

## Toward a Utah Intentionally Created Surplus Program

Devin Stelter

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# TOWARD A UTAH INTENTIONALLY CREATED SURPLUS PROGRAM

Devin Stelter\*

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## ABSTRACT

The Colorado River Basin continues to face a now two-decade-long drought sparked by the drastic effects of climate change on the region. Climate forecasting predicts that the adverse effects of climate change will only increase in severity in years to come. These effects have led federal, state, tribal, and private actors operating in the basin to search for innovative and effective solutions to the significant water scarcity problems that will persist into the future. A closely linked threat stemming from Colorado River water scarcity is the prospect of a “Compact call” on Upper Basin water by the Lower Basin states under the Colorado River Compact in the not-so-distant future. To proactively address this threat, as well as to improve water conservation efforts in the Upper Basin, this paper proposes that the State of Utah look to the Lower Basin Intentionally Created Surplus (ICS) program to implement a similar program for intra-state water banking and conservation in Utah. In so doing, the paper addresses the relevant pieces of the “Law of the River,” as well as the development of the current drought in the basin and recent stakeholder policy and conservation responses. The paper also examines likely legal and practical uncertainties surrounding a Utah ICS Program. By studying lessons learned from creative and progressive water management by other basin states, Utah can address state water scarcity, comply with Upper Basin Drought Contingency Plan promises, and chart a path for the rest of the Upper Basin.

## I. INTRODUCTION

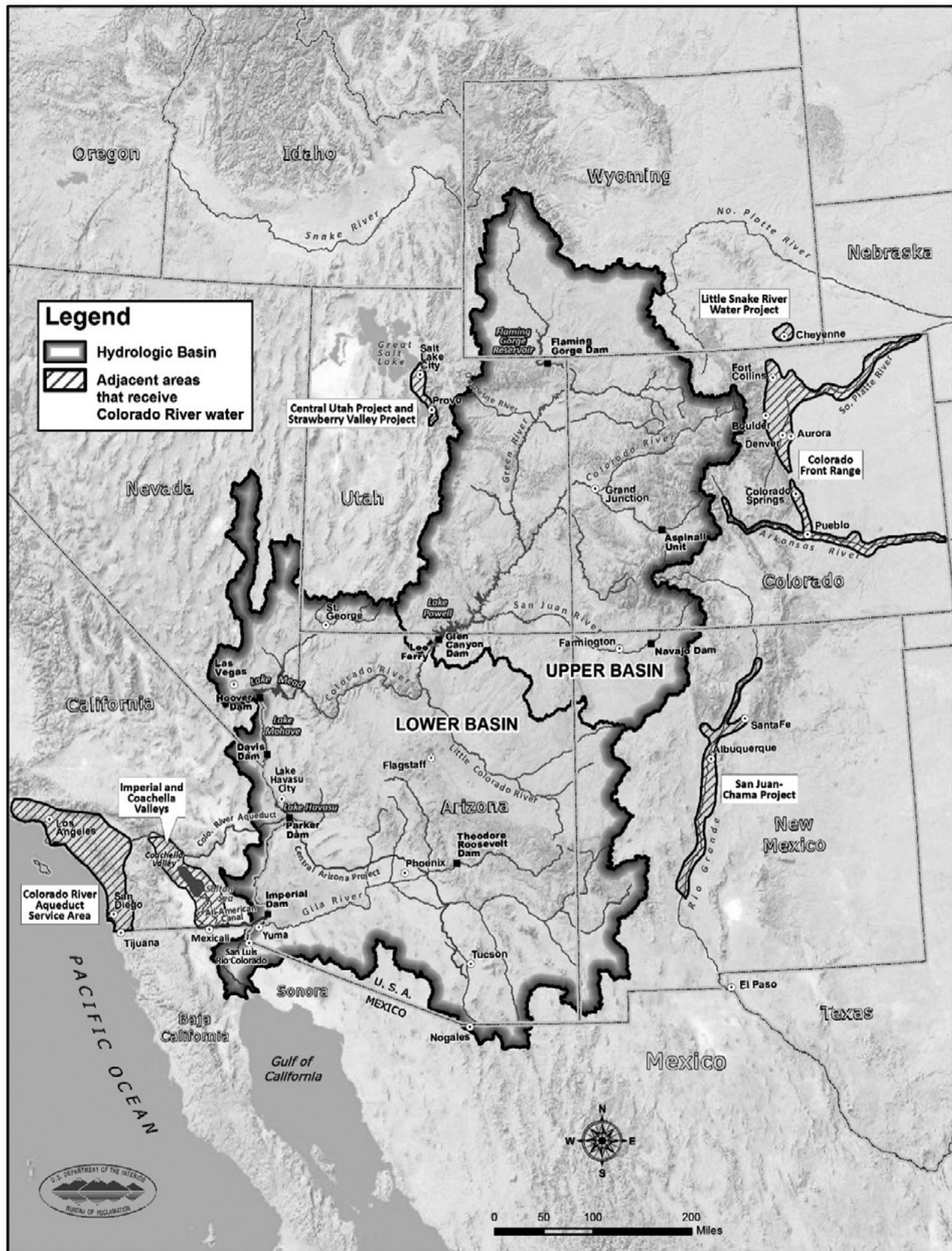
Recent U.S. Bureau of Reclamation (“Reclamation”) models project “a possible one million acre-foot drop in Lake Powell’s water storage due to lagging snowpack totals and record-setting soil moisture deficits.”<sup>1</sup> Another recent study found that “if Upper Basin consumptive uses continue to increase as projected[,] . . . then the flow obligations at Lee Ferry cannot be achieved or an equivalent amount of Upper Basin consumptive uses would have to be curtailed during a continued drought.”<sup>2</sup> However, the same study concluded that “if the Upper Basin were to not consume additional water beyond that which occurs now, the risks and impacts of future droughts and climate change would be substantially ameliorated.”<sup>3</sup>

As is becoming clearer with each passing year that the Colorado River Basin remains in a historic drought, innovative and proactive measures must be taken to avoid crucial water supply shortages throughout the Upper Basin. This paper suggests one such measure: a Utah Intentionally Created Surplus (“ICS”) Program. By incentivizing water conservation in Utah, the state could both protect Utah water-user interests and serve as a beacon for other Upper Basin states to pursue similar water management schemes.

This paper moves toward the implementation of a Utah ICS Program in three parts. First, Part II lays the foundation of the “Law of the River” by discussing important agreements such as the Colorado River Compact, Upper Colorado River Basin Compact, and Colorado River Storage Project Act. Next, Part III traces the evolution of the Colorado River Basin drought beginning in 2000 and stakeholder responses, including the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (“2007 Interim Guidelines”) and 2019 Drought Contingency Plans. Finally, Part IV calls on Utah and Reclamation to pursue the creation and implementation of a Utah ICS Program. The discussion illuminates various legal uncertainties that require navigation, ways in which the system could be initially formed, and potential program provisions. The paper concludes with a brief discussion of the primary benefit of a Utah ICS Program—namely, to address climate change-induced water scarcity and compliance with the Colorado River Compact.

## II. BACKGROUND

In addressing the nuances and difficulties of crafting a Utah ICS Program, we must foray into the development of the “Law of the River”<sup>4</sup> and the Colorado River Basin over the past century. Accordingly, this Section will begin by addressing the cornerstone of the Law of the River: the Colorado River Compact. The discussion will then turn to the Upper Basin and the enactment of the Upper Colorado River Basin Compact (“Upper Basin Compact”) and the Colorado River Storage Project Act (“CRSPA”).



**A. COLORADO RIVER COMPACT:  
THE SOLUTION CREATING THE PROBLEM**

While many statutes and agreements play a role in allocating Colorado River system water, none impact water rights and water security quite like the Colorado River Compact. Responding to disputes over allocation of the system's waters

and perceived threats from California's expansion and water use, the Colorado River Basin states coalesced to create the first interstate water allocation agreement in U.S. history with the Colorado River Compact.<sup>6</sup> Under the Compact, the Colorado River Basin is separated into two distinct sub-basins consisting of territory within multiple states.<sup>7</sup> The Upper Basin consists of



the parts of Colorado, New Mexico, Utah, and Wyoming “within and from which waters naturally drain into the Colorado River System *above* Lee Ferry,” as well as locations outside the basin beneficially served by system water, including areas like Salt Lake City, Denver, Albuquerque, and Cheyenne.<sup>8</sup> The Lower Basin consists of parts of Arizona, California, and Nevada “within and from which waters naturally drain into the Colorado River System *below* Lee Ferry,” as well as locations outside the basin beneficially served by system water.<sup>9</sup> As is indicated in the textual definitions of each sub-basin, the demarcation line between the sub-basins rests at Lee Ferry, Arizona, roughly fifteen river miles below Glen Canyon Dam.<sup>10</sup> Within this framework, the Colorado River Compact apportioned 7.5 million acre-feet (“maf”) annually of Colorado River system water use to both the Upper Basin and Lower Basin, with the Lower Basin receiving further authorization to increase its apportionment by 1.0 maf annually.<sup>11</sup>

While the Colorado River Compact was a groundbreaking agreement, it was, and remains, far from perfect. One of the most significant miscalculations in drafting the Compact, especially in light of the modern-day drought, was the faulty estimate of average flows in the Colorado River system. In allocating 7.5 maf to each sub-basin, the “[n]egotiators believed they were allocating more than 17 [maf] of water—perhaps as much as 20.”<sup>12</sup> As history has demonstrated, “the hydrologic record upon which the apportionment was made reflected a period of unusually high flows.”<sup>13</sup> Thus, since its inception, the Colorado River Compact has apportioned more water to the basin states than is normally present within the system.

Along with the pitfalls in quantitative analysis, numerous drafting issues are present in the Colorado River Compact. For purposes of this paper, none is potentially more impactful to the Upper Basin than the language chosen for Article III(d). Under Article III(d), “[t]he States of the Upper Division will not cause the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre feet for any period of ten consecutive years. . . .”<sup>14</sup> Although contested,<sup>15</sup> this language seems to indicate that the Upper Basin states have a legal obligation to deliver 7.5 maf on average annually to the Lower Basin at Lee Ferry. If this is the proper construction of Article III(d), the Lower Basin has a legal right to request fulfillment of the delivery obligation irrespective of water availability in the Upper Basin. This legal right is referred to as a “Compact call,” a situation in which post-1922 water rights in the Upper Basin may be curtailed to ensure the delivery obligation is satisfied.

Other interpretive issues pertinent to the Upper Basin involve delivery obligations to Mexico. Under the 1944 U.S.–Mexico treaty, the U.S. must provide 1.5 maf to Mexico annually.<sup>16</sup> Additionally, Article III(c) of the Colorado River Compact, if surplus amounts of Colorado River system water are unavailable to meet the 1.5 maf allotment, the Upper Basin and Lower Basin must each supply half of the deficiency to fulfill Mexico’s allotment.<sup>17</sup> Under the first Article III(c) interpretive issue, the Lower Basin contends that the Upper Basin is not only obligated to deliver half of the deficiency, but also half of the estimated

“286,000 [acre-feet] of [evaporative] losses that occur as the water moves through the Lower Basin to the Mexican border . . . .”<sup>18</sup> Second, the Upper Basin’s delivery obligation to meet Mexico’s treaty allotment is likely an annual obligation, and thus the Upper Basin cannot receive credit for delivering in excess of the delivery obligation in one year and then use that credit to withhold deliveries in a subsequent year.<sup>19</sup> So in years where no surplus exists to satisfy Mexico’s treaty allotment, the Upper Basin, in combination with its delivery obligation under Article III(d), would be required to supply roughly 8.25 maf at Lee Ferry with the potential for an additional estimated 143,000 acre-feet in evaporative losses.

As is evidenced by the delivery obligations discussed above, a Compact call on the Upper Basin is a frightening prospect. This scenario is particularly worrisome for Upper Basin states because many major metropolitan water rights—including for Salt Lake City, Denver, Cheyenne, Albuquerque, and Santa Fe<sup>20</sup>—are junior to the Compact, meaning municipal water supplies could be the first ones curtailed in a call.

## B. UPPER BASIN COMPACT

While the Colorado River Compact created delivery obligations for the Upper Basin, the Upper Basin Compact is the agreement that details the process for complying with said obligations and a Compact call. The Upper Basin Compact allocates the Upper Basin’s allotment of Colorado River system water use to each Upper Basin state based upon the remaining use available after compliance with Article III(c) and (d) of the Colorado River Compact and Arizona’s Upper Basin Compact allotment of 50,000 acre-feet per year.<sup>21</sup> After this compliance, Upper Basin states receive the following annual amounts of remaining Colorado River system water use: Colorado receives 51.75%; Utah receives 23%; Wyoming receives 14%; and New Mexico receives 11.25%.<sup>22</sup>

In anticipation of potential water supply shortages, Article IV of the Upper Basin Compact sets out the process and procedures for Upper Basin states to follow in the event of a Compact call.<sup>23</sup> Additionally, and significant for Upper Basin municipal water rights, Article IV explicitly states that when considering water right curtailment in the event of a Compact call, “water under rights perfected prior to November 24, 1922, shall be excluded,”<sup>24</sup> leaving junior water rights to be first on the curtailment block.

## C. COLORADO RIVER STORAGE PROJECT ACT AND THE CENTRAL UTAH PROJECT

While allocating the Upper Basin’s share of Colorado River system water was a necessary first step, the Upper Basin states felt they could not engage in practical use of their allocated water given the then-existing nature of the Colorado River and its tributaries. Like many western rivers, the Colorado River often experienced erratic flow rates that made it difficult to consistently obtain water for consumptive use.<sup>25</sup> This difficulty, in addition to being the basis for the Upper Basin Compact’s percentage-based allocation scheme, led to the Upper Basin’s

“concerted effort to obtain congressional authorization of legislation that would make it possible for the Upper Basin states to utilize their total allocated water supply.”<sup>26</sup> Out of this effort, the CRSPA<sup>27</sup> put into place the Colorado River Storage Project (“CRSP”).

The CRSPA, among other things, authorized construction of numerous water infrastructure projects throughout the Upper Basin. Of note to this paper, CRSPA authorized the construction of Flaming Gorge Dam and Reservoir,<sup>28</sup> Glen Canyon Dam and Lake Powell, and various water transportation infrastructure throughout Utah.<sup>29</sup> Of Utah’s water transportation projects, the largest, both in terms of size and amount of water supplied, is the Central Utah Project (“CUP”). Likely exceeding a total cost of \$3 billion by time of completion,<sup>30</sup> the CUP at full demand “develops and delivers about 251,750 acre[-]feet of water annually for use by the people of Utah.”<sup>31</sup> Importantly, the CUP’s water right, with a priority date of 1964,<sup>32</sup> is both junior to other water rights in the state and subordinate to delivery obligations, including to Mexico<sup>33</sup> and the Lower Basin.<sup>34</sup> With just under 100,000 acre-feet of CUP-supplied water designated for municipal and industrial use,<sup>35</sup> largely throughout the Wasatch front, a Compact call would pose a significant threat to an array of domestic water users in the state.

Although the primary piece of CRSPA infrastructure this paper will discuss is the Flaming Gorge Dam and Reservoir, the goal of bolstering storage levels at Flaming Gorge is simply a means to a more pressing end—namely, increasing the wet water stored in the Upper Basin’s primary reservoir used to deliver flows to the Lower Basin: Lake Powell. As has become alarmingly evident in recent years, the active storage levels of Lake Powell are in a free fall. According to the most recent figures from Reclamation at the time of writing, “[t]he end of March [2022] elevation and storage of Lake Powell were 3,523.13 feet (177 feet from full pool) and 5.81 million acre-feet (maf) (24 percent of live capacity), respectively.”<sup>36</sup> As is evidenced by the creation and acceptance of the Upper Basin Drought Contingency Plan (“Upper Basin DCP”), the Upper Basin states realize that bolstering active storage in CRSPA infrastructure like Lake Powell and Flaming Gorge will be crucial for Compact compliance.<sup>37</sup> Now it is simply a matter of transitioning that fundamental understanding into action.

### III. UNPRECEDENTED DROUGHT AND STAKEHOLDER RESPONSES: 2000–PRESENT

This Section will begin with an introduction to the water supply effects of the now two-decade-long drought plaguing the basin. Next, the discussion examines the necessary response made by the basin states, the federal government, and private entities to avert dire shortages in Lake Powell and Lake Mead and to avoid Compact litigation: the 2007 Interim Guidelines. Finally, the Section concludes with a look at the 2019 Drought Contingency Plans aimed at supplementing the 2007 Interim Guidelines to further address aridification of the basin.

#### A. THE DROUGHT

During the late-twentieth century, water users throughout the basin states were blessed with relatively consistent Colorado River system flows and ample amounts of stored water for consumptive use. From 1981 to 1985, estimated consumptive use and losses of Colorado River system water in the Upper Basin and Lower Basin averaged over 15.0 maf.<sup>38</sup> And “[i]n 1998, both [Lake Mead and Lake Powell] were full and, between them, stored more than 50 million acre-feet—roughly three and a half years’ worth of the river’s average flow.”<sup>39</sup> However, a more dire situation arose at the turn of the millennium. According to Reclamation, “[t]he period of 2000 through 2019 was the lowest 20-year period in the historical natural flow record that dates back to 1906” and “[t]he average Upper Basin natural flow of this period was over 14 percent less than the long-term average natural flow.”<sup>40</sup> And according to one study, “[b]ecause of the effects of climate change, future flows in the river will likely continue to decline beyond the current ~18% reduction relative to the 20th century.”<sup>41</sup> Further dovetailing with a significantly reduced water supply, “[c]onsumptive use and losses in the basin have grown . . . and ha[ve] regularly exceeded natural flows, in particular during the current drought.”<sup>42</sup> Furthermore, “[f]rom 1971 to 2002, total consumptive use and losses grew from 13 [maf] to over 16 [maf] annually.”<sup>43</sup>

The detrimental effects of the drought from 2000 to 2005 and “[l]ong-festering disagreements over the meaning of certain aspects of the Colorado River Compact . . . and other pieces of the Law of the River [] threatened to provoke litigation.”<sup>44</sup> As stated by Upper Basin representatives at the time, “[t]he fundamental issue for the Upper Basin relates to whether a deficiency exists under Article III(c) of the Compact, which would trigger an obligation of the Upper Basin to share in any such deficiency.”<sup>45</sup> The Upper Basin consistently held that such a deficiency did not exist and that the Upper Basin was thus under no obligation to share in remedying such deficiencies in treaty flows to Mexico. In this environment, the potential for expensive, protracted litigation in the U.S. Supreme Court in pursuit of a final interpretation of Article III of the Colorado River Compact has been at an unnervingly high level.

#### B. 2007 INTERIM GUIDELINES

In response to the historic drought, declining levels of both Lake Mead and Lake Powell, and the rising tensions among the basin states, the Department of Interior (“Interior”) in 2005 began “to develop additional operational guidelines and tools to meet the challenges of the drought in the [b]asin.”<sup>46</sup> Within two years, the basin states, along with Interior through Reclamation, entered into the 2007 Interim Guidelines.<sup>47</sup> “The three primary purposes of the guidelines were generally to (1) improve Reclamation’s management of the Colorado River; (2) provide mainstem Colorado River users in the United States with a greater degree of predictability; and (3) increase the flexibility of meeting water needs with reservoir water, particularly in drought.”<sup>48</sup> Most important to this paper, the Interim Guidelines established an innovative strategy to conserve water for future

use and to increase Lake Mead storage levels: the Intentionally Created Surplus program (“Lower Basin ICS Program”). Under this program, water users in Lower Basin states (“contractors”) contract with Reclamation to store a conserved portion of their water rights in Lake Mead for future delivery and use. The Interim Guidelines set out specific provisions for classifying types of ICS, the creation of ICS, and the delivery of stored ICS.<sup>49</sup>

First, the Interim Guidelines set out four categories of ICS: Extraordinary Conservation, Tributary Conservation, System Efficiency, and Imported ICS.<sup>50</sup> Extraordinary Conservation ICS is created through activities such as land fallowing, canal lining, and desalination.<sup>51</sup> Tributary Conservation ICS is created by acquiring for conservation purposes water rights to water in Colorado River tributaries that has consistently been consumptively used in the recent past.<sup>52</sup> To create System Efficiency ICS, a “[c]ontractor may make contributions of capital to the Secretary [of Interior] for use in projects designed to realize system efficiencies that save water that would otherwise be lost from the Mainstream” Colorado River.<sup>53</sup> Finally, Imported ICS is created through “introducing non-Colorado River System water in that Contractor’s state into the Mainstream.”<sup>54</sup>

For a Lower Basin contractor to create and store ICS water, they must first submit an ICS creation plan to the Secretary of Interior addressing how they plan to create the ICS, the term of creation, the estimated amount of ICS to be created, the verification methods, and documentation of necessary state and federal permits.<sup>55</sup> In addition, the Interim Guidelines placed a one-time five percent tax on ICS water stored in Lake Mead in the year the ICS water was created,<sup>56</sup> as well as a three percent annual deduction from ICS water stored in Lake Mead to account for evaporation losses.<sup>57</sup>

Finally, the Interim Guidelines set out specific conditions and procedures relating to the delivery of ICS water. ICS water can only be delivered to contractors when the Secretary of Interior has declared either a Surplus<sup>58</sup> or Normal<sup>59</sup> Condition of water supply in the Colorado River system. Additionally, contractors must enter into a Delivery Agreement with Reclamation. And the Interim Guidelines set specific limits on the amount of stored Extraordinary Conservation ICS water that can be delivered to contractors in any given year.<sup>60</sup>

### C. DROUGHT CONTINGENCY PLANS

While the Interim Guidelines were a significant step in addressing Colorado River Basin drought, the basin states and Reclamation quickly realized by 2013 the need for additional procedures and safeguards to address the continuing impacts of climate change on the basin. Accordingly, in 2019, the basin states and Reclamation entered into the Agreement Concerning the Colorado River Drought Contingency Management and Operations.<sup>61</sup> The purpose of the agreement was to “allow the development and testing, on an interim basis, of tools to provide additional security and certainty in the water supply of the Colorado River System . . . .”<sup>62</sup>

As a part of the agreement, both the Lower and Upper Basins individually created their own unique drought contingency plans (“Lower Basin DCP” and “Upper Basin DCP”).<sup>63</sup> Most notably for this paper, the Lower Basin DCP includes provisions further adjusting and expanding the Lower Basin ICS Program created by the 2007 Interim Guidelines. The Lower Basin DCP introduced one-time percentage fees as opposed to annual percentage fees for evaporation losses, allowed for ICS creation sharing between Lower Basin states, and allowed for interstate water transfers of ICS depending on Lake Mead elevations.<sup>64</sup>

“The Upper Basin DCP is designed to: (1) protect critical elevations at Lake Powell and help ensure continued compliance with the 1922 Colorado River Compact; and (2) establish the foundation for the storage of water in the Upper Basin as part of a Demand Management Program that may be developed in the future.”<sup>65</sup> Most importantly for this paper, the Upper Basin DCP charged the Upper Basin states with exploring and potentially developing an Upper Basin Demand Management Program (“DMP”) aimed at reducing consumptive use of Colorado River system water and augmenting water supplies.<sup>66</sup> While an important step, the Upper Basin DCP only requires Upper Basin states to “investigate the feasibility of developing and implementing an Upper Basin Demand Management Program.”<sup>67</sup>

While the investigation of the feasibility of an Upper Basin DMP is a laudable goal, the ever-worsening water scarcity scenario playing out in the Colorado River Basin requires more swift and decisive action from Upper Basin leaders. And to date, the Upper Basin states, Utah included, have failed to make the firm declaration that a general demand management program in the Upper Basin would be feasible and move past the initial investigatory stage.<sup>68</sup> Accordingly, water management and conservation options like a Utah ICS Program should be evaluated for implementation as soon as possible to both fulfill Utah’s Upper Basin DCP obligation to investigate demand management and to adequately address both consumptive use and compliance with existing law and delivery obligations.

## IV. THE UTAH ICS WATER BANK: FLAMING GORGE RESERVOIR

Although the threats posed by climate change undoubtedly impact the entire basin, worsening drought conditions and water shortages could pose a unique ultimatum for Upper Basin states: comply with a Compact call by curtailing post-1922 water rights or protect the stability of current water use and violate the Colorado River Compact. To reduce the risk of a Compact call on Utah water users, Utah should work to implement a program similar to the Lower Basin ICS Program on an intra-state level. By incentivizing the creation and storage of surplus Colorado River system water, Utah could save water for future Compact compliance, honor the state’s commitment to demand management under the Upper Basin DCP, and serve as a model for other Upper Basin states to similarly pursue demand management schemes.

This Section begins by providing a background of the proposed water bank, the Flaming Gorge Reservoir (“Reservoir”).



Next, the discussion considers legal uncertainties surrounding an intrastate ICS Program in the Upper Basin, the legal creation of a Utah ICS Program, and some general provisions a Utah ICS Program should include. This coverage is not exhaustive of all possible difficulties a Utah ICS Program would face in creation or implementation, but rather aims to spark dialogue for the creation of an intrastate, and ultimately Upper Basin, demand management program. As such, the Section offers starting points for the legal creation of, and practical considerations relating to, a Utah ICS Program.

#### A. THE BANK: FLAMING GORGE RESERVOIR

To implement an ICS program in Utah, a location for feasible surplus water storage is critical. While more directly mimicking the Lower Basin ICS Program by using Lake Powell as Utah's intrastate water bank seems appealing, holding surplus water in southern Utah would lead to a host of administrative issues, such as water shepherding<sup>69</sup> and accounting of evaporative losses from conserved waters' travel to southern Utah. To avoid some of these issues, Utah should look to creating a water bank at the Reservoir on the Utah-Wyoming border.

As alluded to earlier, the Reservoir was created following the completion of Flaming Gorge Dam on the Green River on November 15, 1962, as a part of the CRSP.<sup>70</sup> At its maximum capacity, the Reservoir can hold 3,788,900 acre-feet<sup>71</sup> and, as of this writing, maintains storage of 3,149,501 acre-feet of water.<sup>72</sup> As with the other CRSP initial units, Flaming Gorge is owned and operated by Reclamation. Flaming Gorge Dam is operated with numerous purposes in mind, including hydropower generation, Green River flood control, flows for the Upper Colorado River Endangered Fish Recovery Program, and water storage for agricultural, industrial, and municipal uses.<sup>73</sup>

Turning to the use of the Reservoir as a water bank for Utah water users, unlike Lake Powell, no similar shepherding or unique evaporation issues exist with storing surplus water in the Reservoir.<sup>74</sup> The only additional accounting measure necessary would be to track ICS deliveries from the Reservoir to those water rights holders creating ICS in Utah. Rather than adopting the difficult administrative task of assuring that conserved wet water reaches Lake Powell, storing surplus in northern Utah would ensure the surplus credit created better matches the amount of wet water added to the bank. By placing the water bank at the farthest point upstream in Utah's portion of the basin, the state would increase the efficiency of deposits and deliveries and reduce the accounting procedures necessary to maintain accurate ICS accounts. And, regarding evaporation, natural losses could be accounted for in manner similar to the Lower Basin ICS Program by setting either an annual or a one-time evaporation loss deduction. In all, this paper recommends that the Reservoir be used as the water bank in a Utah ICS Program.

#### B. THE PROGRAM IN PRACTICE

While creation and implementation of a Utah ICS Program could take many forms, this paper suggests that Utah follow in the footsteps of the Lower Basin states by adopting a program

analogous to the Lower Basin ICS Program. Although there will inherently be features unique to a Utah ICS Program, much of the existing program in the Lower Basin can be adopted for use in a Utah intrastate program. However, unlike the Lower Basin ICS Program, certain key facets of Western water law in the Upper Basin and Utah will have to be carefully navigated for such an intrastate system to be realized.

#### 1. LEGAL UNCERTAINTY UNDER PRIOR APPROPRIATION

Like other Western states, Utah assigns water rights on the basis of prior appropriation.<sup>75</sup> Under this doctrine, a water user may obtain a water right by diverting water from a source in the state for various beneficial uses. As discussed below, two legal components are important to prior appropriation systems: temporal priority and beneficial use.

Under prior appropriation systems, those who first divert and use water have priority rights over those who begin using water from the same source at later dates.<sup>76</sup> This rule of temporal priority is commonly referred to by the adage "first in time, first in right." Thus, the water user with a senior water right can receive the full amount of their appropriative right before any user with a junior right can receive their water. If a junior rights holder's use of water from a given source impedes the senior rights holder's full use of their appropriation, the senior rights holder may, through the proper authorities, seek to halt the junior rights holder from further using water until the senior rights holder receives their full share.

The other important concept underlying prior appropriation is beneficial use.<sup>77</sup> Under prior appropriation systems, a user can only obtain a legal right to use water if they are using the water for some "beneficial use." This concept works to ensure that water, a limited resource in the arid West, is, while not necessarily used efficiently,<sup>78</sup> not put to waste. In most jurisdictions, "beneficial use" is a somewhat fluid term without any concrete legislative, administrative, or judicial definition or interpretation. In Utah, "beneficial use" is defined as "the purpose to which water diverted under a water right is applied[.]"<sup>79</sup> including, but not limited to, irrigation, stock watering, domestic and commercial, industrial, and municipal uses.<sup>80</sup>

With this understanding of Utah's water rights system, we address the legal and practical issues that may arise with an intrastate ICS program. A threshold issue will likely be the impact of the beneficial use doctrine on participation in an ICS Program. To store a portion of a water right as ICS, a Utah water rights holder would have to file a change of use application with the State Engineer.<sup>81</sup> Under current Utah water law, storage of water for future Compact compliance is not considered a beneficial use. Without some adjustment to the state's beneficial use scheme, Utah water users would simply not be able to store water in the Reservoir for that purpose, as the State Engineer would be obligated to reject any such change application.<sup>82</sup> And even if such an application were approved, the possibility exists that those water rights holders could forfeit the right to their stored portion of water.<sup>83</sup>



The beneficial use dilemma is the primary roadblock to the direct adoption of the Lower Basin ICS Program’s provisions, as there is a crucial distinction regarding water rights between the sub-basins. Under the Boulder Canyon Project Act of 1928 (“BCPA”),<sup>84</sup> the Secretary of Interior is authorized “to contract for the storage of water in [Lake Mead] and for the delivery thereof . . . .”<sup>85</sup> And, most importantly, the BCPA states that “[n]o person shall have or be entitled to have the use for any purpose of the water stored as aforesaid except by contract” with the Secretary of Interior.<sup>86</sup> This generally exclusive authority was enshrined in the *Arizona v. California*<sup>87</sup> decree, which states that “mainstream water shall be released or delivered to water users . . . in Arizona, California, and Nevada *only pursuant to valid contracts* therefor made . . . pursuant to Section 5 of the [BCPA]. . . .”<sup>88</sup> The *Arizona v. California* opinion further holds that the BCPA entirely supplants state law prior appropriation, including the beneficial use tenet, with respect to Colorado River mainstem water appropriations in the Lower Basin from 1929 onward.<sup>89</sup> Accordingly, although Lower Basin water users may need to comply with a beneficial use provision in a Section 5 contract with Reclamation, Lower Basin water users are not subject to the same beneficial use requirement and forfeiture analysis as under Upper Basin state prior appropriation law. Further, since the Lower Basin ICS Program was expressly created by the Department of Interior through Reclamation, Lower Basin water users engaging in the creation and storage of ICS water, as is discussed below, face no threat of losing their right to use Colorado River water like Upper Basin water users would under the current Upper Basin legal landscape.

For Upper Basin states, neither the BCPA nor any other federal law supplants state law prior appropriation with respect to Colorado River water. While water rights holders throughout Utah and other Upper Basin states must contract with Reclamation to receive and use system water stored in the Reservoir pursuant to various reclamation laws,<sup>90</sup> the right to use Reservoir-stored system water does not protect water users from potential forfeiture claims.<sup>91</sup> Unlike in the Lower Basin where water users can obtain rights to mainstem water by contracting with Interior through Reclamation, Upper Basin water users must adhere to both state law prior appropriation—including the doctrine of beneficial use—and contracts with Reclamation for delivery of federally-stored system water.<sup>92</sup>

Being subject to Utah prior appropriation law and the beneficial use tenet, water users in Utah would either simply be unable to store water in the Reservoir for later use or could face forfeiture claims if they pursued such storage.<sup>93</sup> With the uncertain legal landscape that currently exists surrounding Colorado River system water rights in the Upper Basin, it appears unlikely that Utah water users would be willing to voluntarily participate in a Utah ICS Program.

## 2. THE SOLUTION: EXEMPTING UTAH ICS PROGRAM PARTICIPATION FROM STATE-LAW FORFEITURE ANALYSIS

Due to the considerable uncertainty caused by the prior appropriation system, broad participation by Utah water users in

an intrastate ICS program seems improbable. Such a program is not viable without a significant portion of Utah water users creating and storing ICS. Accordingly, water users in the state must feel more confident that their appropriative rights are secure while participating in the program.

One way the State of Utah could address the legal uncertainty with storing ICS water for the purpose of Compact compliance is to adjust prior appropriation to the ever-changing water supply conditions in the Colorado River Basin. Specifically, Utah could exempt ICS Program participation from forfeiture claims under state water law. Utah Code Ann. 73-1-4(2)(e) contains a lengthy list of water uses that do not subject a water rights holder to forfeiture claims, including use in an approved Utah water bank.<sup>94</sup> Amending the forfeiture statute to include an exemption for water created and stored under a Utah ICS Program would provide the necessary legal protection and stability for Utah water rights holders participating in the program.

Additionally, if a Utah ICS Program would allow for the alienability of ICS to third parties,<sup>95</sup> the exemption from forfeiture analysis would likely lead to improved economic impacts due to the more efficient use of Colorado River system water as well as the potential for increased income to Utah water users who pursue ICS creation and transfer. Even in the absence of alienability, the option to store ICS credits in the Reservoir would likely lead to improvements in efficiency, leading to overall cost savings for those Utah water users. In all, these economic benefits weigh in favor of exempting ICS storage from forfeiture analysis to allow for the implementation of a Utah ICS Program.

The difficulty with pursuing exemption from forfeiture for ICS Program participation lies in the more time-consuming and politically charged nature of legislative action and gubernatorial approval. To provide for such an exemption, the Utah legislature will need to amend Utah Code Ann. § 73-1-4(2)(e) to add a twelfth subsection stating that forfeiture analysis under § 73-1-4(2)(a) does not apply to ICS Program participation. While there exists precedent for such an amendment, namely the exemption of participation in a Utah water bank and an exemption for storage rights in accordance with the Groundwater Recharge and Recovery Act,<sup>96</sup> there are a couple of potential difficulties the State Legislature may face in proposing such an amendment to the forfeiture statute for ICS Program participation. First, water rights holders in Utah may be skeptical of storage of appropriative water and its potential impact on junior right holders. A junior water right holder in Utah may see the storage of a senior water right holder’s water in the Reservoir as a threat to the stability of their junior right. If the senior water right holder chose to take conservation measures and leave a portion of their right in the system, a junior right holder would feel more confident in the full use of their right. This confidence may be reduced if that conserved water is earmarked as ICS and not simply system water, or an ICS contractor requests a large delivery of ICS water that impacts a junior rights holder’s use of water.

Although these are valid concerns, the State Engineer will be required to ensure that the creation of ICS does not impair junior water rights.<sup>97</sup> Additionally, to address the impact of ICS

delivery, restrictions would be placed on the timing and amount of ICS delivery to protect junior rights holders.<sup>98</sup> On a more practical note, it is likely that junior rights holders' water will be curtailed first in the event of a Compact call. Thus, a Utah ICS Program would work to comply with Compact delivery obligations, prevent U.S. Supreme Court litigation, and protect the water rights of junior water rights holders in Utah. And finally, junior rights holders could also take advantage of the Utah ICS program through both potential alienability provisions<sup>99</sup> by contracting directly with senior rights holders for ICS water and the creation provisions to conserve and store their own ICS water for future use.

While formally recognizing Compact compliance as a beneficial use would arguably provide the most protection for water rights holders participating in a Utah ICS Program, various practical and political difficulties would likely prevent such a recognition. Explicitly statutorily or administratively accepting Compact compliance as a beneficial use may garner pushback from water rights holders and stakeholders that are uneasy about any concrete definition of "beneficial use." A less concrete definition of "beneficial use" may provide more flexibility for future uses of water. And some water users may feel wary about how their current use would fit into a more concrete definition. Additionally, some stakeholders may feel that their use of water has unfairly been ignored as being a "beneficial use" if Compact compliance is officially recognized in lieu of the stakeholders' proposed use. Notably, the State has avoided these issues in the past by excluding a water use from forfeiture analysis. For example, the Utah Water Banking Act states that "[a] banked water right is excused from beneficial use requirements pursuant to Subsection 73-1-4 (2)(e)(xi)."<sup>100</sup>

The current legal landscape in Utah would pose substantial roadblocks to the creation and implementation of an intrastate ICS program. Fortunately, the State has ample precedent and an established roadmap to address these roadblocks by amending the forfeiture statute to exclude water rights involved in such a program from the threat of forfeiture. Such a change allows for continued flexibility and consistency in approved beneficial uses while also protecting ICS Program participants from forfeiture and allowing the State Engineer to approve ICS water change applications

### 3. LEGAL CREATION OF A UTAH ICS PROGRAM

While exempting the ICS Program from forfeiture analysis will likely be the linchpin in making a Utah ICS Program possible, stakeholders will still need to address how the program would be formed in accordance with existing law.

The first option for legally creating a Utah ICS Program with the Reservoir as a water bank is through Reclamation's authority under the CRSPA. The CRSPA provides that "the Secretary of the Interior is . . . authorized (1) to construct, operate, and maintain the following initial units of the Colorado River storage project: . . . Flaming Gorge . . ."<sup>101</sup> Since it is likely that "operating" Flaming Gorge Dam and Reservoir would include implementation and operation of a Utah ICS

Program, Reclamation likely has the legal authority to create such a program without further congressional approval. In this scenario, Reclamation would contract directly with Utah water users for storage and delivery of ICS similar to the Lower Basin ICS agreements. And the state would still have a necessary role to play given the need for Utah water users participating in the program to go through the change application process in adjusting aspects of their water rights.

Short of exercising its authority under the CRSPA, the second option available is for Reclamation to enter into a formal agreement with the State of Utah as a sovereign and Utah water users who would participate in the program. This contractual agreement would allow the parties to more freely discuss how a Utah ICS Program should operate to best serve the goals of water conservation and future Colorado River Compact compliance. And even if Reclamation has the authority under CRSPA to unilaterally create such a program, Reclamation may nonetheless find it useful from a practical perspective to follow this path and engage with the State of Utah and water users in the creation, implementation, and administration of the program. This is particularly true given the State Engineer's necessary involvement in the change application process and management of water rights in the state.

One way in which Reclamation could pursue a more collaborative route with the state in creating an ICS Program is to work with the Colorado River Authority of Utah ("CRA of Utah"), a newly created state agency "whose mission is to protect, preserve, conserve, and develop Utah's Colorado River system interests."<sup>102</sup> While the CRA of Utah places some focus on developing interests in Colorado River system water—a potentially incongruent priority in light of recent aridification and decreased water supply—the agency is also "committed to stewardship of this finite—and precious—resource through proactive conservation measures."<sup>103</sup> Given the focus and mission of the CRA of Utah, Reclamation should, at a minimum, seek the agency's input in the creation and administration of a Utah ICS Program.

In addition to having the legal authority to create an intrastate ICS Program, Reclamation has a strong practical incentive to do so. In aiding in the creation of the Upper Basin DCP, Reclamation, like the Upper Basin states, sought to avoid the prospect of a Compact call and contentious litigation in the U.S. Supreme Court. Additionally, Reclamation has a growing incentive to prevent Lake Powell from dropping to levels that make the production of hydropower at Glen Canyon Dam impossible.<sup>104</sup> In fact, during the summer of 2021, Reclamation took the unprecedented step of releasing water from the Reservoir, Navajo Lake, and Blue Mesa Reservoir to bolster Lake Powell levels to ensure continued power production at Glen Canyon Dam.<sup>105</sup> Notably, as the largest storage facility, the Reservoir will sacrifice the greatest volume of water of the three Upper Basin storage facilities tapped by Reclamation, dropping an estimated four feet in elevation as a result.<sup>106</sup> And of further importance to Reclamation, energy produced at Glen Canyon Dam is used throughout the Southwest and hydropower revenues fund

various environmental programs in the basin.<sup>107</sup> Accordingly, with such a dire situation forming at Lake Powell and Glen Canyon Dam, Reclamation should feel inclined to work with the state of Utah and Utah water users to create and implement an ICS Program to provide insurance for Lake Powell storage levels and continued hydropower production at Glen Canyon Dam.

#### 4. LAYOUT OF A UTAH ICS PROGRAM

With a more favorable legal landscape surrounding water rights in place, we now turn to the program's practical layout. In all, exempting ICS Program participation from the forfeiture analysis would likely allow Utah to directly transplant most of the Lower Basin ICS Program provisions. In proposing unique or additional provisions of a Utah ICS Program, the discussion below is intended to be a starting point for more robust dialogue surrounding the creation and implementation of such a program. Accordingly, the discussion is limited to providing some suggestions for Utah ICS Program components with light discussion of potential drawbacks and difficulties posed by those components.

##### a. ICS Contracting & Fees

Like the Lower Basin ICS Program, Utah water users would contract directly with Reclamation to store ICS in the Reservoir. In proposing a contract with Reclamation, each water user would be required to develop an ICS creation plan demonstrating the type (Extraordinary Conservation, System Efficiency, Tributary Conservation, and Imported ICS) and amount of ICS to be created, as well as the creation methods to be used. This water could then be subsequently delivered from Reclamation to water users under the same system set out in the Lower Basin ICS Program.<sup>108</sup> Additionally, a Utah ICS Program could place either a one-time fee on ICS to bolster instream flows or, as was done in the Lower Basin DCP, Utah water users could contribute a one-time fee of 10% to account for instream flows and evaporation losses.

Further, while the Lower Basin ICS Program does set a cap on annual ICS creation, setting such a cap seems to cut against the goal of system water conservation. At least initially allowing for the unlimited creation of ICS in Utah would incentivize robust conservation and storage of system water. To assuage concerns regarding the Reservoir's more modest storage capacity, a Utah ICS Program could include a provision that would limit the creation of ICS if the storage capacity of the Reservoir is reasonably threatened. Any necessary caps or restrictions could be considered as the program develops.

##### b. Alienability of ICS Water

An additional feature of a Utah ICS Program that could increase participation by water users is to make ICS water fully alienable. This type of provision would align a Utah ICS Program with the Lower Basin DCPs recent expansion of the Lower Basin ICS Program, which states that "interstate water transactions shall be permitted in Years when Lake Mead's January 1 elevation is projected to be above 1,045 feet."<sup>109</sup> And while programs have authorized the assignment of Colorado River water rights to third parties in the past,<sup>110</sup> a truly free

market approach that compensates the conservation and transfer of Colorado River water rights has yet to fully take form in the basin.

By making ICS water alienable, the program would "promote water savings through providing a stimulus for reduced consumptive use; monetizing the value of water allows [Utah water] users to sell or lease unneeded water."<sup>111</sup> Appealing to the pocketbooks of water users could allow Utah to conserve Colorado River system water that otherwise would have been consumptively used. Thus, the alienability of ICS, like other water marketing mechanisms, would "allow[] for the improvement of productivity and efficiency by discouraging wasteful or economically low-value [water] uses and reallocating rights to more productive uses."<sup>112</sup> But in assessing ICS alienability, decisionmakers must fully assess the potential drawbacks by considering various economic, environmental, and sociopolitical issues present with water marketing.<sup>113</sup>

After creating ICS, a Utah water user could then temporarily lease a portion of their right to ICS to a third party for a designated beneficial use. These leases would follow the standard State Engineer review procedures for water transfers (ensuring non-impairment to other water right holders, that ICS lease does not impact the public welfare, and that the water will be used for a recognized beneficial use).<sup>114</sup> And while one potential issue with allowing for alienability of ICS water is the anti-speculation doctrine of western water law,<sup>115</sup> specifically exempting participation in a Utah ICS program from beneficial use requirements (similar to the Utah Water Banking Act) would also prevent an anti-speculation claim on ICS water creation and transfer.<sup>116</sup>

##### c. ICS Accounting Measures & Conveyance Monitoring

On a practical level, ensuring that the stakeholders in a Utah ICS Program have reliable data regarding the amount of ICS created, stored, and delivered will be key to tracking the program's success. As with the Lower Basin program, Reclamation should play the primary accounting role when it comes to tracking the creation, storage, and delivery of ICS in a Utah ICS Program. Given that Utah water users participating in the program will be required to submit ICS creation plans to Reclamation, Reclamation will play an integral role in creation, storage, and delivery and will already have the administrative capacity to undertake ICS accounting. While Reclamation is likely in the best position to manage these accounting features of a Utah ICS Program, the State of Utah must remain apprised as to the accounting functions and data compiled by Reclamation. The water rights involved in the program will have been established under Utah state law, and thus Reclamation should maintain frequent communication with the state sovereign regarding ICS accounting.

One area in which the state will have a larger role to play in an intrastate ICS Program pertains to accounting and the alienability of ICS.<sup>117</sup> Given that rights to ICS water will have been obtained under Utah law, the state (through the State Engineer) should have the primary responsibility of tracking ICS transfers. Like with any other lease or transfer of a water right, parties to



an ICS water transfer would be required to file a change application with the State Engineer. This change application will automatically include a description of the water right, water quantity, current and proposed place of diversion, and the place, nature, period, and extent of the current and proposed use.<sup>118</sup> Thus, the accounting and tracking responsibilities of the State Engineer necessary to facilitate a Utah ICS Program would not differ significantly from the State Engineer's day-to-day responsibilities.

Additionally, as with all other water rights transfers, the state would be required to exercise certain review functions pertaining to the ICS program. Under state law, changes to water rights (including type of use) are only approved if, among other things, "the proposed use will not impair existing rights or interfere with the more beneficial use of the water" and "would not prove detrimental to the public welfare."<sup>119</sup> The State Engineer has the responsibility of making sure changes to water rights comply with these provisions and would have the same responsibility for ensuring that the creation, delivery, and use of ICS complies with those provisions, as well. And depending upon the feasibility and desire to do so, the State Engineer could implement an expedited review process for ICS transfers similar to expedited processes in approving water right transfers and applications in other Western states.<sup>120</sup> The state engineer would also be responsible for ensuring that delivered ICS is actually used for its specified beneficial use in the state.<sup>121</sup> Since the State Engineer is already tasked with monitoring certain aspects of water use in Utah, it is in the best position to add ICS transfer monitoring to its responsibilities.

#### *d. Amounts of Deposits and Withdrawals*

Another consideration in crafting a Utah ICS Program are potential limits on the creation and delivery of ICS water. While the Lower Basin ICS Program does cap the creation of ICS annually,<sup>122</sup> a Utah ICS Program would have the greatest impact on ensuring Compact compliance if ICS creation were unlimited, at least initially.<sup>123</sup> And given the potential for the alienability of ICS,<sup>124</sup> and the fact that the ICS program would be limited to one state, allowing for the creation of the greatest amount of ICS possible would spur innovation in and desire for water conservation in Utah.

As opposed to ICS creation, ICS deliveries must be restricted. First, ICS credit holders could put junior appropriative rights holders in Utah, as well as Compact compliance, in jeopardy by requesting large deliveries in the same year irrespective of supply conditions. Not only would this undermine the goal of a Utah ICS Program to increase the amount of water in the Colorado River system, but it would also likely violate Utah water law with respect to the impairment of junior water rights.<sup>125</sup> To prevent these issues, water users participating in a Utah ICS Program should be limited to requesting ICS deliveries only when adequate water levels are present in the Upper Basin's portion of Colorado River system.<sup>126</sup>

Additionally, when there is adequate water supply for ICS deliveries, each water user requesting delivery should have their delivery amount capped annually to prevent impairment of

junior water rights or substantial draw down of the Reservoir. In setting a cap on ICS delivery, policymakers could set an overall limit for all Utah ICS deliveries in a given year or, for a more case-by-case approach, look to the circumstances surrounding individual water users requesting ICS delivery, including the amount of ICS requested relative to ICS storage levels in the Reservoir or Lake Powell. At a minimum, mimicking a similar provision in the Lower Basin DCP,<sup>127</sup> a Utah ICS Program provision should restrict the delivery of ICS when Lake Powell falls below the target elevation of 3,525 feet set out in the Upper Basin DCPs.<sup>128</sup>

### *5. THE UTAH ICS PROGRAM IN ACTION: ANSWERING THE CALL*

Given the discussion of a Utah ICS Program above, it remains necessary to discuss how such a program would help to either avoid a Compact call or reduce the impact of a call on Utah water users. The primary goal of a Utah ICS Program is to ensure the state's compliance with its portion of the delivery obligations under Article III(c) and (d) of the Colorado River Compact. By incentivizing Utah water users to create ICS, more water will be left in the system by Utah water users.

Barring the prevention of a Compact call entirely, the water stored under a Utah ICS Program could be released to Lake Powell to aid in meeting Compact call delivery obligations.<sup>129</sup> In this capacity, a Utah ICS Program and the operation of the Reservoir and Flaming Gorge Dam could dovetail with the Upper Basin DCP Operations Agreement, which sets out management and operation principles for all Initial Units in response to the continuing drought and the need to maintain Compact compliance.<sup>130</sup> Additionally, to further avoid impacts to water supplies for municipalities like Salt Lake City or Denver with junior water rights, the state could choose to pay senior water rights holders for the curtailment of their appropriative rights ahead of any curtailment of municipal water supplies. But without the added wet water a Utah ICS Program would provide, Utah may not have the option of protecting crucial water supplies for many of its citizens. Accordingly, the largest benefit of a Utah ICS Program is water security for hundreds of thousands of Utahans in a time when the arid West continues to face unprecedented increases in temperature and decreases in water supply.


## **V. CONCLUSION**

For the past two decades, the Colorado River Basin has experienced a historic drought that has forced stakeholders to seek innovative and timely measures to provide water security. Although progress has been made over the last fifteen years in addressing water management, the fact remains that conditions throughout the basin are likely to become more dire due to aridification of the region. Given the Upper Basin's Colorado River Compact delivery obligations, the security of Upper Basin water faces even more jeopardy. The Upper Basin states, including Utah, need to take seriously the growing threat that the water supply to millions of citizens could be curtailed in the not-so-distant future to comply with a Compact call.

Sadly, Utah, the Upper Basin states, and the UCRC have yet to stop patting themselves on the backs for agreeing to agree sometime in the future on a potential demand management program and take meaningful, concrete steps toward creating such a program. An analogy from James Eklund is apt to describe this unfortunate cycle:

Thanks to the [Upper Basin DCP], we now have a two-parachute rig strapped to our collective back. One parachute represents our ability to release water from reservoirs above Lake Powell to slow our descent . . . . The second is Demand management . . . . The ground is quickly approaching. We can argue about the color

of the second chute until it is too late, or we can pull the ripcord and start focusing on landing as safely as possible.<sup>131</sup>

To address the scenario we find ourselves in, Utah should take the proactive step of following in the footsteps of the Lower Basin by implementing an intrastate Utah ICS Program, using Flaming Gorge Reservoir as a water bank, to augment system water supplies to ensure the state's compliance with the Compact. Through implementation of such a program, Utah could lead the way for other Upper Basin states to similarly address water scarcity and Compact compliance. 

## ENDNOTES

<sup>1</sup> Luke Runyon, *Upper Colorado River Drought Plan Triggered for First Time*, KPBS (Jan. 22, 2021), <https://www.kpbs.org/news/2021/jan/22/upper-colorado-river-drought-plan-triggered-first/>.

<sup>2</sup> CENTER FOR COLORADO RIVER STUDIES, WHITE PAPER 6: ALTERNATIVE MANAGEMENT PARADIGMS FOR THE FUTURE OF THE COLORADO AND GREEN RIVERS 47 (2021), [hereinafter ALTERNATIVE MANAGEMENT PARADIGMS].

<sup>3</sup> *Id.* at 3.

<sup>4</sup> See James S. Lochhead, *An Upper Basin Perspective on California's Claims to Water from the Colorado River Part II: The Development, Implementation and Collapse of California's Plan to Live Within Its Basin Apportionment*, 6 U. DENV. WATER L. REV. 318, 320 n.2 (2003) ("The 'Law of the River' refers to a body of law affecting the interstate and international use, management, and allocation of water in the Colorado River System, including the 1922 Colorado River Compact, the Mexican Water Treaty of 1944, the Upper Colorado River Basin Compact, several United States Supreme Court decisions and the Decree in Arizona v. California . . . and a host of federal laws and administrative regulations[.]" as well as more recent developments such as the Interim Guidelines and 2019 Drought Contingency Plans).

<sup>5</sup> *Colorado River Basin Drought Contingency Plans*, U.S. DEP'T INTERIOR, BUREAU OF RECLAMATION (last updated Jan. 25, 2022), <https://www.usbr.gov/dcp/>.

<sup>6</sup> See *Colorado River Compact*, WATER EDUC. FOUNDATION, <https://www.watereducation.org/aquapedia-background/colorado-river-compact#:~:text=The%20Colorado%20River%20Compact%20of,river%20for%20years%20to%20come> (last visited May 9, 2022).

<sup>7</sup> Colorado River Compact art. I, art. I, Utah Code Ann. § 73-12a (2021) [hereinafter Colorado River Compact].

<sup>8</sup> Colorado River Compact art. I, art. II(f), Utah Code Ann. § 73-12a (2021) (emphasis added).

<sup>9</sup> Colorado River Compact art. II(g) (emphasis added).

<sup>10</sup> *Id.* art. II(f), (g).

<sup>11</sup> *Id.* art. III(a), (b).

<sup>12</sup> Lawrence J. MacDonnell, *The Law of the River*, 4 WATERS AND WATER RTS. PART XI, § III(B)(1) (Amy K. Kelley ed., 2021).

<sup>13</sup> *Id.*

<sup>14</sup> Colorado River Compact art. III(d).

<sup>15</sup> See COLORADO RIVER GOVERNANCE INITIATIVE, DOES THE UPPER BASIN HAVE A DELIVERY OBLIGATION OR AN OBLIGATION NOT TO DEplete THE FLOW OF THE COLORADO RIVER AT LEE FERRY? 23 (2012).

<sup>16</sup> Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, U.S.–Mex., art. 10(a), Feb. 3, 1944, T.S. 994 [hereinafter U.S.–Mexico Treaty].

<sup>17</sup> Colorado River Compact, art. III(c) ("If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River System, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b); and if such surplus shall prove insufficient for this purpose, then, the burden of such deficiency shall be equally borne by the Upper Basin and the

Lower Basin, and whenever necessary the States of the Upper Division shall deliver at Lee Ferry water to supply one-half of the deficiency so recognized in addition to that provided in paragraph (d).").

<sup>18</sup> COLORADO RIVER GOVERNANCE INITIATIVE, RESPECTIVE OBLIGATIONS OF THE UPPER AND LOWER BASINS REGARDING THE DELIVERY OF WATER TO MEXICO: A REVIEW OF KEY LEGAL ISSUES 41 (2012).

<sup>19</sup> See *id.* at 57–58 (stating that in addressing the Lower Basin's argument that the Upper Basin's delivery obligations relating to Mexico's allotment is an annual one, "it seems likely the Supreme Court would hold in favor of the Lower Basin if the issue were presented.").

<sup>20</sup> Jason Anthony Robison, *The Colorado River Revisited*, 88 U. COLO. L. REV. 475, 527 (2017).

<sup>21</sup> See *id.* at 522–23. Upper Colorado River Basin Compact, 81 Pub. L. No. 37, 63 Stat. 31 (1949), art. III, § (a) [hereinafter Upper Basin Compact] (stating that under the Upper Basin Compact, Arizona is allocated 50,000 acre-feet of Colorado River system water annually).

<sup>22</sup> Upper Colorado River Basin Compact, art. III, § (a).

<sup>23</sup> Upper Colorado River Basin Compact, art IV, § (c) ("[T]he extent of curtailment by each State of the consumptive use of water apportioned to it by Article III of this Compact shall be in such quantities and at such times as shall be determined by the Commission upon the application" of certain principles); see generally Robison, *supra* note 20, at 527 (indicating that as a Compact call has not come to fruition since the Upper Basin Compact's enactment, Article IV's curtailment provisions have "yet to be implemented, including being interpreted in conjunction with its implementation").

<sup>24</sup> Upper Colorado River Basin Compact, art IV, § (c).

<sup>25</sup> See Felix L. Sparks, *Synopsis of Major Documents and Events Relating to the Colorado River*, 3 U. DENV. WATER L. REV. 339, 347 (2000) (article update) (stating that prior to the year 2000, "the annual flow of the river at Lee Ferry . . . fluctuated from a high of about 23 [maf] to a low of about 5.6 [maf].").

<sup>26</sup> *Id.* at 348.

<sup>27</sup> Colorado River Storage Project Act, ch. 203, 70 Stat. 105 (1956) (codified at 43 U.S.C. §§ 620–620(o)).

<sup>28</sup> See discussion *infra* Section IV.A.

<sup>29</sup> Colorado River Storage Project Act § 1, ch. 203, 70 Stat. 105 (referring to water transportation infrastructure as participating projects).

<sup>30</sup> *Frequently Asked Questions*, CENT. UTAH PROJECT COMPLETION ACT OFF., DEP'T OF INTERIOR, <https://www.doi.gov/cupcao/faq> (last visited Mar. 25, 2021).

<sup>31</sup> *Id.*

<sup>32</sup> SUPPLEMENT TO THE BONNEVILLE UNIT DEFINITE PLAN REPORT: WATER SUPPLY APPENDIX, VOLUME 1–TEXT, CENTRAL UTAH WATER CONSERVANCY DISTRICT ch. 3–11 (2004).

<sup>33</sup> See U.S.–Mexico Treaty, *supra* note 16.

<sup>34</sup> Colorado River Compact art. III(d).

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