. Their total exclusion from the Colorado River Compact’s formation is one historic episode worth reiterating.<sup>544</sup> Only in recent decades have they had opportunities to participate directly in policy discussions shaping the river system’s management. Even with the collaborative turn, however, much progress remains to be made. Basin tribes have expressed concern about how they and their water rights were treated in the NEPA process culminating in the Interim Guidelines.<sup>545</sup> A few years later, the Basin Study likewise got off to a rocky start, with tribes not being represented on the study’s exclusive federal-state steering committee and instead being relegated to technical sub-teams.<sup>546</sup> The Bureau of Reclamation made earnest efforts to remedy the situation—after being reminded of the federal government’s trust responsibility toward tribes—but even so the Basin Study’s coverage of tribal water rights fell short and necessitated the

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whose responsibility would be to consider the entire basin rather than just a portion of it; and (3) moving from an ad hoc system of collaboration to a more deliberate, inclusive system of planning and decision-making. *Id.* at 37 n.4. Arguments in opposition included (1) redefining the basin states’ role; (2) transaction costs associated with creating a commission; and (3) fear of the unknown. *Id.* A good starting point for literature on this topic is David H. Getches, *Colorado River Governance: Sharing Federal Authority as an Incentive to Create a New Institution*, 68 U. COLO. L. REV. 573 (1997).

541. 7D REVIEW, *supra* note 29, at 14; SALEHABADI ET AL., *supra* note 504, at 1 (describing natural flows at Lees Ferry averaged 14.76 maf annually from 1906 to 2018). *See also* POLICY BRIEF #4, *supra* note 503, at 1 (noting twenty-two basin tribes collectively hold “recognized rights to use 3.2 million-acre feet (maf) of Colorado River system water annually, or approximately 22 to 26 percent of the Basin’s average annual water supply.”)

542. *See* POLICY BRIEF #4, *supra* note 503, at 1, 7 tbl. 3 (identifying a dozen basin tribes with unrecognized rights).

543. *See, e.g.*, TECHNICAL REPORT C, *supra* note 378, at C-41 to C-43.

544. HUNDLEY, *supra* note 255, at 80, 211.

545. 7D REVIEW, *supra* note 29, at 12.

546. *See* Vigil Testimony, *supra* note 379.

Tribal Water Study.<sup>547</sup> That latter study marked a step in the right direction with respect to relationship building and other benefits of collaboration. And the same can be said about basin tribes' participation over the past decade in policy discussions at the Colorado River Water Users Association's annual conference.<sup>548</sup>

The benefits of tribal inclusion at policy tables are readily apparent.<sup>549</sup> Recall as just one example the recent engagement of the Colorado River Indian Tribes and the Gila River Indian Community on the Steering Committee for the Arizona Drought Contingency Plan.<sup>550</sup> "Arizona water users were able to reach a deal on the DCP, in part, because Arizona tribes participated in and led negotiations on conservation efforts and water exchanges"—specifically, the Colorado River Indian Tribes' offer to store 50,000 acre-feet annually in Lake Mead over a three-year period beginning in 2020, and the Gila River Indian Community's leasing of 33,185 acre-feet annually to the Central Arizona Groundwater Replenishment District over a twenty-five-year period commencing in 2018.<sup>551</sup> "Tribes in Arizona, including the Gila River Indian Community and the Colorado River Indian Tribes, played a significant role in the new Drought Contingency Plan implementation," described Arizona Representative Raúl M. Grijalva.<sup>552</sup> "Without tribal participation, the DCP would not be possible."<sup>553</sup>

According to basin leaders, along with representations made by commentators at recent conferences and policy discussions, there is a general consensus that basin tribes should be more meaningfully involved in policy discussions and negotiations about the Colorado River system's future, including development of the new management framework.<sup>554</sup> While leaders arrive at this consensus view for diverse reasons, nearly all are interested in the critical question

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547. TRIBAL WATER STUDY AGREEMENT, *supra* note 381.

548. SENSE OF THE BASIN, *supra* note 460, at 38. Tribes have participated in planning this conference since 2009, when George Arthur of the Navajo Nation served as vice-president and then president of the Colorado River Water Users Association. *Id.* at 42 n.2.

549. In addition to their engagement in the Lower Basin Drought Contingency Plan, Lower Basin tribes—Colorado River Indian Tribes, Gila River Indian Community, and Tohono O'odham Nation—have participated in a Pilot System Conservation Program since 2015. *Pilot System Conservation Program (Pilot Program)*, BUREAU OF RECLAMATION (2019) <https://www.usbr.gov/lc/region/programs/PilotSysConsProg/pilotsystem.html>. This participation has bolstered Lake Mead's storage so as to stave off a shortage declaration along the Lower Colorado River. *Id.*

550. SUNDUST ET AL., *supra* note 439, at 7–10.

551. *Id.* at 7.

552. *Id.* at 3.

553. *Id.*

554. SENSE OF THE BASIN, *supra* note 460, at 39.



of “how” to make this happen.<sup>555</sup> Basin leaders seem to agree that (1) the new management framework must address tribal rights and interests in a meaningful way, and (2) the federal government and basin states need to do a better job of reaching out to basin tribes, enhancing tribal capacity to participate vigorously in these types of processes, and listening to basin tribes in an effort to accommodate their respective needs, interests, and priorities.<sup>556</sup>

At the same time, basin tribes need to take advantage of opportunities to participate, to clarify their objectives for managing the river system, and to communicate what they bring to the table in terms of history, knowledge, water rights, and potential solutions. Tribes should be more proactive and less reactive, more assertive and less deferential to federal and state officials, and prepared to engage robustly in the new management framework’s development.

Basin leaders pointed to a range of options for how tribes could participate in decision-making processes surrounding the new management framework. The following options are certainly not mutually exclusive.<sup>557</sup> First, tribes could engage in government-to-government consultations with the federal government and hold it accountable (1) to fulfill its trustee role with respect to tribal water resources, and (2) to champion any positions on which there is federal-tribal consensus.<sup>558</sup> To this end, some leaders suggested jump-starting the 7/10 process previously initiated by the Ten Tribes Partnership and the Secretary of the Interior.<sup>559</sup> Second, tribes could work with officials from the state(s) in which their reservations are located (1) to ensure tribal needs, interests, and priorities are integrated into the negotiating strategy of the state(s) for the new management framework, and (2) to hold the state(s) accountable to champion any positions on which there is state-tribal consensus.<sup>560</sup> Third, tribes could participate in something like a Sovereign Review Team—as mapped out above—and again hold federal and state officials accountable to champion any positions on which the sovereigns reach

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555. Three major reasons are prevalent among the non-tribal basin leaders: (1) respect for equity, social justice, and/or tribal sovereignty in relation to the negotiation process and basin tribes’ abilities to develop and use their water rights; (2) interest in mitigating uncertainty over the impacts of tribal water development on non-tribal water users; and (3) commitment to engaging basin tribes in collaborative problem-solving aimed at meeting the needs and interests of both tribes and other water users reliant on the Colorado River system. Tribes, of course, believe they need to be at the table because of their aboriginal connections to the river system, their expertise and knowledge derived from these longstanding connections, and as a recognition of their sovereign status and the significance of the water rights they hold. *Id.* at 42 n.6.

556. *Id.* at 39.

557. *Id.* at 40.

558. *Id.*

559. *Id.* at 6. According to some basin leaders, representatives of the seven basin states and the Ten Tribes Partnership began discussions in the early 1990s to address problems facing the Colorado River Basin. Known as the “7/10 process,” these officials explored ways of improving water-use efficiency, water management, and voluntary water transfers in order to extend supplies and reduce the risk of shortages. The 7/10 process has not been active for quite some time. *Id.* at 40, 42 n.9.

560. *Id.* at 40.

consensus.<sup>561</sup> Fourth, tribes could co-create and participate in a distinctly tribes-led forum: Tribal Leaders Forum.<sup>562</sup> It would serve to facilitate and organize involvement by all interested tribes, as well as to enable information exchange, dialogue aimed at finding common ground, and development of options and recommendations for the new management framework.<sup>563</sup> Finally, tribes could participate in issue-specific, place-based, and other collaborative processes that may emerge, as discussed further below.<sup>564</sup>

To operationalize any of these options for tribal participation, basin tribes will need or want assurances that their participation will constitute more than a symbolic gesture—“that it will actually make a difference in the process.”<sup>565</sup> At the same time, tribes will need to “step forward proactively to demonstrate good faith and a commitment to work together,” underpinned by an “understanding that their interests and views will be considered to the same extent as those of other sovereigns,” and they will have opportunities to influence outcomes.<sup>566</sup> There is also the capacity issue. Effective tribal participation hinges on it, including adequate “time, staffing, knowledge ... and funding to hire consultants.”<sup>567</sup> In the final analysis, it is important to keep in mind that each basin tribe is unique and will determine how, if at all, they wish to engage based upon their interests and

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561. *Id.*

562. *Id.*

563. During the basinwide workshop convened by WTI in February 2020, participants generally agreed some sort of forum for tribes to build capacity and to facilitate engagement in basinwide policy discussions is an essential step forward. To be most effective, a Tribal Leaders Forum would need to be driven by tribes, with all thirty tribes invited to participate—notwithstanding variation in their interests, knowledge, resources, capacity, and experience. The Tribal Leaders Forum would need to be well-funded and staffed, and it would need access to a robust suite of scientific and technical information. When viewed in connection with the Sovereign Review Team proposal, some participants suggested the Tribal Leaders Forum could select representatives to participate on the Sovereign Review Team, and otherwise convey tribal input and advice to the Sovereign Review Team, as well as providing a mechanism to ensure all tribal needs and interests are adequately represented in the Sovereign Review Team. According to some participants, the Tribal Leaders Forum is one place where tribes that have been more active in basinwide decision-making processes—*e.g.*, Colorado River Indian Tribes and Gila River Indian Community—could share experiences with other tribes to enhance capacity. Some participants wondered whether the Ten Tribes Partnership and the Inter-Tribal Council of Arizona could help launch and facilitate the Tribal Leaders Forum, while other participants suggested it should be convened and facilitated by the Bureau of Reclamation to maximize its legitimacy and credibility, or perhaps by WTI given its demonstrated commitment and capacity. Although not denominated as such, the Tribal Leaders Forum idea is discussed briefly as Option #5 in *id.* at 40.

564. *Id.*

565. *Id.* at 41.

566. *Id.*

567. *Id.* Some basin leaders suggested that one way to demonstrate a commitment to tribes as partners in the new management framework's development would be to provide funding so tribes can contract for outside expertise and assistance, including but not limited to hydrologists, economists, lawyers, planners, and engineers. Some leaders noted that, as a matter of social justice, there should be some level of funding for tribes in light of the billions of dollars historically spent on projects that have diverted water away from Indian reservations. *Id.* at 43 n.11.

capacity.<sup>568</sup>

Although there is no singular “tribal ask” given the unique needs, interests, and culture of each basin tribe, it is possible to identify general themes in response to the question of “what do tribes want?” out of negotiations over the new management framework.<sup>569</sup>

First, as made abundantly clear by basin leaders, tribes want to have a formative role in the framework’s development. They want to be treated as sovereigns alongside their counterparts: the federal government and basin states. Relationship building is key here. Basin tribes want the federal government to engage in more meaningful, more impactful government-to-government consultation in fulfillment of its trustee role.<sup>570</sup>

Second, big surprise: basin tribes want to use their water rights. And they need funding for construction and management of infrastructure. A host of corollary “asks” fall under this umbrella: (1) completing settlements of unrecognized and unquantified tribal water rights; (2) fully developing quantified but unused or under-used tribal water rights;<sup>571</sup> (3) addressing impacts of future development of tribal water rights on other water users; (4) providing accessible drinking water and sanitation to every person in the basin;<sup>572</sup> (5) recognizing storage of tribal water as a beneficial use; (6) allowing dedication of unused tribal water to Intentionally Created Surplus or other water conservation measures; (7) resolving issues associated with accounting for tribal water rights under basin states’ apportionments; and (8) developing depletion schedules for basin tribes similar to those completed for the Upper Basin and Lower Basin states in the Interim Guidelines.<sup>573</sup>

Third, another general theme growing out of the question of “what do tribes want?” from negotiations over the new management framework concerns self-determination. Tribes want to exercise that promise as it has framed federal Indian policy for the past half century.<sup>574</sup> Along with empowering tribes to promote

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568. *Id.* at 41.

569. *Id.*

570. *Id.* at 40.

571. Some basin leaders commented that tribes may be able to support the idea of treating all quantified rights—whether they are currently used or unused—as “used” by definition and thus available for marketing and sharing. One variation on this theme is to develop a method for measuring unused tribal water and then providing tribes with some type of “conservation credit” for not diverting that water. *Id.* at 43 n.13.

572. UNIVERSAL ACCESS EXECUTIVE SUMMARY, *supra* note 509. An estimated 30 percent of people on the Navajo Reservation lack access to running water and must haul water. DIG DEEP & U.S. WATER ALL., CLOSING THE WATER ACCESS GAP IN THE UNITED STATES: A NATIONAL ACTION PLAN 38 (2019) (citing NAVAJO NATION DEP’T OF WATER RES., DRAFT WATER RESOURCES STRATEGY FOR THE NAVAJO NATION 2 (2011)).

573. SENSE OF THE BASIN, *supra* note 460, at 41. The Upper Basin and Lower Basin states’ depletion schedules are set forth in Appendices C and D, respectively, of INTERIM GUIDELINES FEIS, *supra* note 518. This suggestion could build off growth scenarios developed for the Ten Tribes Partnership tribes in chapter 5 of TRIBAL WATER STUDY, *supra* note 19.

574. COHEN’S, *supra* note 179, at 97–113.

economic development, to build governmental infrastructure, to manage natural and cultural resources, to meet health care and educational needs, and to perform other essential functions, the principle of self-determination should be extended unequivocally to tribal water rights. In short, basin tribes should have autonomy. *They* should determine whether they wish to use their water rights for social, economic, cultural, or environmental purposes on their reservations, as well as whether *they* wish to transfer, market, or otherwise share their water rights off those reservations.

#### 4. Stakeholder Engagement & Public Participation

Moving beyond the community of decision-makers, next-generation governance institutions in the Colorado River Basin should provide ample opportunities for participation, learning, dialogue, and problem-solving by the whole community of communities, consistent with the guiding principles above. Nearly every basin leader suggested that “the process” for developing the new management framework “should not and will not revolve around a single table.”<sup>575</sup> Rather, “the process” should include multiple opportunities for participation by parties whose interests are affected by the framework, as well as by entities engaged in implementing it.<sup>576</sup> “In short, ‘the’ collaborative process should take the form of a network of networks.”<sup>577</sup>

Beyond the NEPA framework mentioned above, including its provisions for public participation, a network of networks should encompass varied formal and informal processes for stakeholder engagement.<sup>578</sup> The basic idea here is to create multiple, overlapping opportunities for meaningful participation, to “facilitate the flow of ideas and information across networks via shuttle diplomacy and other methods,” and to seek consensus among the broadest possible coalition of parties.<sup>579</sup> These objectives can be attained by initially “keeping tables small enough to negotiate agreements,” and subsequently integrating those agreements into a consolidated package of proposals for the new management framework.<sup>580</sup>

A network of networks should start by building on existing processes and forums—*e.g.*, the well-established forum for basin state principals, the Colorado River Sustainability Campaign in the conservation area, etc.<sup>581</sup> There may also be opportunities to create new working groups around specific issues or places.<sup>582</sup> One

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575. SENSE OF THE BASIN, *supra* note 460, at 31.

576. *Id.*

577. *Id.*

578. *Id.*

579. *Id.*

580. *Id.*

581. *The Organization*, COLO. RIVER SUSTAINABILITY CAMPAIGN, <https://www.rivercampaign.org/> (last visited Apr. 10, 2021).

582. SENSE OF THE BASIN, *supra* note 460, at 31.

way to imagine how a network of networks might be composed is to envision a nested system.<sup>583</sup> Moving from basinwide to localized scales, the network of networks could encompass a range of options:<sup>584</sup>

- *International dialogue* between the United States and Mexico, convened under the auspices of the IBWC, to negotiate a successor to Minute 323.
- *Interstate dialogue*, convened by basin-state principals, to enable states to exchange information and seek agreements on the new management framework.
- *Tribal Leaders Forum* to provide a unique, distinct space for all thirty tribal sovereigns in the basin to exchange information, to clarify needs and interests, and to reach consensus positions on the new management framework.
- *Upper Basin and Lower Basin forums* to build awareness, understanding, and agreement among states, tribes, and stakeholders within each sub-basin (e.g., the Upper Colorado River Basin Water Forum convened by Colorado Mesa University).<sup>585</sup>
- *State-level forums* to facilitate communication, understanding, and agreement on needs and interests within individual states, including those of tribes, water users, and conservation groups (e.g., Arizona Reconsultation Committee).<sup>586</sup>
- *Issue-specific working groups* to facilitate communication, understanding, and agreement on particular issues (e.g., reservoir operations, water banking and marketing, environmental concerns, tribal water rights, governance, etc.).
- *Place-based working groups* to focus on multiple issues in particular places within or adjacent to the basin (e.g., Colorado River Delta, Salton Sea, Grand Canyon, etc.).
- *Citizen diplomacy* to encourage unaffiliated citizens, conservation groups, universities, “and other interested parties to initiate, convene, and

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583. *Id.*

584. *Id.* at 31–32.

585. *Upper Colorado River Basin Water Forum*, COLO. MESA UNIV., <https://www.coloradomesa.edu/water-center/forum/index.html> (last visited Apr. 25, 2021).

586. *Arizona Reconsultation Committee*, ARIZONA DEP’T OF WATER RES., <https://new.azwater.gov/arc> (last visited Apr. 25, 2021).

coordinate forums to explore issues of mutual interest, [to] offer solutions and recommendations to solve problems, and [to] facilitate shuttle diplomacy.”<sup>587</sup>

This network of networks offers rich opportunities for the basin’s community of communities to participate in collaborative decision-making over the new management framework.<sup>588</sup> Some opportunities are more formal, others more informal.<sup>589</sup> Some are designed to facilitate information exchange and foster education and learning, while others are designed to provide advice to decision-makers. Still other forums are focused on building agreements, resolving conflicts, and making decisions. Some of the opportunities can and should occur before the formal NEPA process begins, while others can and should occur parallel to, and thereby supplement and complement, the formal NEPA process.<sup>590</sup>

Consistent with the network of networks concept, another option for collaborative problem-solving related to the new management framework would be to create a multi-stakeholder forum similar to the Bureau of Reclamation’s *Moving Forward Effort*.<sup>591</sup> It was designed as a multi-stakeholder collaborative forum for building on next steps from the Basin Study.<sup>592</sup> Undertaking Phase 1 of its activities from 2013 and 2015, the forum included representatives from the federal government, basin states, tribes, conservation organizations, and agricultural and municipal water users.<sup>593</sup> This multi-stakeholder collaborative structure could supplement several options encompassed within the network of networks.<sup>594</sup>

While the network of networks focuses predominantly on opportunities for stakeholder participation in the new management framework’s development (*i.e.*, participation by sovereigns and organized interest groups), it is equally important to consider opportunities for public participation (*i.e.*, participation by more or less unaffiliated citizens in and around the Colorado River Basin).<sup>595</sup> A couple points are relevant in this space.

As a threshold matter, basin leaders agreed there is a huge need to inform and educate the general public about where their water comes from, as well as

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587. SENSE OF THE BASIN, *supra* note 460, at 32.

588. *Id.* at 31.

589. *Id.*

590. *Id.* at 26.

591. *Moving Forward Effort*, BUREAU OF RECLAMATION, <https://www.usbr.gov/lc/region/programs/crbstudy/MovingForward/> (last updated Dec. 10, 2018).

592. *Id.*

593. *Moving Forward Effort, Phase 1*, BUREAU OF RECLAMATION, <https://www.usbr.gov/lc/region/programs/crbstudy/MovingForward/Phase1.html> (last updated Dec. 10, 2018).

594. SENSE OF THE BASIN, *supra* note 460, at 30.

595. *Id.* at 32. To be clear, the citizen-diplomacy component of the network of networks would enable participation by unaffiliated citizens.

issues, options, and trade-offs facing the basin community.<sup>596</sup> Some leaders suggested there would be value in a targeted “public information and education campaign that is broad, inclusive, and innovative.”<sup>597</sup>

In addition, as far as soliciting input and advice from the public, the formal NEPA process should dovetail with supplementary methods of public participation, including options available to the public before the formal NEPA process begins.<sup>598</sup> The toolboxes of the International Association for Public Participation<sup>599</sup> and the National Coalition for Dialogue and Deliberation<sup>600</sup> are excellent sources for innovative methods that have emerged in recent decades to meaningfully engage members of the public in collaborative decision-making. These methods could be integrated into several options encompassed within the network of networks, including Upper Basin and Lower Basin forums, state-level forums, issue-specific working groups, place-based working groups, and citizen diplomacy.

## 5. Knowledge & Information

In relation to the new management framework’s development and far beyond, a final yet essential ingredient for next-generation Colorado River governance institutions involves knowledge and information. While it may seem trite, it’s important to begin our foray into this topic by recognizing the general consensus among basin leaders that governance must be based on the best available scientific and technical information.<sup>601</sup>

Building on this premise, basin leaders were quick to point out a critical interface.<sup>602</sup> While there is no shortage of scientific and technical information about the Colorado River system, there *is* a need to ensure the relevance of that information to decision-making processes.<sup>603</sup> “What questions need what kind of information?”<sup>604</sup> How is information integrated into governance?<sup>605</sup> Some leaders suggested that one way to better integrate science into decision-making processes would be to rely on real-time/actual hydrologic data, rather than forecasting and

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596. *Id.*

597. *Id.* The “For the Love of Colorado” water education campaign might serve as a model. Joe Rubino, *New Campaign Implores Water Conservation, ‘For the Love of Colorado,’* DENVER POST (June 20, 2019), <https://www.denverpost.com/2019/06/20/campaign-water-conservation-love-colorado/>.

598. SENSE OF THE BASIN, *supra* note 460, at 32.

599. *Welcome*, INTERNATIONAL ASSOCIATION FOR PUBLIC PARTICIPATION, <https://www.iap2.org/mpage/Home> (last visited Apr. 25, 2021).

600. *Welcome*, NATIONAL COALITION FOR DIALOGUE AND DELIBERATION, <https://ncdd.org> (last visited Apr. 25, 2021).

601. SENSE OF THE BASIN, *supra* note 460, at 27.

602. *Id.* at 44.

603. *Id.*

604. *Id.*

605. *Id.* For more on this topic, particularly the historical pattern of ignoring science in Colorado River governance, *see generally* KUHN & FLECK, *supra* note 255.

modeling, to develop annual operating plans.<sup>606</sup> Other leaders “suggested that forecasting and modeling are essential” for establishing benchmarks and triggers, as well as for clarifying options and tradeoffs.<sup>607</sup> Perhaps there is intersectionality versus dissonance here: forecasting and modeling tools should be enhanced to generate more real-time information for planning.<sup>608</sup> All told, there is general consensus among leaders that it is imperative to align expectations and water management with the basin’s hydrology.<sup>609</sup>

In addition to using the best available scientific and technical information, as well as focusing that information on decision-making processes, another indisputable fact is that Colorado River governance inevitably must occur in a context of uncertainty (*e.g.*, climate change, water development, etc.).<sup>610</sup> Once again, there is general consensus among basin leaders that decision-makers and stakeholders should acknowledge this dynamic and strive to make informed decisions based upon what is known, with the expectation of learning and adapting over time.<sup>611</sup> Interestingly, some leaders explained how “current and emerging science is expanding the range of uncertainty, making it even more difficult to [reach] consensus on scientific and technical information.”<sup>612</sup> One response to the challenge of navigating uncertainty has been a significant investment in scenario planning, including projecting water availability in different climate-change and water-development scenarios.<sup>613</sup>

Another important set of issues involving scientific and technical information concerns the need to better understand the Colorado River system’s vulnerability to low-probability, high-impact events beyond the scope of normal expectations and current management plans (*e.g.*, megadroughts or extreme floods).<sup>614</sup> Most risks of this sort revolve around extreme hydrological conditions that may stress existing institutions—those addressing water allocation, reservoir operations, biodiversity loss, ecosystem protection and restoration, etc.—and otherwise

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606. SENSE OF THE BASIN, *supra* note 460, at 44.

607. *Id.*

608. *Id.*

609. *Id.*

610. *Id.*

611. *Id.*

612. *Id.* at 45.

613. *Id.* at 44. The Basin Study and Tribal Water Study both exemplify such work. STUDY REPORT, *supra* note 376, at SR-12 to SR-36; TRIBAL WATER STUDY, *supra* note 19, at 5.11-4 to 5.11-6; WANG ET AL., CTR. FOR COLO. RIVER STUD., UTAH STATE UNIV., MANAGING THE COLORADO RIVER FOR AN UNCERTAIN FUTURE (2020), [https://qcnr.usu.edu/coloradoriver/files/CCRS\\_White\\_Paper\\_3.pdf](https://qcnr.usu.edu/coloradoriver/files/CCRS_White_Paper_3.pdf); *Colorado River Conversations Project*, CTR. FOR CLIMATE ADAPTATION SCI. & SOL., UNIV. OF ARIZ., <https://ccass.arizona.edu/colorado-river-conversations-project> (last visited April 25, 2021); *See also* SALEHABADI ET AL., *supra* note 504.

614. SENSE OF THE BASIN, *supra* note 460, at 45. For more on the role of risk in Colorado River management, *see generally* *Thinking About Risk on the Colorado River*, COLO. RIVER RSCH. GRP. (2019), [https://www.coloradoriverresearchgroup.org/uploads/4/2/3/6/42362959/crrg\\_thinking\\_about\\_risk.pdf](https://www.coloradoriverresearchgroup.org/uploads/4/2/3/6/42362959/crrg_thinking_about_risk.pdf).



compromise the socio-ecological system's stability.<sup>615</sup> Several basin leaders explained that the likelihood of such events occurring is increasing.<sup>616</sup> Thus, the new management framework must "consider a range of potential futures" that may stress the river system and utilize "the best available information to frame alternative scenarios and management strategies."<sup>617</sup>

Several additional issues related to knowledge and information should be considered in the development of next-generation Colorado River governance institutions—the new management framework and otherwise.<sup>618</sup> These issues include the following:

- Clarifying, understanding, and translating tribal spiritual and cultural values related to the river system into terms that are comprehensible and useful to water managers.
- Integrating western science, traditional knowledge, and cultural values into planning and decision-making processes involving the river system.
- Articulating clear, specific ecological goals for different segments of the river system (*e.g.*, Grand Canyon, Colorado River Delta, etc.).
- Assessing and reconciling trade-offs between water-supply and ecological goals.
- Coordinating the wealth of information and expertise related to the river system (*e.g.*, Bureau of Reclamation, U.S. Geological Survey, state water resource agencies, university-based centers and experts, environmental organizations, etc.).
- Building capacity and sharing knowledge and information across the basin's community of communities.
- Communicating scientific and technical information to decision-makers and stakeholders.
- Resolving disagreements among scientists from different disciplines or fields.
- Enhancing scientific and technical capacity to facilitate adaptive

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615. SENSE OF THE BASIN, *supra* note 460, at 45.

616. *Id.*

617. *Id.*

618. *Id.* at 44.

management.<sup>619</sup>

In response to this list, basin leaders offered several prescriptions generally involving building existing knowledge,<sup>620</sup> enhancing tribal capacity,<sup>621</sup> devising strategies for integrating western science and traditional tribal values and knowledge,<sup>622</sup> and creating a system for ongoing learning and adaptive management.<sup>623</sup> These prescriptions were synthesized into a strawman proposal presented at WTI's basinwide workshop in February 2020 that called for something novel. The Secretary of the Interior should create, or should encourage the creation of, a Colorado River Science and Culture Open Forum ("Open Forum"). It would provide a venue for (1) exploring scientific and technical issues facing the basin; (2) enhancing public awareness of those issues; (3) moving beyond a science agenda focused largely on water-supply concerns to a more holistic understanding of the river system based upon western science and traditional tribal values and knowledge; (4) integrating findings and conclusions of the Open Forum into decision-making processes related to the new management framework; and (5) surfacing the broadest possible range of policy alternatives for the new management framework's design, including "third rail" options unlikely to surface through more conventional processes.<sup>624</sup>

The Open Forum proposal received a mixed review.<sup>625</sup> As an overarching

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619. *Id.* at 44–46. Some basin leaders suggested this issue is less about enhancing scientific and technical capacity per se, and more about integrating it into planning and decision-making systems that govern the river system. *Id.* at 46. Part of the challenge is to develop a flexible management framework with the expectation that its implementation will vary in sync with the basin's hydrology (*e.g.*, reservoir operations). *Id.*

620. Examples include supplementing data from the Basin Study and Tribal Water Study with information generated by entities such as the Center for Colorado River Studies at Utah State University, the Western Water Assessment at the University of Colorado, the University of Arizona's Center for Climate Adaptation Science & Solutions, and the Colorado River Research Group. *Id.* at 47.

621. Several basin leaders suggested the Bureau of Reclamation should provide tribes with the same type and level of technical support in relation to the new management framework's development as the agency did for the basin states with the Interim Guidelines' development. *Id.* This approach would follow on the heels of the technical support provided by the Bureau for the Tribal Water Study. *Id.*

622. An important aspect of this prescription involves translating tribal spiritual and cultural values into terms that can be used by water managers. *Id.* at 48. To accomplish this translation, some basin leaders suggested experimenting with innovative methods of engagement, such as "ethical space." *Id.* The intent here is to respect and accommodate differences between traditional tribal values and knowledge and western culture/science. *Id.* Many leaders commented that this task will be an important aspect of designing any collaborative process going forward, and that it involves values and vision as much as scientific and technical information. *Id.* The goal, according to some leaders, is to move beyond a science agenda dictated largely by federal and state officials to a more holistic understanding of the river system based on western science and traditional tribal values and knowledge. *Id.*

623. Some basin leaders favored creating a formal system or entity to facilitate ongoing learning and adaptive management. *Id.* They identified as potential models the U.S. Geological Survey's Grand Canyon Monitoring and Research Center and the Public Policy Institute of California. *Id.*

624. *Id.* at 62–63.

625. *Id.* at 12–13.

matter, workshop participants observed that values and policy preferences drive data generation and modeling.<sup>626</sup> This interface led some participants to pose the question of “how should we decide what we need to know, and how should we go about gathering that information?”<sup>627</sup> Participants suggested that examining assumptions about what type of data are needed would not only foster a broader conversation, but also influence decision-making over the new management framework.<sup>628</sup> For example, what would happen if we were to assume all tribal water rights will be quantified and fully developed across the Colorado River Basin? Or what would happen if we were to prescribe ecological goals for different segments of the river system? Should we be modeling for short-term water supply, long-term sustainability, or both?

Along these lines, some workshop participants observed that the new management framework should both consider and reflect a broader, more inclusive set of values and interests than water managers historically have taken into account—a viewpoint consistent with the sustainability resolution above.<sup>629</sup> In particular, some participants explained that the Colorado River Compact talks about “no impairment,” and that this provision historically has focused solely on water supply.<sup>630</sup> In developing the new management framework, these participants advocated for a more liberal construction, extending the provision to issues such as universal access to clean water and protection of ecological values across the basin.<sup>631</sup>

To achieve these objectives, workshop participants generally agreed it is essential to better integrate traditional tribal values and knowledge into the new management framework, with such integration occurring as early as possible in the negotiations.<sup>632</sup> Underlying this recommendation is not only a desire to broaden the new management framework’s purpose, scope, and aspirations, but also a recognition of the importance of respecting different types of knowledge (traditional knowledge and western science) and different values (tribal cultural, environmental, and spiritual values as well as the value of water supply). All parties should have access to the same body of information, realizing that this access will not necessarily correlate with uniform agreement on the interpretation and meaning of that information.

Some workshop participants observed that integrating traditional tribal values and knowledge into the new management framework is easier said than

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626. *Id.* at 12.

627. *Id.*

628. *Id.*

629. POLICY BRIEF #3, *supra* note 477, at 5.

630. Compact, *supra* note 24, at Art. VIII (“Present perfected rights to the beneficial use of waters of the Colorado River System are unimpaired by this compact.”).

631. SENSE OF THE BASIN, *supra* note 460, at 12.

632. *Id.*

done.<sup>633</sup> A couple concerns are notable. First, what is the best way to gather information about traditional tribal values and knowledge, and how can it be done with respect for information tribes may not wish to share for cultural and other reasons? One path forward, according to some participants, would be to convene listening sessions with tribal and other leaders, reflecting WTI's process of conducting interviews and convening workshops to prepare *Toward a Sense of the Basin*.<sup>634</sup> Second, how can tribal cultural and spiritual values be translated into terms (or parameters) suitable for modelling work, keeping in mind that relativism should exist between the value added by western science and traditional tribal values and knowledge?<sup>635</sup> In short, how can information of this sort be made actionable? Although the Bureau of Reclamation has expressed willingness to explore how to package this information for translation into the Colorado River Simulation System,<sup>636</sup> some participants suggested a new model and/or decision-making framework may be needed that better accommodates a broader range of values and aspirations.

Circling back to the Open Forum proposal, some workshop participants wondered whether creating this entity would be the best way to achieve the objectives above.<sup>637</sup> They suggested new platforms are not needed to do this type of work, and the entity would distract from other planning and problem-solving forums.<sup>638</sup> Conversely, other participants indicated there is a need for more independent scientific and technical review of alternative proposals for the new management framework, and this type of review should be informed not only by western science, but also by traditional tribal values and knowledge.<sup>639</sup> Some participants, however, raised concerns about how the Open Forum's work would be considered and/or integrated into the decision-making process.<sup>640</sup> Perhaps the best option to address this challenge, according to some participants, would be for the Secretary of the Interior to authorize the Open Forum's creation, thereby

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633. *Id.*

634. SENSE OF THE BASIN, *supra* note 460.

635. For an excellent introduction to bridging cultural differences, see generally PETER S. ADLER & JULIANA E. BIRKHOFF, THE NATIONAL POLICY CONSENSUS CENTER, BUILDING TRUST: WHEN KNOWLEDGE FROM "HERE" MEETS KNOWLEDGE FROM "AWAY" (2002), [https://www.doi.gov/sites/doi.gov/files/uploads/building\\_trust\\_adler\\_birkhoff.pdf](https://www.doi.gov/sites/doi.gov/files/uploads/building_trust_adler_birkhoff.pdf). For a review of innovative methods to blend different ways of knowing and learning, see ALBERTA ENERGY REGULATOR, VOICES OF UNDERSTANDING: LOOKING THROUGH THE WINDOW (2017), [https://static.aer.ca/prd/documents/about-us/VoiceOfUnderstanding\\_Report.pdf](https://static.aer.ca/prd/documents/about-us/VoiceOfUnderstanding_Report.pdf); Willie Ermine, *The Ethical Space of Engagement*, 6 INDIGENOUS L. J. 193 (2007).

636. For a basic description of this modeling system, see *General Modeling Information*, BUREAU OF RECLAMATION, <https://www.usbr.gov/lc/region/g4000/riverops/model-info-APR2018.html> (last visited Mar. 27, 2021).

637. SENSE OF THE BASIN, *supra* note 460, at 13.

638. *Id.*

639. *Id.*

640. *Id.*

establishing its visibility, legitimacy, and credibility.<sup>641</sup>

Finally, many workshop participants highlighted the need to ensure adequate funding and staffing for the Open Forum, as well as access to relevant information.<sup>642</sup> Basin tribes (and other parties) most likely would need time, money, expertise, and other resources to build capacity for effective participation in the forum. It would also require expertise to translate and communicate technical information across the basin's community of communities.

And that brings us back to what animates this lengthy discussion of the new management framework and next-generation Colorado River governance writ large. . . .

## V. CONCLUSION

*Community.* That concept is what this Article's been about. It's what Colorado River governance should be about—the new management framework and beyond. And it's much more than a concept. Bet your life on it.

John Wesley Powell's proposed watershed commonwealths fell short of community—at least from a twenty-first-century vantage.<sup>643</sup> Powell *saw* connections—perhaps his mind's strongest tendency—but his vision was tethered to historical context,<sup>644</sup> as all of ours are. So while he floated a river system flush with life—animate—initially in 1869 and again in 1871 and 1872,<sup>645</sup> only one species was alive in his advocacy about Western water.<sup>646</sup> And while that advocacy echoed the Arid Region's Spanish and Mexican past—embracing communitarian water governance—Powell's commonwealths weren't for those peoples.<sup>647</sup> Nor were they for Native communities who intrigued Powell for so much of his life<sup>648</sup>—communities whose connections to the river system have been described with the perfect word: umbilical.<sup>649</sup>

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641. *Id.*

642. *Id.*

643. Powell, *supra* note 1, at 114.

644. Louis Warren & Rachel St. John, *Strange Resurrection, in VISION & PLACE, supra* note 12, at 24–25 (“Powell was . . . of course, a man of his time and place, constrained by the biases and beliefs of a culture that assumed natural resources could best be used to promote agrarian development, that presumed the dominion of white men over Native people and the natural world alike, and that imbibed a blind faith in progress that would lead mostly to intense disappointment.”).

645. JOHN WESLEY POWELL, *EXPLORATION OF THE COLORADO RIVER OF THE WEST AND ITS TRIBUTARIES* (1875).

646. Two publications are foremost in this advocacy: Powell, *supra* note 11; JOHN WESLEY POWELL, *REPORT ON THE LANDS OF THE ARID REGION OF THE UNITED STATES* (1878).

647. Powell, *supra* note 1, at 112.

648. “Powell was instrumental in establishing the Smithsonian Institution's Bureau of Ethnology—later renamed the Bureau of American Ethnology—including serving as its first director (1879–1902).” *VISION & PLACE, supra* note 12, at xx.

649. As described by Zuni tribal member Jim Enoté: “The Zuni River and Little Colorado River are like umbilical cords, connecting us back to the place where we emerged.” *The Voices of Grand Canyon, supra* note 54.

Have you ever felt *invisible*? Maybe some readers do now. If so, you're not alone. Take a look at this piece of Patty Limerick's famous writing about Western history:

The cast of characters who inherit the West's complex past is as diverse as ever. As Western dilemmas recur, we wish we knew more not only about the place but also about each other. It is a disturbing element of continuity in Western history that we have not ceased to be strangers. . . . One would be happy to consign this pattern of thought to the old frontier West, but the quarantine would not hold. When Anglo-Americans look across the Mexican border or into an Indian Reservation, they are more likely to see stereotypes than recognizable individuals or particular groups; the same distortion of vision no doubt works the other way too. Indians, Hispanics, Asians, blacks, Anglos, businesspeople, workers, politicians, bureaucrats, natives, and newcomers, we share the same region and its history, but we wait to be introduced.<sup>650</sup>

Any hand this Article may have in making such introductions would be cause for celebration. The Colorado River Basin is a community of communities. It cannot and should not be a community of *strangers*. That's not community at all. By the same token, Colorado River governance cannot and should not occur among *strangers*. That's not governance at all. "What really is the key to success are relationships. You can't really work closely with folks and on very complex contentious issues if you don't know about each other and respect each other. I know it sounds simple. Of course, it's not, in fact."<sup>651</sup> That wisdom comes from Terry Fulp, former Lower Colorado Regional Director for the Bureau of Reclamation,<sup>652</sup> and possibly a kindred spirit to Patty Limerick. The next several years present an opportunity for relationship building that is exceptional in our lifetimes. Who knows when such a moment will come again. It's time to get to know each other. It's time to give and earn respect. And in these "simple" ways, it's time to do what John Wesley Powell envisioned for his watershed commonwealths, but in twenty-first-century form: create institutions shaped by our connections.

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650. PATRICIA NELSON LIMERICK, *THE LEGACY OF CONQUEST: THE UNBROKEN PAST OF THE AMERICAN WEST* 349 (1987).

651. Gary Pitzer, *A Colorado River Leader Who Brokered Key Pacts to Aid West's Vital Water Artery Assesses His Legacy and the River's Future*, WESTERN WATER (Nov. 6, 2020), <https://www.watereducation.org/western-water/colorado-river-leader-who-brokered-key-pacts-aid-west-vital-water-artery-assesses-his>.

652. *Id.*