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EXPLOITING AN AMBIGUITY

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INTRODUCTION

For the past 100 years, use of water from the Colorado River has been guided by the Colorado River Compact. On its face, the Compact apportions 7.5-million-acre feet (MAF) for beneficial consumptive use to both the Upper and Lower Basins. While the apportionment appears straightforward and has been generally followed since the signing of the Compact, there exists an underlying fundamental disagreement regarding the interpretation of Article III(d), which places a burden on the Upper Basin to not prevent an annual average of 7.5 MAF from flowing to the Lower Basin. The question of what would constitute a violation of Article III(d), however, is highly debated and has never been legally determined, leaving the Upper and Lower Basins with very different expectations on who bears the responsibility of water shortages on the Colorado River. As a result of these differing expectations on when cuts may be made, political forces in Upper Basin states have been unwilling to plan for impactful reductions in water supplies from the Colorado River.

In 2000, the Southwest entered what has now been determined to be a "megadrought," resulting in continuously decreasing flows of the Colorado River. Realizing that the sustained drought increased the chances of an inability to deliver 7.5 MAF of water to the Lower Basin, the 2007 Interim Guidelines were created to manage the Colorado River reservoirs in times of drought and set forth benchmarks at which water cuts would be made. Although the 2007 Guidelines enabled the Lower Basin to stave off water cuts for nearly 13 years, it is clear that the days of expecting 7.5 MAF available for use by each basin is no longer reasonable.

Negotiations have already begun for an agreement to replace the existing Guidelines, which are set to expire in 2026. Despite the general consensus that the apportionment in the original Compact is no longer physically possible, both the Upper and Lower Basins stand firm in their position that the other should bear the burden of water cuts moving forward. These beliefs stem from an ambiguity in Article III(d) of the Compact and will make it difficult to reach an agreement on issues of how water should be apportioned between the Upper and Lower Basins in the future. As decision makers continue discussions on managing the Colorado River for the future, it is important that there is an awareness of the historical reliance on Article III (a) and (d) in the management of the River. Despite the fact that there exists a fundamental difference in what was agreed upon a century ago, both basins have operated with an expectation of receiving 7.5 MAF, despite any effect that might have on the other basin, reservoirs, or the health of the River, and has fueled a perpetual overuse of this limited natural resource. The goal of this paper is to explore how the exploitation of this ambiguity has allowed both the Upper and Lower Basins to operate in disregard for the hydrological reality of the Colorado River and is a factor in the state of the system reservoirs today.

PART I: BACKGROUND

In the latter part of the 19th century, interested parties in the Colorado River Basin recognized "that local interests alone could not solve the challenges associated with development of the Colorado River."[1] In an effort to resolve the conflicts and prevent litigation, the United State Congress gave consent for Wyoming, Utah, Colorado, New Mexico, Arizona, California and Nevada (the Basin states) and the Bureau of Reclamation (BOR) to enter into an agreement to

[1] CHARLES V. STERN, PERVAZE A. SHEIKH & KRISTEN HITE, CONG. RSCH. SERV., R45546, MANAGEMENT OF THE COLORADO RIVER: WATER ALLOCATIONS, DROUGHT, AND THE FEDERAL ROLE 3 (2023).

apportion Colorado River water supplies in 1921, resulting in the Colorado River Compact of 1922 (the Compact).[2] "Under the Compact, the states established a framework to apportion [] water supplies between the Upper Basin [(Wyoming, Utah, Colorado and New Mexico)] and the Lower Basin [(Arizona, California and Nevada)], with the dividing line between the two basins at Lee Ferry, AZ."[3] "Each basin was apportioned 7.5 MAF annually for beneficial consumptive use," and the agreement required that "Upper Basin states not deplete more than a total of 75 [MAF] over any 10-year period, [] thus allowing for averaging over time to make up for low-flow years."[4]

When the Compact was originally approved in 1922, it was assumed based on historical records that the average annual flows on the river were 16.4 MAF per year.[5] According to existing BOR data from 1906 to 2022, however, "observed historical natural flows on the river at Lee Ferry, AZ . . . averaged 14.8 [MAF] annually."[6] Further, natural flows from 2000 to 2020 have been considerably less than the historical flows, averaging only 12.4 MAF per year.[7] Despite this decrease in flows, consumptive uses and losses in the Basin have grown since 1922 and have regularly exceeded natural flows.[8]

Although the past few decades have seen a dramatic drop in Colorado River flows, for nearly 80 years the river did provide sufficient flows to allow the two Basins to avoid major conflict over a longstanding disagreement about the interpretation of the 1922 Compact; whether Article III(d) of the Compact requires the Upper Basin to deliver a ten-year annual average of 7.5 million acre-feet to the Lower Basin (the delivery obligation requirement) leaving only the "leftover" flows for Upper Basin use, or if the Upper Basin is merely prohibited from depleting the flow of the river below a ten-year annual average of 7.5 million acre-feet (the non-depletion requirement), entitling the Upper Basin to 7.5 MAF per year as well.[9]

The lack of consensus over Article III(d) has left both Basins with a century-long expectation that it is entitled to consumptively use 7.5 MAF per year. Over the past twenty years, however, flows have continued to decrease in the Colorado River, such that it would be physically impossible for the river to supply the anticipated water to users without draining system reservoirs. Further, experts believe that 20th century average flows are unlikely to return, with the period from 2000 to 2021 having been the driest 19-year period on record and the current drought in the Basin resulting in eight of the twenty driest years on record (1906-2020) having occurred since 2000.[10] "Overall, natural flows have declined by approximately 20% over the last century."[11] One study "attribute[] more than half of this decline to increasing temperatures" and decreases in precipitation

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[2] *Id.*

[3] *Id*. at 4.

[4] *Id*.

[5] *Id*. at 16.

[6] *Id*.

[7] STERN, *supra* note 1 at 16.

[8] *Id*.

[9] ANNE CASTLE & JOHN FLECK, THE RISK OF CURTAILMENT UNDER THE COLORADO RIVER COMPACT, 5 (2019) https://ssrn.com/abstract=3483654, [https://perma.cc/S9QH-5NF5**]**.

[10] STERN, *supra* note 1, at 16, 18.

[11] *Id.* at 18.

as a result of climate change, but the overuse of available water in the River has also played a major role.[12]

Further compounding the issues of drought and climate change is the lack of accounting for evaporation, system losses, and obligations to Mexico by the Lower Basin, which has caused Lake Mead to plummet in elevation. Lake Mead (located at the Arizona/Nevada border), which is intrinsically "linked" with Lake Powell (located at the Arizona/Utah border) "by the Colorado River through the Grand Canyon," provides roughly "90 percent of the system's storage capacity"[13] (See Figure 1).

Figure 1. (A linked lifeline, Know Your Water News (Sept. 1, 2020)).

When the Colorado River was supplying historical flows, the loss in storage elevation was not an issue because increased releases from Lake Powell could be used to offset the water deficit in Lake Mead. As the drought persisted and Lake Mead became more reliant on extra water from Lake Powell, however, BOR, along with the seven Basin states and Mexico, realized it was necessary to formulate guidelines on how to manage the Colorado River reservoirs in times of drought, resulting in the 2007 Interim Guidelines for the Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (2007 Guidelines).[14] The resulting 2007 Guidelines "included criteria for releases from Lakes Mead and Powell determined by 'trigger levels' in both reservoirs, as well as a schedule of Lower Basin curtailments at different operational tiers."[15] "Under the guidelines, Arizona and Nevada, which have junior rights to California, would face reduced allocations if Lake Mead elevations dropped below 1,075 [feet]."[16]

At the time the 2007 Guidelines were written, it was believed that they would significantly reduce the risk of Lake Mead falling to 1,025 feet.[17] Since 2007, however, water levels in Lake Mead continued to drop as drought persisted and water withdraws remained the same, making it

[12] *Id.*
[13] DeEtte Person, *A linked lifeline*, KNOW YOUR WATER NEWS (Sept. 1, 2020), https://knowyourwaternews.com/a-tale-of-two-lakes/ [https://perma.cc/3LMD-PYLA].
[14] STERN, *supra* note 1, at 20.
[15] *Id.*
[16] *Id.*
[17] *Id.*

clear that the guidelines alone were not enough to reduce the risk, resulting in supplemental drought response agreements.[18] Most significant of these agreements were the Drought Contingency Plans (DCPs), which were developed by both the Upper and Lower Basins in 2019 to help further reduce the risk of a shortage declaration. With each basin having different interests at risk, the DCPs have different goals. The Upper Basin DCP was designed to protect critical elevations at Lake Powell, and authorize the storage of conserved water in the upper basin by allowing for the establishment of a Demand Management Program to ensure water deliveries under Article III(d) for the Lower Basin.[19] The Lower Basin DCP requires "Arizona, California, and Nevada to . . . contribute additional water to Lake Mead storage . . ." as certain elevations are reached and creates "additional flexibility to incentivize additional voluntary conservation of water stored in Lake Mead."[20]

Despite all these efforts, a Tier 1 Shortage for Lake Mead was declared for 2022, followed quickly by a Tier 2 shortage for 2023. In addition to the shortage declarations in the Lower Basin, 2022 also saw an unprecedented emergency response action by BOR to address critically low levels in Lake Powell. While natural forces such as climate change and drought are certainly factors in the current state of these two reservoirs, the dangerously low elevations in Lake Powell and Lake Mead are in part due to the Basin states' insistence on using all the water they are entitled to under the 1922 Compact.

PART II: A DIFFERENCE OF OPINION IN INTERPRETING ARTICLE III(D) OF THE COLORADO RIVER COMPACT MAKES IT DIFFICULT TO REACH AGREEMENTS ON ISSUES ASSOCIATED WITH APPORTIONING WATER BETWEEN THE UPPER AND LOWER BASINS.

The primary purpose of the 2007 Guidelines was to establish a framework to manage and operate the Colorado River should drought and low reservoir conditions make it such that provisions of the Colorado River Compact could not be met. Whether intentional or not, the 2007 Guidelines effectively placed the responsibility of a shortage on the Lower Basin, thereby protecting the Upper Basin from a compact call. Specifically, a "shortage" declaration[21] under the 2007 Guidelines triggers water cuts for the Lower Basin states, allowing "extra" water to remain in Lake Mead. While the 2007 Guidelines did provide a plan for protecting Lake Powell should the reservoir's water elevation reach certain depths, it failed to consider a mechanism by which Upper Basin states would be required to cut its own water use, thereby ensuring releases from Lake Powell to meet obligations to the Lower Basin. While the 2007 Guidelines provide flexibility in the Upper Basin's duty to allow an average of 75,000,000 acre-feet of Colorado River water to flow to the Lower Basin every ten years, it did not resolve the long-standing disagreement about

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[18] BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, REVIEW OF THE COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES AND COORDINATED OPERATIONS OF LAKE POWELL AND LAKE MEAD AT 5–10, (Dec. 2020) https://www.usbr.gov/ColoradoRiverBasin/documents/7d/7.D.Review_FinalReport_12-18-2020.pdf.

[19] *Id.* at 8.

[20] *Id.*

[21] Record of Decision, December 13, 2007, Secretary of the Interior Dirk Kempthorne, available at https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.

whether the Upper Basin has a fixed obligation to deliver said water, or merely an obligation not to deplete it.

The 1922 Colorado River Compact is the original governing document for the Law of the River.[22] To this day, the allocation provisions set forth in Article III remain the basis for operations and water deliveries in the Basin. Nevertheless, one major uncertainty exists regarding the interpretation of Article III(d), leaving the Upper Basin uncertain about when, or if, it might be required to cut its water use to ensure sufficient flows are delivered to the Lower Basin. Article III(d) of the Compact states:

> The 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 reckoned in continuing progressive series . . .[23]

This ten-year running average provision of Article III(d) (the 75/10 provision) poses substantial risks to the Upper Basin should it be enforced.[24]

A long standing debate between the Upper and Lower Basins is centered around whether Article III(d) imposes an "affirmative obligation on the Upper Basin to deliver 75 MAF over any consecutive ten-year period" (delivery obligation), or if the Compact requires only that the Upper Basin states "not deplete the flows of the [Colorado River] by human activities beyond that amount" (obligation not to deplete).[25] Under the current drought and climate change conditions existing in the Basin, the obligation not to deplete is an extremely attractive theory for Upper Basin states because it could mean that if climate change or normal volatility is the cause of decreasing flows arriving at Lee Ferry, then they are not in violation of Article III and therefore cannot be required to reduce their own use to ensure the ten-year average is provided to the Lower Basin.[26] If the Colorado River Compact created a delivery obligation however, then the full impacts of climate change and drought could fall on the Upper Basin.[27]

A. The Upper Basin believes there to be an "obligation not to deplete."

The Upper Basin believes the Colorado River Compact allocates 7.5 MAF to both Basins and created an obligation not to deplete. This interpretation of Article III(d) relies on the plain language of the Compact, which uses the word "deplete," and forgoes any use of the word "delivery."[28] In support of this position, Upper Basin states would likely rely on a "nullity

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[22] CASTLE & FLECK, *supra* note 9.

[23] Colorado River Compact, 70 Cong. Rec. 324, 324–25 (1928), https://www.usbr.gov/lc/region/g1000/pdfiles/crcompct.pdf.

[24] CASTLE & FLECK, *supra* note 9, at 7.

[25] *Id.*

[26] *Id.* at 7–8.

[27] *Id.* at 8.

[28] 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), http://www.waterpolicy.info/wp-content/uploads/2015/09/Delivery-Obligation-memo.pdf.

argument," that Article III(a)[29] has "no purpose" in the Compact if "Article III(d) [is] to be interpreted as an [absolute delivery requirement]."[30]

Under the obligation not to deplete interpretation, Article III(a) is believed to override all the provisions that follow because it allocates 7.5 MAF equally to both the Upper and Lower basins.[31] The notion that Article III(a) establishes an equitable apportionment of the River can be supported by focusing on the intent of the representatives for the Upper Basin that took part in negotiating the Compact. The argument is that the representatives "would have never agreed to a 'delivery obligation' framework that required [the Upper Basin] to completely shoulder the burden of any persistent drought or permanent change in the flow regime."[32]

The Upper Basin's position is rooted in the belief that to be in violation of III(d), the depletion of flows below an annual average of 7.5 MAF per year to the Lower Basin must be the result of affirmative actions taken by Upper Basin users. The strength of this argument rests in the fact that there is little debate among scientists that the actual reduction of flows in the Colorado River are a result of climate change—a phenomenon that is not solely at the hand of Upper Basin users.[33] Further, it is widely believed that steadily increasing air temperatures, shrinking snowpack, and a wide range of other climate change induced effects will continue to reduce Colorado River flows throughout this century.[34] From the Upper Basin's perspective, they do not believe they should bear full responsibility for the decreased flows in the Colorado River when it has not been their actions that have caused it. Some in the Upper Basin take this argument so far as to say that because climate change is responsible for the decreasing flows in the Colorado River, the Lower Basin has no authority under Article III(d) to make a compact call.

B. The Lower Basin believes there to be a "delivery obligation."

Lower Basin states are of the opinion that Article III(d) establishes a requirement that the Upper Basin must deliver an annual average of 7.5 MAF to Lee Ferry, leaving for the Upper Basin only the water that remains after the delivery obligation has been met. Arguments in support of the delivery obligation theory are rooted in the understanding of legislators, engineers and lawyers, both during and after the Compact negotiations.[35] The first argument is that giving priority to the Lower Basin was an intentional concession made by the Upper Basin in order to secure the 7.5 MAF limit on the Lower Basin's water use, in an effort to protect remaining water for the Upper

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[29] Article III(a) states, "There is hereby apportioned from the Colorado River System in perpetuity to the Upper Basin and to the Lower Basin, respectively, the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum, which shall include all water necessary for the supply of any rights which may now exist." Colorado River Compact, *supra* note 23.

[30] COLORADO RIVER GOVERNANCE INITIATIVE, *supra* note 28.

[31] *Id*. at 6.

[32] *Id*.

[33] UTAH RIVERS COUNCIL, A FUTURE ON BORROWED TIME: COLORADO RIVER SHORTAGES & THE NEW NORMAL OF CLIMATE CHANGE, Public Review DRAFT 19, https://static1.squarespace.com/static/5a46b200bff2007bcca6fcf4/t/620a935ebcb00a3f5258e71b/1644860263000/Future+on+Borrowed+Time.pdf.

[34] *Id*.

[35] COLORADO RIVER GOVERNANCE INITIATIVE, *supra* note 28, at 24.

Basin in the future.[36] A second argument is that the Upper Basin Storage Project of 1956, which provided for Glen Canyon Dam, was authorized as a way for the Upper Basin to meet its delivery obligation at Lee Ferry.[37] Finally, it could be argued that the interstate apportionment in III(a) acts as proof that the Lower Basin was to receive a fixed amount of water, whereas the Upper Basin apportionment is percentage based.[38]

If the Supreme Court were to find that Article III(d) imposes an obligation on the Upper Basin to ensure an annual average flow of 7.5 MAF to Lee Ferry, then the Upper Basin would have no choice but to cut its water use. Knowing this to be a potential outcome of litigation, the Lower Basin could use this as a bargaining chip in the renegotiation of the 2007 Guidelines. Either the Upper Basin agrees to make voluntary water cuts on their own terms, or the Lower Basin will initiate a compact call, forcing the Upper Basin states to initiate curtailment, for which they have no plan.

In contrast, if the Supreme Court were to find that III(d) only required the Upper Basin to not deplete the flow of the River, then it would be very hard to convince Upper Basin states to make voluntary cuts and the burden of climate change and drought would rest entirely with the Lower Basin. While this would appear to be a victory for the Upper Basin, the reality of the situation would likely still result in water cuts due to BOR's wide discretion in overseeing the interstate management of the Colorado River. BOR will almost certainly not permit Lower Basin municipalities, who would lose water due to junior rights, to be completely cut off from Colorado River water supplies while Upper Basin users made no effort to reduce water use. While the Lower Basin would have a much more secure future should the Court find there is a delivery obligation under the Colorado River Compact, the Upper Basin states likely face water cuts no matter the outcome.

PART III: THE FAILURE TO REACH A CONSENSUS ON ARTICLE III(D) HAS LEFT THE UPPER BASIN STATES UNMOTIVATED TO PLAN FOR LIKELY WATER REDUCTIONS IN THE FUTURE.

As a result of the legal uncertainty as to whether Article III(d) imposes a delivery requirement or an obligation not to deplete, the conditions that would require the Upper Basin to initiate curtailment are not certain. If there is a delivery obligation, then under the current drought conditions, the Upper Basin states should be required to curtail their use of Colorado River water such that they are only afforded the water remaining after 7.5 MAF is delivered to the Lower Basin. If however the Upper Basin has an obligation not to deplete, then the resulting decreased flows of drought and climate change are not solely the responsibility of the Upper Basin, leaving the burden of additional water cuts on the Lower Basin.

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[36] *Id.*
[37] *Id.*
[38] 43 U.S.C. 617l(a).

A. The conditions triggering water cuts in the Upper Basin are uncertain compared to the Lower Basin.

As a result of the 2007 Guidelines, the Lower Basin states have known for over a decade the exact conditions that would result in cuts to their water supply.[39] Contrastingly, although the Upper Basin has been aware of the possibility of a compact call from the Lower Basin since the creation of the 1922 Compact, the triggering conditions for such a call are uncertain because they are linked to the ambiguity of Article III(d).

1. Water cuts in the Upper Basin are uncertain because the trigger point for curtailment is linked to the ambiguity.

Article III(d) of the Compact provides that the Upper Basin "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."[40] Despite the debate about whether this provision imposes a delivery obligation or obligation not to deplete, it has been the general practice of the Upper Basin and BOR to deliver an average of at least 7.5 MAF per year.[41] When the time comes that the Upper Basin cannot deliver 7.5 MAF while maintaining its own water use, under the delivery requirement interpretation, the Lower Basin can issue a compact call mandating that the Upper Basin deliver the agreed upon water allotment to Lee Ferry.[42] The Upper Basin states developed a general method for dealing with a compact call in Article IV of the 1948 Upper Colorado River Basin Compact (Upper Basin Compact) where the states set forth terms for "curtailment."[43] Curtailment is the name given to the process of determining how much each state would need to reduce its water use to satisfy the Lower Basin's compact call.[44]

The Upper Basin Compact provides for a two-tier curtailment system to meet a compact call by the Lower Basin.[45] Under the first tier, states who are using more water than legally allocated will be required to reduce water use. If first tier reductions are insufficient to provide the 7.5/ten-year average delivery amount, then the second tier of curtailment would be initiated.[46] Under the second tier, water is reduced from all Upper Basin states in a manner proportional to their use of the water.[47] The one very important exception to water reductions under curtailment pursuant to the 1922 Compact is that any water right with a priority date of November 24, 1922 or

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[39] Record of Decision, December 13, 2007, Secretary of the Interior Dirk Kempthorne, available at https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.

[40] UTAH RIVERS COUNCIL, *supra* note 33, at 26.

[41] *Id.*

[42] Charles J. Meyers, *The Colorado River*, 19 Stan. L. Rev.1 (1966).

[43] Upper Colorado River Basin Compact (1948), *see* An Act to grant the consent of the United States to the Upper Colorado River Basin Compact, Act of April 6, 1949 (63 Stat. 31).

[44] UTAH RIVERS COUNCIL, *supra* note 33, at 39.

[45] *Id.*

[46] *Id.*

[47] *Id.*

earlier is not subject to curtailment reductions.[48] These "pre-compact" rights—as they have come to be known—are extremely valuable and are primarily held by farmers.

Under Article XIV of the Upper Basin Compact, curtailment administration is to be done by the states.[49] Under all four Upper Basin states' laws, there are two potential ways in which water reductions could be administered. The first is to reduce water use based on the state's water right priority law. All of the Upper Basin states' water law is rooted in the prior appropriation doctrine, where water rights are administered in a first-in-time first-in-right priority system. Under this legal regime, senior water holders have the most secure rights, cutting water from junior rights holders first, and senior rights holders last. However, pursuant to the Compact, senior rights holders with a priority date of November 24, 1922, or earlier are not subject to having their water taken to fulfill a compact call. While implementing curtailment under a state's regular water administration procedure would be the easiest to execute, as well as the safest politically, states are not required to do so under the Law of the River.[50] To date, there has been no requirement for any Upper Basin state to formulate a plan for administering curtailment. As a result, state legislators have been slow to respond to water managers' requests for formalized plans. If a compact call were to be made tomorrow, none of the Upper Basin states are prepared to execute a cohesive administration plan.

Creating even more uncertainty around curtailment, is the Upper Basin's challenge to whether the Lower Basin maintains legal grounds to issue a compact call. As discussed above, there is a general consensus among scientists that the decreases in flows in the Colorado River are, at least in part, the result of climate change[51] and therefore, under the Upper Basin's interpretation, insufficient to trigger curtailment.[52] This no fault position taken by the Upper Basin has become a common political stance, causing a popular mindset among Upper Basin users that they should not bear the burden of water cuts when the Lower Basin has been using more than they are entitled to for years.

The failure to formulate plans for the administration of curtailment could prove to be a serious challenge for Upper Basin states, as river flows continue to quickly decline. The debate around whether there is a requirement to deliver or obligation not to deplete has fostered a political environment where it is easy to declare that the Upper Basin states cannot be forced to bear the burden of reduced flows in the river, making it extremely difficult for water managers to create the political will or urgency needed to plan. This political defiance by the Upper Basin to accept responsibility for any potential curtailment is a result of a century-long uncertainty surrounding Article III(d) and leaves the Upper Basin states wholly unprepared to operate within the projected future of the Colorado River.

2. Water cuts in the Lower Basin are made pursuant to the 2007 Interim Guidelines.

A right to divert and consumptively use Colorado River water in the Lower Basin is called a Colorado River water entitlement (water entitlement).[53] Unlike the Upper Basin, where a right to

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[48] *Id.*

[49] Upper Colorado River Basin Compact, Article XIV.

[50] UTAH RIVERS COUNCIL, *supra* note 33 at 40.

[51] *Id.* at 3.

[52] CASTLE & FLECK, *supra* note 9, at 7.

[53] Bureau of Reclamation, Lower Colorado River Water Entitlements Listing, https://www.usbr.gov/lc/region/g4000/contracts/entitlements.html [https://perma.cc/T34R-39YJ].

use a certain amount of a state's apportionment of water is done under state law, water users in the Lower Basin are required to obtain water entitlements from the federal government. These water entitlements can be obtained in three ways.[54] First, pursuant to Section V of the Boulder Canyon Project Act, users can enter into water contracts with the Secretary of the Interior.[55] Second, certain water users were awarded water entitlements by decree in *Arizona v. California*.[56] Finally, federally reserved water rights also create water entitlements.[57] Once an entitlement is obtained, the amount of water permitted to be used pursuant to said entitlement is "charged" to the apportionment in the state in which it will be used.

The Secretary of the Interior has the legal responsibility of managing the Lower Colorado River system in accordance with federal law, including the Law of the River.[58] Within this framework, the Secretary is required to determine when Normal,[59] Surplus,[60] or Shortage[61] conditions will be declared in the Lower Basin based on various factors, including storage and hydrologic conditions.[62] These conditions are directly correlated to water entitlements in the Lower Basin and the 2007 Interim Guidelines have become the mechanisms by which these water entitlements can be cut.

Water cuts in the Lower Basin were procedurally designed to protect water elevation levels in Lake Mead. Under the 2007 Interim Guidelines, when Lake Mead levels are projected to be at or below an elevation of 1,075 feet and at or above 1,050 feet on January 1, deliveries to the Lower Basin will be reduced to 7.167 MAF; with 2.48 MAF apportioned to Arizona, 287,000 acre-feet to Nevada, and 4.4 MAF to California (Tier 1 Reduction).[63] When Lake Mead levels are projected to be at or below an elevation of 1,050 feet and at or above 1,025 feet on January 1, deliveries to the Lower Basin will be reduced to 7.083 MAF with 2.4 MAF apportioned to Arizona, 283,000 acre-feet to Nevada, and 4.4 MAF to California (Tier 2 Reduction).[64] When Lake Mead levels are projected to be at or below an elevation of 1,025 feet on January 1, deliveries to the Lower Basin will be reduced to 7.0 MAF, with 2.32 MAF apportioned to Arizona, 280,000 acre-feet to Nevada, and 4.4 MAF to California (Tier 3 Reduction).[65]

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[54] *Id*.

[55] 43 U.S.C. § 617d.

[56] Lower Colorado River Water Entitlements Listing, *supra* note 53.

[57] *Id*.

[58] Record of Decision, Secretary of the Interior Dirk Kempthorne, *supra* note 39.

[59] A "Normal Condition" exists when the Secretary determines that sufficient mainstream water is available to satisfy 7.5 million acre-feet of annual consumptive use in the Lower Basin states.

[60] A "Surplus Condition" exists when the Secretary determines that sufficient mainstream water is available for release to satisfy consumptive use in the Lower Basin states in excess of 7.5 million acre-feet annually.

[61] A "Shortage Condition" exists when the Secretary determines that insufficient mainstream water is available to satisfy 7.5 million acre-feet of annual consumptive use in the Lower Basin states.

[62] Record of Decision, Secretary of the Interior Dirk Kempthorne, *supra* note 39, at Section XI.G. Section XI.G. of the Record of Decision constitutes the "2007 Guidelines."

[63] 2007 Guidelines, Section 2 (D)(1)(a).

[64] *Id*.

[65] *Id*.

Lower Basin states have therefore known the exact conditions which would trigger water cuts since 2007. The Tier Reductions set forth in the 2007 Guidelines gave the Lower Basin states the opportunity to monitor levels in Lake Mead, while also encouraging stakeholder engagement and relationship building to prepare for what eventually became water cuts. As a result, the Lower Basin states have formed working relationships with each other, as well as fostered collaboration amongst stakeholders within each state to ensure users would be prepared for water cuts.

B. A Basin state's incentive to plan for water cuts is affected by the certainty of when cuts will be triggered.

The question of whether there is a delivery obligation or an obligation not to deplete has left the Upper Basin with the secondary question of how to plan for water cuts. The only thing Upper Basin states know for sure is that if they are required to curtail their use, each state will have the discretion to do so under state law. As of now, no Upper Basin state has a final plan on how it would implement water cuts, and the lack of an impending deadline has left water managers unable to motivate action. A prime example of this lack of will to act has been observed in Colorado, which has on multiple occasions contemplated the various aspects of curtailment but has yet to make any concrete plans for administration.[66] Contrastingly, Lower Basin states were relatively proactive in formulating statewide drought contingency plans as Lake Mead began approaching the critical elevations set forth in the 2007 Guidelines leading up to 2018.[67] Arizona, having the lowest priority water rights out of the three Lower Basin states,[68] was very proactive in planning for how it would manage with less water.

1. Colorado lacks the political incentive to plan because there are no looming water cut thresholds.

The effects of not having clear guidelines for specific conditions that will trigger water cuts are well demonstrated by looking at the Upper Basin state of Colorado. The lack of uncertainty surrounding when, or if, the Lower Basin may make a compact call has resulted in some water managers proposing the implementation of proactive water cuts in an effort to prevent contemplation of a compact call.[69] This, however, has raised a debate within the state of Colorado beyond that of whether there is a delivery requirement or an obligation not to deplete. In trying to avoid this issue and proactively prepare for either outcome, some question whether the Colorado State Engineer has the authority to make anticipatory water cuts to prevent the state from violating the Compact.[70] The lack of consensus on the legal ability to make peremptory water cuts to avoid violating the Compact versus making cuts as a result of Compact mandated curtailment has left

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[66] Hazen and Sawyer, *Interstate Investigation Regarding Feasibility of a Demand Management Program in the Upper Colorado River Basin* at 50, http://www.ucrcommission.com/wp-content/uploads/2022/12/UCRC-DM-Investigation-Summary-Report-Dec-13-2022.pdf.

[67] BUREAU OF RECLAMATION, *supra* note 18 at 5-10.

[68] 2007 Guidelines, Section 2 (D).

[69] Brent Gardner-Smith, *Delving deeper into 'anticipatory mandatory curtailment' in Colorado*, ASPEN JOURNALISM (Nov. 22, 2018), https://aspenjournalism.org/boning-up-on-anticipatory-mandatory-water-curtailment-for-thanksgiving/ [https://perma.cc/5M5X-8VCD].

[70] *Id.*

Colorado decisionmakers unable to establish clear trigger points for itself, thus making it extremely difficult to prepare and plan for any water cuts.[71]

This issue of whether the state has authority to implement what has been termed as "anticipatory mandatory curtailment" (mandating water cuts to avoid violating the Compact) has caused a divide in the water community of Colorado.[72] The lack of consensus has become a critical obstacle for the state, and perhaps the Upper Basin at large, from instituting some of the key programs set forth in the Upper Basin Drought Contingency Plan (UB-DCP), which was designed to help the Upper Basin be prepared to meet a compact call in the future.[73]

The UB-DCP includes the Demand Management Storage Agreement, which authorizes the Upper Basin states to store voluntarily conserved water in unused capacity in certain federal reservoirs in the Upper Basin up to 500,000 acre-feet.[74] Any conserved water deposited under this provision would not be subject to release pursuant to regular operation provisions of the 2007 Interim Guidelines to balance the levels in Lakes Mead and Powell, but would instead be available for Upper Basin states to draw upon to meet delivery requirements to the Lower Basin.[75] The available capacity would be used to store water voluntarily produced through conservation programs in the Upper Basin and would serve as a bank of sorts, from which releases could be made to remedy a deficit in the 10-year average flow requirement, thus avoiding involuntary curtailment.[76] While the Demand Management Storage agreement lays the foundation for such a program in the Upper Basin, it neither establishes, nor requires the establishment of such a program.[77]

From the signing of the UB-DCP in 2019, through March 2022, the Colorado Water Conservation Board (CWCB) investigated the feasibility of a demand management program for Colorado.[78] While the goals were set forth in a November 2020 work plan,[79] the decision-making questions were not finalized until September 2021 when CWCB adopted a Demand Management Decision-Making Roadmap.[80] The timeframe for answering the decision-making questions began in November 2021 and had no listed deadline. CWCB was nowhere close to making a feasibility determination when, in late March 2022, CWCB Board chair Jaclyn Brown announced that the

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[71] *Id*.

[72] *Id*.

[73] *Id*.

[74] 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-Managment-Storage-Agreement-Final.pdf.

[75] *Id*.

[76] CASTLE & FLECK, *supra* note 9, at 43.

[77] *Id*.

[78] Chris Outcalt, *Colorado hits a "hard pause" on water demand management as it waits for other states to catch up*, THE COLORADO SUN (Mar. 25, 2022), https://coloradosun.com/2022/03/25/colorado hard-pause-water-demand-management/ [https://perma.cc/7N68-L5G9].

[79] Colorado Water Conservation Board, Demand Management Feasibility Investigation Step II Work Plan (November 18, 2020), https://dnrweblink.state.co.us/cwcbsearch/ElectronicFile.aspx?docid=213416&dbid=0.

[80] Colorado Water Conservation Board, Demand Management Decision-Making Roadmap (Oct. 2021) https://dnrweblink.state.co.us/cwcbsearch/0/edoc/215452/DemandManagementDecision MakingRoadmap_Oct2021.pdf?searchid=c81372d6-a660-49e5-ba27-4a66290a4689.

state was taking a "hard pause" on investigating the viability of demand management.[81] Brown attributed CWCB's decision to the fact that Colorado was further along in the feasibility investigation process than the other Upper Basin states, and no program could be implemented without the participation of all four states.[82] Others believe that the decision to pivot away from demand management had more to do with the pace at which a program could be implemented, and is in response to a realization that there are more pressing issues to be dealt with in the Basin.[83] Another reason for moving away from demand management could be that even voluntary water cuts could be seen politically as pre-compact curtailment.

Following its announcement to cease its investigation into water cutting programs, Colorado and the other Upper Basin states were hit with the news in June 2022 that BOR was expecting to require between 2-4 MAF of additional cuts to water deliveries in 2023.[84] In a July 18, 2022 letter responding to the need for additional cuts, the Upper Basin claims that their ability to protect critical elevations in Lakes Powell and Mead are limited because "[t]he Upper Basin is naturally limited to the shrinking water supply of the river, and previous drought response actions are depleting upstream storage . . ."[85] The letter also claims that the Upper Basin states are unable to make voluntary water cuts due to low flows in the River.[86] The Upper Basin ends the letter by pointing out to BOR that according to BOR's own data, the Lower Basin and Mexico are depleting water at levels more than double of those of the Upper Basin and therefore any additional efforts to protect critical elevations in system reservoirs must be done by the Lower Basin.[87] Further, the plan of action set forth in the letter are all things the Upper Basin states have already committed to and their sentiments imply that any future water cuts will need to be made by the Lower Basin, without contemplation of making or even preparing for any water cuts of their own.[88]

It appears that the more critical conditions become in the Colorado River Basin, the more surefooted the Upper Basin states are becoming in their opinion that they bear no responsibility to make water cuts. Rather than determining whether pre-compact curtailment is within the states' powers, and changing laws if it's not, decision makers in the Upper Basin have decided they are not going to plan for water cuts, because the shortages in the system are not their fault. This insistence on the Lower Basin having to shoulder the responsibility of all the water cuts in the Basin is directly rooted in the Upper Basin's interpretation of Article III(d).

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[81] Outcalt, *supra* note 78.

[82] *Id*.

[83] Steve Wolff, Gen. Manager, *Southwestern Water Conservation District, Water Resource Research Center Brown Bag Webinar: Looking Upstream: An Upper Basin Perspective*.

[84] Statement of Camille Calimlim Touton, Commissioner, Bureau of Reclamation, U.S. Dept. of the Interior, before the Senate Committee on Energy and Natural Resources (June 14, 2022), https://www.energy.senate.gov/services/files/6CB52BDD-57B8-4358-BF6B-72E40F86F510.

[85] Letter from the Upper Colorado River Commission to Commissioner of the Bureau of Reclamation Camille Touton (July 18, 2022).

[86] *Id*.

[87] *Id*.

[88] *Id*.

2. Arizona began actively planning for water cuts in 2019 when it became clear that a Tier 1 shortage declaration under the 2007 Guidelines was looming.

The majority of Arizona's Colorado River water apportionment is delivered through the Central Arizona Project (CAP). All the water contracted to be delivered through CAP is junior in priority to all other water deliveries in the Lower Basin.[89] In addition to the priority system for the Lower Basin at large, CAP has its own internal priority system that has proven itself instrumental in preparing the state for water cuts (see Figure 2).[90] The CAP is used to deliver the water entitlements issued by the Secretary of the Interior, and are split into three categories: municipal and industrial (M&I),[91] tribal,[92] and agricultural.[93, 94] These three categories receive water via long term contracts and are given the highest priority within the CAP delivery system, which is then subsequently delineated to additional priority categories within the system: P3,[95] Indian and M&I,[96] and NIA.[97, 98] Even lower in CAP priority is the excess water category, which includes Ag Pool[99] water and Other Excess water.[100]

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[89] DeEtte Person, *A matter of priorities*, KNOW YOUR WATER NEWS (March 17, 2021), https://knowyourwaternews.com/a-matter-of-priorities/ [https://perma.cc/B5UU-7DL7].

[90] Nick Walter, *How CAP categorizes water usage*, KNOW YOUR WATER NEWS (Feb. 1, 2021), https://knowyourwaternews.com/how-cap-categorizes-water-usage/ [https://perma.cc/C95Z-LQT2].

[91] M&I subcontracts were issued primarily on the basis of projected future growth and consideration of existing supplies including other water supplies.

[92] Tribal contracts were the result of a number of federal decisions including Congressionally authorized water settlements.

[93] Irrigation districts were issued subcontracts for a percentage of the remaining available supply.

[94] DeEtte Person, *supra* note 89.

[95] This is a small portion of the highest-priority water. It shares priority with some of the large irrigation districts in Yuma and elsewhere on the mainstem of the Colorado River.

[96] Combined, the Indian and M&I polls make up the majority of CAP's long-term contracts. These pools are roughly co-equal in priority, with some cross over in use as some tribes lease water to cities.

[97] This is the Non-Indian Agricultural pool, primarily available to cities, industries, and tribes.

[98] Deette Person, *supra* note 89.

[99] Any water available to CAP after satisfying the long-term contracts is termed "Excess Water" and the agricultural districts that gave up their long-term contracts have first access to it.

[100] Any excess water available after satisfying the Ag Pool is classified as Other Excess and historically has primarily been used by the Arizona Water Banking Authority and the Central Arizona Groundwater Replenishment District for underground storage.

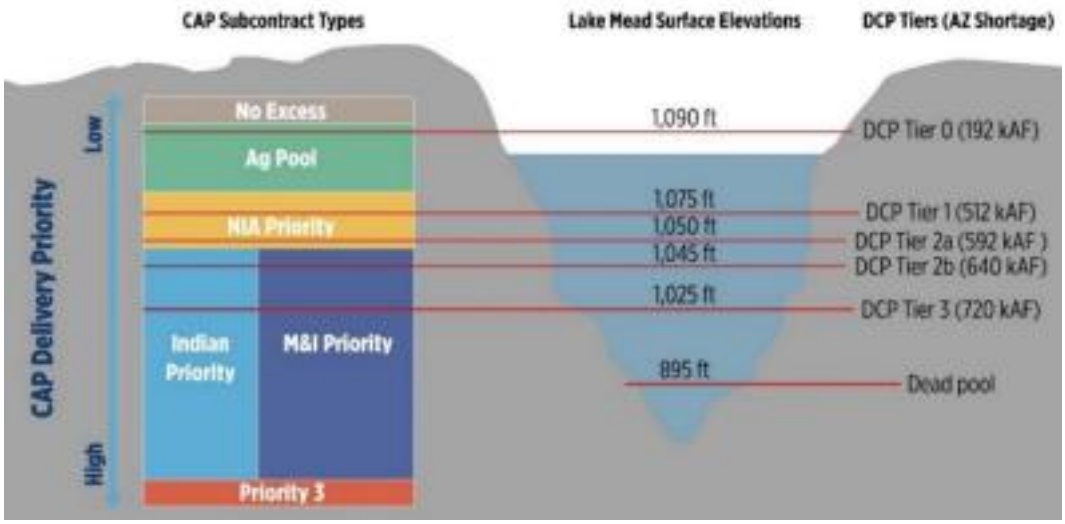

Figure 2. (Terry Piekarz, Drought Resiliency and Preparedness Update Colorado River Shortage Awareness 2 (2021)).

Knowing that a Tier 1 reduction in CAP water would completely reduce Ag Pool water, thereby leaving farmers without water, the Arizona legislature approved the Lower Basin DCP, as well as legislation that allowed for water usage agreements meant to prevent farmers from shouldering all of the supply cuts.[101]

This allowed cuts to the water supply to be spread amongst multiple users, by way of three new mechanisms.[102] The first was "mitigation water."[103] At the time the DCP was signed, farmers in the Agriculture Excess Pool were receiving 275,000 AF of water a year.[104] Without mitigation water, farmers would have seen their CAP water completely cut in January 2022 when the Tier 1 shortage went into effect. The mitigation plan provided 105,000 AF of water to Agriculture Excess Pool users by way of water from cities that would have otherwise banked said water underground, EPCOR, a private water company, and CAP owned water stored in Lake Mead and Lake Pleasant.[105] Under a Tier 1 reduction, the NIA priority pool also faced water cuts, and was given 47,800 AF of mitigation water for two years, with lower amounts allocated for subsequent years.[106]

The second mechanism Arizona employed to alleviate the pain of water reductions was monetary compensation to those who contributed some of their allotted water to mitigate the losses of other users.[107] Between 2020-26, "the Gila River Indian Community will receive $60 million for forgoing most of the NIA water it was otherwise entitled to."[108] The third mechanism was offsets, which involved giving credits to water agencies and other entities for leaving water stored

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[101] Allie Whitechill, *The Drought Contingency Plan and What It Means for Arizona*, western lands, western waters blog (2019), https://westernlandsblog.arizona.edu/drought-contingency-plan-and-what-it-means-arizona [https://perma.cc/TZR3-5HSX].

[102] *Id.*

[103] *Id.*

[104] *Id.*

[105] *Id.*

[106] *Id.*

[107] *Id.*

[108] Allie Whitechill, *supra* note 101.

in Lake Mead instead of using it.[109] The intention behind the offsets was to leave additional water in Lake Mead, thereby preventing additional cuts in the future. That theory, however, was quickly proven wrong.

The primary reason Arizona was able to muster political will to create its mitigation plan was because water managers were able to tell legislators exactly when water cuts would be required by BOR and who would be impacted by those cuts. In addition to not having the luxury of 2007 Guideline tiers indicating when water cuts will be required, Colorado, and all Upper Basin water users, do not have contracts with BOR that fall into such clean categories as Arizona. Instead, Colorado River water rights fall into the prior appropriation system of first-in-time first-in-right.[110] As it happens, that leaves agricultural water use in the Upper Basin with a higher priority than municipal use.[111] This makes things in the Upper Basin slightly more challenging because it can't be expected that municipalities will overtime lose all excess to Colorado River water, as farmers will in Arizona. However, Colorado and other Upper Basin states could look to Arizona's mitigation model to formulate a plan of action to have the senior priority agricultural rights transitioned to municipal use, while compensating farming communities for their water. The biggest challenge in doing so is that agriculture is a primary economic driver in the Upper Basin and politicians are hesitant to disrupt the sector. Many believe that the transfer of water from agriculture to municipal use is inevitable for the entire Basin and, in many places, it is already happening. However, without knowing for certain when that time will come, decision makers in the Upper Basin appear to want to put any discussion around that decision on hold.

PART IV: THE FAILURE TO RESOLVE THE INTERPRETATION OF ARTICLE III(D) HAS, IN PART, LED TO CRITICAL SHORTAGES IN THE SYSTEM'S MAIN RESERVOIRS.

One of the main functions of the 2007 Interim Guidelines was to create a framework that coordinated the operations of Lakes Powell and Mead—the Basin's two primary reservoirs—in response to the continued drought on the Colorado River. At the time of its adoption, the primary concern was water levels in Lake Mead dropping below 1,050 feet, thereby compromising the ability to generate hydropower for Southern California.[112] Since 2007, water levels in Lake Mead have continued to fall, requiring both the Upper and Lower Basins to create, and the Lower Basin to subsequently implement, Drought Contingency Plans (DCPs).[113] While BOR and the seven Basin states have spent the past decade taking steps to sustain water levels in Lake Mead, the continued overuse and effects of long-term drought and climate change have subsequently resulted in Lake Powell reaching critical levels as well.

While the Lower Basin states had an advantage to plan for water cuts despite the ambiguity in Article III(d), such an advantage was arguably misused as the Lower Basin states continued to withdraw water from Lake Mead as though they were entitled to 7.5 MAF per year, with total

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[109] *Id.*

[110] UTAH RIVERS COUNCIL, *supra* note 33, at 39.

[111] *Id.* at 40.

[112] Water Education Foundation, *Colorado River 2022 Interim Guidelines and Drought Contingency Plans*, https://www.watereducation.org/aquapedia/colorado-river-seven-states-agreement [https://perma.cc/9QKL-6RG6].

[113] BUREAU OF RECLAMATION, *supra* note 18, at 7.

disregard to the hydrological reality of the River.[114] The only reason the rate of withdrawal was sustained for as long as it was is because stored water from Lake Powell was released to make up the hydrological deficit.[115] In 2022, however, Lake Powell also reached critical levels because, unlike Lake Mead, there is less impounded water upstream to make up for decreasing flows of the Colorado River. Had there been a resolution as to the interpretation of Article III(d), it would've made clear whether the Lower Basin states are entitled to withdraw 7.5 MAF per year from Lake Mead, even if that means the Upper Basin has to cut use to sustain Lake Powell, or if the Upper Basin states are entitled to their apportionment no matter the state of Lake Mead.

A. Shortages in Lake Mead

On average, the Lower Basin states have used more Colorado River water than the 7.5 MAF allocated to them in the 1922 Compact.[116] What has been termed the "Structural Deficit" is the result of the Lower Basin using an additional 1.2 MAF of water above what is received from Lake Powell and tributary flows.[117]

Additionally, this deficit results from the fact that allocations to and usage by the Lower Basin states do not account for evaporation from Lake Mead, system losses within the Lower Basin, or the Lower Basin's portion of the obligation to Mexico. Although the Lower Basin DCP addressed the Structural Deficit in times of low elevation levels in Lake Mead by calling for cuts, it does not address the systemic problem of overuse.[118]

Since the adoption of the 2007 Guidelines, the Lower Basin states have acted to respond to worsening conditions in Lake Mead, ultimately leaving enough water in the reservoir to "add" 50 feet of elevation.[119] It is important to note however, that none of these measures addressed the core issue, which is overuse by the Lower Basin. Therefore, despite these efforts, the Lower Basin states were placed in a Tier 1 shortage beginning January 1, 2022, resulting in a "mandatory 512,000 acre-foot reduction" in Colorado River water deliveries, with Arizona bearing the entire burden.[120] By early 2022, worsening drought conditions "triggered a provision" in the Lower Basin DCP to protect Lake Mead from reaching elevations that would trigger Tier 2 reductions.[121] In response to these required additional reductions, the Lower Basin states, along with BOR, developed what has been termed the "500+ Plan." "The goal of the 500+ Plan [was] to conserve an additional 500,000 acre-feet or more per year" to protect levels in Lake Mead, "beyond the required DCP reductions."[122] Despite all these efforts however, a Tier 2 shortage was declared in

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[114] CASTLE & FLECK, *supra* note 9, at 22.
[115] *Id.*
[116] CASTLE & FLECK, *supra* note 9, at 22.
[117] *Id.*
[118] *Id.*
[119] Arizona Department of Water Resources and Central Arizona Project, Lower Colorado River Basin 500+ Plan, Fact Sheet (Nov. 2021), https://new.azwater.gov/sites/default/files/media/ADWR-CAP-Outline-500Plus-2022_v3%20%283%29.pdf.
[120] *Id.*
[121] *Id.*
[122] *Id.*

August 2022,[123] requiring Arizona to make a 21 percent reduction (592,000 acre-feet), Nevada to make a 8 percent reduction (25,000 acre-feet), and Mexico to reduce use by 7 percent (104,000 acre-feet).[124]

B. Shortages in Lake Powell

Under the coordinated reservoir operations provisions of the 2007 Guidelines, the fallen water levels in Lake Mead would typically "require greater releases from Lake Powell" to balance releases to the Lower Basin.[125] As mentioned above, the Lower Basin has historically relied on these increased releases from Lake Powell to prop up levels in Lake Mead, while also enabling Lower Basin states to maintain the withdrawal of water in accordance with legally entitled apportionments. However, with water levels in Lake Powell reaching critical levels in April 2022, the upstream reservoir needs its own saving, and can therefore no longer be a lifeline for Lake Mead.

"The Lake Powell elevation commonly viewed as most critical is 3,490 feet. . . [which is] the lowest level at which water can be safely taken through the intake[] [pipes] to the hydropower turbines within Glen Canyon Dam."[126] If the water drops below the intake pipes, "no hydropower can be produced."[127] Below 3,490 feet, the only outlets available to release water from the reservoir are "'river outlets' at the bottom of the dam."[128] "The amount of water that can be released through these outlets is dependent upon the water elevation of the reservoir, which provides the pressure that forces water out." "Below 3,490 feet, the maximum rate of discharge quickly drops," directly impacting the availability of water to physically leave Lake Powell for delivery to the Lower Basin.[129]

On April 8, 2022, the Assistant Secretary for Water and Science of BOR, Tanya Trujillo, sent a letter to the Governor's Representatives of the seven Basin States, alerting them to BOR's concerns over "projected runoff in the Colorado River Basin and the risk of Lake Powell and Lake Mead declining to critically-low elevations over the next 24 months."[130] The letter notes the ongoing efforts to manage resources, including the drafting of the 2022 Drought Response Operation Plan, but emphasized that the drought response to Lake Powell was time-sensitive and could not be put off until the 2022 Plan is completed.[131] Additional and immediate action was

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[123] United States Dept. of Interior, Interior Dept. Announces Actions to Protect Colorado River System, Sets 2023 Operating Conditions for Lake Powell and Lake Mead (Aug. 16, 2022), https://www.doi.gov/pressreleases/interior-department-announces-actions-protect-colorado-river-system-sets-2023 [https://perma.cc/2786-L9RA].

[124] 2007 Guidelines, Section 2 (D)(1)(a).

[125] CASTLE & FLECK, *supra* note 9, at 27.

[126] *Id.*

[127] *Id.*

[128] *Id.*

[129] *Id.*

[130] Letter from Tanya Trujillo, Assistant Secretary for Water and Science, Bureau of Reclamation, to Thomas Buschatzke, Governor's Representative, State of Arizona (April 8, 2022), https://www.documentcloud.org/documents/21627333-gcd-2022-operations-letter-buschatzke.

[131] *Id.*

requested to reduce the risk of Lake Powell from dropping to an elevation below 3,490 feet, "at which Glen Canyon Dam releases could only be accomplished through the river outlet works . . . or hydropower operation infrastructure at Glen Canyon Dam would be adversely impacted."[132] Operation of the dam at elevations under 3,490 has not been done since the filling of the Lake Powell, and could cause a snowball effect of uncertainty, as well as reliability challenges to water and electricity resources.[133]

The seven Basin States jointly responded to the Assistant Secretary's letter, and on May 3, 2022, BOR announced two separate drought response actions to help prop up water levels in Lake Powell by nearly 1 MAF over the next year.[134] First, pursuant to the 2019 Drought Response Operation Agreement (DROA), approximately 500,000 acre-feet of water will be released from Flaming Gorge Reservoir to Lake Powell.[135] Second, Glen Canyon Dam's annual release volume will be reduced from 7.0-7.48 million acre-feet, which pursuant to the 2007 Interim Guidelines will keep an additional 480,000 acre-feet in Lake Powell.[136] While these actions may stave off reaching critical elevations in the short term, they will have a cascading effect throughout the entire Basin. Perhaps most notably, the 480,000 acre-feet the Lower Basin agreed to keep in Lake Powell at the expense of its delivery to Lake Mead will only exacerbate the Structural Deficit.[137] Despite the Lower Basin operating under Tier 1 reductions, the 500+ Plan, and actions taken to provide Lake Powell with nearly 1 MAF of water to protect elevations, Lakes Powell and Mead are at record low levels. In a recent statement before the Senate Committee on Energy and Natural Resources, BOR Commissioner Camille Touton stated that these conditions will likely require between two to four million acre-feet of additional cuts to water deliveries next year.[138] An insistence by the Upper and Lower Basins on their respective interpretations of Article III(d) will make it nearly impossible to reach an agreement that can keep both reservoirs going. The survival of the system will likely require water cuts by users across the Basin, and the systematic shifting of responsibility will only exacerbate the problems and push the management of the River further into chaos.

CONCLUSION

The question of whether Article III(d) of the Colorado River Compact imposes a delivery obligation or merely an obligation not to deplete imposed on the Upper Basin has gone unanswered for 100 years. Legally, it's an important question to be answered as history has shown the multiple

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[132] *Id.*

[133] *Id.*

[134] *Glenn Canyon Dam*, Bureau of Reclamation, https://www.usbr.gov/uc/water/crsp/cs/gcd.html [https://perma.cc/X3AF-BRMF].

[135] *Id.*

[136] *Id.*

[137] This will exacerbate the Structural Deficit because BOR announced that for accounting purposes, the Upper Basin will be considered to have delivered 7.48 MAF, despite the fact that in reality only 7.0 million acre-feet will be delivered to Lake Mead. The Lower Basin states requested that BOR make the reductions in releases "operationally neutral for tier and release determinations" to avoid triggering an additional shortage declaration under the 2007 Guidelines and Lower Basin DCP. This creative accounting also protects the Upper Basin from a compact call by the Lower Basin states.

[138] Ian James, *Major water cutbacks loom, as shrinking Colorado River nears 'moment of reckoning*, LOS ANGELES TIMES (June 14, 2022), https://www.latimes.com/environment/story/2022-06-14/big-water-cutbacks-ordered-amid-colorado-river-shortage [https://perma.cc/CAQ4-R2F8].

ways in which this singular ambiguity has caused a myriad of other legal issues. In practice, however, the interpretation of Article III(d) may be inconsequential if the Basin, as a whole, wishes to work cooperatively within the hydrological reality of the Colorado River.

The only way to know with certainty the correct interpretation of Article III(d) would be for one of the states to file a legal action. The Basin states, however, have long taken the position that litigation would not be beneficial for the continued cooperative management of the Colorado River. States are also likely afraid to get stuck with a legal opinion that runs contrary to what the Basin, as a whole, wants, or to have the Upper or Lower Basin win to the severe detriment of the other. As a result, as conditions in the Basin become increasingly tense, the threat of litigation could push the states toward a longstanding proposed compromise.

The compromise now being considered was originally proposed in 2005, but was thought to be too politically difficult as it would require politicians to explain to constituents why potential rights under the 1922 Compact were negotiated away.[139] "The Grand Bargain," as it has been termed, proposes that in exchange for the Upper Basin agreeing to cap its own use, thereby giving up the full 7.5 MAF annual allotment from Article III(a), and not objecting to the Lower Basin's overuse, the Lower Basin would agree that the Upper Basin has no delivery requirement, alleviating the threat of a compact call.[140]

The ambiguity of Article III(d) has severely impeded the Upper Basin's ability to plan for water cuts because it has not been certain when curtailment under the Compact could be required. The Grand Bargain compromise would give the Upper Basin states clarity on the amount of water they are entitled to on an annual basis, which, as flows continue to decrease, will allow the states to know when water cuts will be necessary. The ability to know the conditions in which water cuts will be required should help water managers to gather political support to formulate and implement water cuts and mitigation plans. Additionally, because Compact curtailment would no longer be viable, states like Colorado would have no choice but to legislatively create a path to administer Colorado River water in times of shortage. Comparatively, under The Grand Bargain, the Lower Basin will lose what has arguably been its greatest bargaining chip since the Compact was signed. By giving up rights to make a compact call, Lower Basin states would be left to shoulder the shortages in Lake Mead by themselves. On the other hand, the Lower Basin is already solely responsible for shortages in Lake Mead, and should the flow of the River have better years in the future, the Lower Basin could resume using water beyond its allotment without the objection of the Upper Basin.

Put into context, the fact that a 100-year-old legal ambiguity, which exists in a fundamental section of the Colorado River Compact, has remained a cornerstone of operation in the Basin without litigation is an anomaly in itself. But for the current megadrought and compounding effects of climate change, it is possible the ambiguity of Article III(d) could have gone unaddressed indefinitely. Unfortunately, River flows over the past 20 years have continued to decline, which has only highlighted how the difference of opinion in Article III(d) has led the Upper and Lower Basins in very different directions regarding water shortages in the Basin.

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[139] Eric Kuhn and John Fleck, *Is there a "Grand Bargain" to be had in the Colorado River Basin?* (June 2, 2019), https://www.inkstain.net/2019/06/is-there-a-grand-bargain-to-be-had-in-the-colorado-river-basin/ [https://perma.cc/Y67Z-TCDN].

[140] *Id.*