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EPA'S NEW 401 CERTIFICATION RULE

EXPANDED SCOPE AND UNANSWERED QUESTIONS

by Anna Wildeman and Sarah J. Page, Troutman Pepper

Introduction

The US Environmental Protection Agency (EPA) has finalized a new regulation to implement the Clean Water Act (CWA) section 401 water quality certification program. Continuing the recent practice of promulgating regulations and then promptly replacing them, EPA's "CWA Section 401 Water Quality Certification Improvement Rule" (the 2023 Rule) replaces the "Clean Water Act Section 401 Water Quality Certification Rule" that was finalized in 2020 (the 2020 Rule). The 2023 Rule was published in the Federal Register on September 27, 2023 and will become effective on November 27, 2023.

This article provides background on the CWA water quality certification program, followed by a deep dive into the 2023 Rule and how it compares to the 2020 Rule.

Background

In the 1971 CWA amendments, Congress enacted section 401 to provide states and authorized tribes a role in federal licensing and permitting procedures to ensure that federally authorized projects do not violate local water quality standards. Pursuant to section 401, a federal agency may not issue a license or permit for any activity that "may result in any discharge into the navigable waters (waters of the US)" unless the state or authorized tribe where the discharge originates either certifies compliance with applicable water quality requirements or waives certification. The requirement for state or tribal certification applies even in cases where federal law would otherwise preempt state regulation of the activity (33 U.S.C. § 1331. *See* e.g. 18 C.F.R. § 5.1). Without the requirement of a section 401 consultation, a state or tribe would be wholly preempted in the Federal Energy Regulation Commission (FERC) licensing process.

The water quality certification requirement was originally enacted by Congress in 1970 as section 21(b) of the Federal Water Pollution Control Act (FWPCA). Section 21(b) required states to certify that a federally authorized "activity will be conducted in a manner which will not violate applicable water quality standards" (Public Law 91-224, 21(b), 84 Stat. 91 (1970)).

In 1972, Congress amended the FWPCA into what is now commonly referred to as the CWA. In the 1972 amendments, Congress carried over the water quality certification requirement from section 21(b) but modified the language in section 401(a) to require that states certify that the "discharge" comply with applicable provisions of CWA sections 301, 302, 303, 306, and 307 (33 U.S.C. § 1331(a)). The 1972 amendments also created section 401(d), which requires a certification to "set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure that any applicant for a federal license or permit will comply" with the enumerated sections of the CWA "and with any other appropriate requirement of State law..." (33 U.S.C. § 1331(d)).

These Congressional changes from 1970 to 1972 have been the subject of much debate. For example, did Congress intend to narrow the scope of the certification requirement when it used the word "discharge" instead of "activity" in section 401(a)? Or did Congress intend to broaden the scope by creating section 401(d), which requires certification to ensure

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that the "applicant," rather than the "discharge" complies with "water quality requirements" rather than "water quality standards"?

The problems suggested by such questions were compounded by the fact that EPA's water quality certification regulations—promulgated in 1971 and reflecting the language in section 21(b)—remained on the books for nearly 50 years after the 1972 amendments created section 401. By 2018, states and stakeholders had litigated these questions in court, and many advocated for EPA's regulations to be updated to reflect the 1972 CWA amendments and the language in section 401.

In April 2019, President Trump issued Executive Order 13868 asserting that "[o]utdated federal guidance and regulations regarding section 401 of the Clean Water Act ... are causing confusion and uncertainty and are hindering the development of energy infrastructure." The order directed EPA to consult with states, tribes, and federal agencies in reviewing EPA's certification regulations and guidance and determine if the regulations should be updated to align with the administration's policy "to promote private investment in the Nation's energy infrastructure" through efficient and timely infrastructure permitting processes and procedures. In August 2019, EPA published for public comment a proposed rule updating regulations on water quality certification, and on September 11, 2020, the 2020 Rule took effect.

On January 20, 2021, President Biden issued Executive Order 13990 requiring federal agencies to review regulations promulgated over the prior four years that conflicted with the Biden administration's priorities, including regulations related to climate change impacts and environmental justice. As part of this directive, EPA published a notice of intent to revise the 2020 Rule on June 2, 2021, and sought public comment. During the initial 60-day public comment period, which ran from June 2 to August 2, 2021, EPA sought comments related to: pre-filing meeting requests, certification requests, reasonable period of time, scope of certification, certification actions and federal agency review, enforcement, modifications, neighboring jurisdictions, data, and implementation coordination. A year later, on June 9, 2022, EPA published a proposal to revise the 2020 Rule, opening another 60-day public comment period. In all, the Agency received and considered approximately 27,000 comments in developing its 2023 Rule. The final 2023 Rule was published in the federal Register September 27, 2023, and will take effect on November 27, 2023.

Summary of the 2023 Rule

The 2023 Rule and the accompanying final rule preamble are lengthy. The following is an analysis of the key provisions of the 2023 Rule and how they have been modified from the 2020 Rule.

PRE-FILING MEETING AND REQUEST FOR CERTIFICATION PROCEDURES

The 2023 Rule provides that "[t]he project proponent shall request a pre-filing meeting with the certifying authority at least 30 days prior to submitting a request for certification in accordance with the certifying authority's applicable submission procedures, unless the certifying authority waives or shortens the requirement for a pre-filing meeting request" (Clean Water Act Section 401 Water Quality Certification Improvement Rule, 88 Fed. Reg. 66662 (final rule Sept. 27, 2023) (to be codified at 40 C.F.R. § 121.4)). The pre-filing meeting requirement is carried over from the 2020 Rule (Id. at 66571) and is intended to encourage early discussions prior to the submission of a request for certification. However, the 2023 Rule introduces flexibility to the requirement by allowing a certifying authority to waive or shorten the pre-filing meeting requirement. A certifying authority may elect to waive or shorten the requirement, for example, in the instance of a small project or emergency (*Id*. at 66572). Waiving or shortening the pre-filing requirement must be affirmative—silence from the certifying authority defaults to a 30-day wait prior to submission of the request for certification (*Id*. At 66571).

Under the 2023 Rule, certifying authorities can dictate the form and substance of pre-filing meetings (*Id*. At 66573). EPA recommends, but does not require, that the pre-filing meeting request be in writing by the project proponent, and that the project proponent include relevant project information, such as the project scope, what waters may be impacted, and what federal licenses or permits triggered the certification requirement (*Id*. at 66573). EPA bases these "good practices" on what EPA would generally find appropriate when it acts as the certifying authority.

After the 30-day window for the pre-filing meeting occurs, or is waived or shortened by the certifying authority, the project proponent may file a request for certification. The 2023 Rule establishes a floor for information that must be provided by the project proponent. No matter the certifying authority, at a minimum, the project proponent must provide either (a) the individual federal license or permit application submitted to the federal agency, or (b) the draft general federal license or permit and "any readily available water quality-related materials that informed the development" of either the federal license or permit application or draft permit (Id. at 66662

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Additional Contents

Discharge

Impact of Activity

Activity Construction

Uncertainty

Implications

(to be codified at 40 CFR § 121.5(a)). Beyond those basic requirements, a state or tribal certifying authority can determine additional contents a project proponent must include in its request for certification so long as the additional requests "are relevant to the water quality-related impacts from the activity" (*Id*. to be codified at 40 CFR § 121.5(c)). Importantly, these additional requests must be identified before the request for certification is made. A certifying authority's additional requests do not need to be promulgated through rulemaking; however, in the 2023 Rule preamble, EPA notes that a certifying authority's required contents for a certification request should be "transparent, publicly available, and provide project proponents with adequate notice" (*Id*. at 66578). While a certifying authority may request additional information after the request for certification is submitted, the receipt of a complete certification request starts the statutory clock for the "reasonable period of time" for review, discussed below (*Id*. at 66581).

Where a request for certification is submitted to EPA as the certifying authority or to a state or tribal certifying authority that does not identify additional submission contents beyond the minimum requirements, the submission must also include seven specific pieces of information (*Id*. at 66662 to be codified at 40 CFR § 121.5(b), (d)). This information includes "the specific location of any discharge(s) that may result from the proposed activity," "current activity site conditions," and documentation that a pre-filing meeting was requested, unless it was waived.

SCOPE OF CERTIFICATION AND CONDITIONS

Several of the most significant revisions of the 2023 Rule expand the scope of certification from the 2020 Rule. The 2020 Rule sought to align the scope of certification with the language of the 1972 CWA amendments by providing that the scope of certification was limited to ensuring that the discharge from a point source to a "water of the US" complied with water quality standards (85 Fed. Reg. 42236). In contrast, in the 2023 Rule preamble, EPA emphasized the breadth of the scope of certification by repeatedly citing its 1989 guidance document: "[A]ll of the potential effects of a proposed activity on water quality – direct and indirect, short and long term, upstream and downstream, construction and operation – should be part of a state's certification review." The 2023 Rule expands the scope relative to the 2020 Rule in several ways.

At base, the 2023 Rule brings back the FWPCA section 21(b) and related 1971 Rule scope that requires states and tribes to ensure that the whole "activity" being licensed or permitted will comply with applicable water quality requirements (88 Fed. Reg. 66662 to be codified at 40 CFR § 121.3). While EPA declined to define "whole activity" or "activity" in the final 2023 Rule, the regulation provides that "[t]he certifying authority's evaluation is limited to the water quality-related impacts from the activity subject to the federal license or permit, including the activity's construction and operation" (*Id*). EPA is very clear that a certifying authority conducting a section 401 review for a facility's construction permit may consider impacts from the facility's anticipated operations; however, EPA leaves unclear the scope of review when considering an activity's construction (*Id*. at 66599).

For example, if a lumber mill applies for a federal NPDES permit to construct and operate outfalls into a river, will the scope of review encompass only the construction and operation of the federally regulated activity—the outfalls—or extend to the construction of the whole lumber mill? Given the 2023 Rule preamble discussion, it is likely EPA would take the broadest position possible. In the hypothetical where the lumber mill is preexisting and only the outfalls are new, under the broadest interpretation of the 2023 Rule, would the certifying authority be able to review and condition the operations of the lumber mill? We raise these questions because they are unanswered in the final Rule and could be the subject of future litigation.

In justifying a return to the "activity" scope of review in the 2023 Rule, EPA turned to the holding in *PUD No. 1 of Jefferson County v. Wash. Dept. of Ecology (PUD No. 1)*, which concluded that the most reasonable interpretation of the CWA is that a certifying authority may place "conditions and limitations on activity as a whole" (511 U.S. 700, 712 (1994); 88 Fed. Reg. 66593). This change has a number of significant implications for certifying authorities and project proponents.

First, the broader "activity" scope in the 2023 Rule means that a certifying authority must consider water quality impacts that may come from either point or nonpoint sources. Second, certifying authorities must consider both direct and indirect impacts of the activity, but they must be "water quality related." "Water quality related," is construed broadly to encompass "impacts that adversely affect the chemical, physical, and biological integrity of waters" (88 Fed. Reg. 66602). This means certifying authorities may consider and place conditions around non-pollution-related impacts such as water quantity and flow to support aquatic resources (*Id.*). Finally, the 2023 Rule scope of certification requires certifying authorities to consider impacts to waters of the US and to non-federal state or tribal waters. The 2023 Rule says that when considering whether the activity complies with CWA sections 301, 302,

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Federal Evaluation

303, 306, and 307, the target resource is the federal waters of the US; however, when considering whether the activity complies with other state- or tribal law–driven "water quality requirements," the target resource is any and all state or tribal waters that may be impacted (*Id*. at 66604). This means, when EPA is the certifying authority, the federal government is responsible for evaluating whether the activity is protective of state or tribal waters based exclusively on state or tribal law.

Burden

The broader scope of the 2023 Rule carries implications for project proponents as well as certifying authorities. Project proponents will likely need to invest more time and resources into providing required documentation in order to submit certification requests. And while the certifying authority must limit its information requirements to those relevant to water quality, they otherwise face few limitations on what must be considered under the 2023 Rule. The expanded scope of certification will certainly place a greater burden on certifying authorities, who now must consider whether many more aspects of a project will comply with water quality requirements. The expanded scope of review in the 2023 Rule also carries the risk that certifying authorities will become litigation targets for failing to consider every aspect of an activity over the life of a project within the limited reasonable time for review.

REASONABLE PERIOD OF TIME

Timeline

Section 401 of the Clean Water Act requires that a certifying authority act on a certification request in a reasonable time, not to exceed a year, or else the certification is deemed waived (33 U.S.C. § 1341(a)(1)). The clock starts upon the receipt of the request. While receipt is not defined in the statute or regulations, EPA notes that "the reasonable period of time clock starts when the certifying authority has received a request for certification, as defined in section 121.5 of the [2023 Rule], in accordance with the certifying authority's applicable submission procedures" (88 Fed. Reg. 66662 to be codified at 40 CFR § 121.6(a)). Pursuant to the 2023 Rule, the certifying authority sends a written confirmation to the project proponent and federal agency that certification was received, thus starting the clock on the reasonable period of time.

Default

Since the 1971 regulations, the reasonable period of time was set by the federal licensing or permitting agency. This makes sense because the certification process must occur and be completed during the federal permitting process. For the first time, the 2023 Rule allows the federal agency and the certifying authority to jointly agree on the length of the reasonable period of time (*Id*. to be codified at 40 CFR § 121.6(b)). If no agreement is met, the default reasonable period of time is six months (*Id*. to be codified at 40 CFR § 121.6(c)). Under either an agreed or default reasonable period of time, the federal agency and certifying authority may agree to extend for any reason. The 2023 Rule also allows the certifying authority to unilaterally extend the reasonable period of time to accommodate public notice procedures or force majeure events (*Id*. to be codified at 40 CFR § 121.6(d), (e)). In any case, the 2023 Rule reaffirms the statutory mandate that the period of time may not be extended past one year of receipt of the request for certification.

Withdraw & Resubmit

Notably, EPA removed a 2020 Rule provision that prohibited the certifying authority from requesting the project proponent withdraw and resubmit its certification request to reset the one-year clock. The 2023 Rule is silent on the issue, with EPA citing a split across courts regarding whether a request to withdraw and resubmit is appropriate. In this aspect of the 2023 Rule, EPA missed an opportunity to provide clarity and certainty on an issue that will, most likely, continue to be adjudicated in courts of law, and the answer will ultimately depend upon the Court of Appeals Circuit in which the certifying authority sits. Worse yet, by removing the prohibition on the withdraw-and-resubmit practice, the 2023 Rule is likely to embolden certain states that have a track record of pushing the envelope to avoid the one-year statutory maximum timeframe to act on a certification request.

CERTIFICATION ACTIONS

Consistent with the 2020 Rule, the 2023 Rule provides that for a certifying authority to "act" on a request in a reasonable time, it must either grant certification, grant certification with conditions, deny certification, or expressly waive certification (*Id*. at 66608, 66663 to be codified at 40 CFR § 121.7(a)). The same "activity" standard that applies to the scope of review also applies with respect to a certifying authority determining which action to take (*Id*. at 66605). With a grant of certification, the certifying authority finds that the project proponent's activity will comply with water quality requirements or that no water quality requirements are applicable to the activity (*Id*. at 66663 to be codified at 40 CFR § 121.7(c)(4), (g)). Also consistent with the 2020 Rule, a denial of certification under the 2023 Rule must state "why the certifying authority cannot certify that the activity will comply with water quality requirements, [and] include ... a description of any missing water quality–related information if the denial is based on insufficient information" (*Id*. to be codified at 40 CFR § 121.7(e)(3)). In the 2023 Rule, EPA removed regulations regarding the effect of a denial; however, it maintains that a denial is not always a final action

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and may be granted without prejudice (*Id*. at 66608). Notably, some states have used the "denial without prejudice" construct as another way to extend the statutory one-year timeframe by denying without prejudice and inviting the project proponent to resubmit a new certification request.

Also consistent with the 2020 Rule, the 2023 Rule requires a grant of certification with conditions to explain "why each condition is necessary to assure that the activity will comply with water quality requirements" (*Id*. at 66663 to be codified at 40 CFR § 121.7(d)(3)). Essentially, the conditions must be necessary such that, without them, the certifying authority would deny the certification request (Id. at 66606). In drafting conditions, the certifying authority can consider all applicable water quality standards, including water quality criteria, designated uses, and antidegradation requirements.

Conditions

Where the certifying authority is concerned about future water quality–related changes during the life of the project, the 2023 Rule allows the certifying authority to develop "adaptive management conditions" (*Id*. at 66615). These conditions are incorporated into the certification, and added as conditions to the federal license or permit, but only take effect upon some future triggering event. In its 2023 Rule preamble, EPA gives the following example:

> [I]f a certifying authority is concerned about future downstream, climate change-related impacts on aquatic species due to increased reservoir temperatures during the lifespan of a hydropower dam license, the certifying authority might develop a condition that would require a project proponent to take subsequent, remedial action in response to reservoir temperature increases (e.g., conditions that might require monitoring and, as necessary, a change in reservoir withdrawal location in the water column, a change in the timing of releases, etc.) (*Id*).

Reopener Clauses

These conditions are set at the time certification is granted and cannot change after certification. The 2023 Rule explains that this differs from the past practice of "reopener" clauses, which would authorize a certifying authority to "reopen" and modify a certification at a later date, thereby requiring the federal agency to modify the associated federal license or permit. The 2020 Rule prohibited reopener clauses and the 2023 Rule carries over this prohibition.

While the 2023 Rule continues to prohibit reopener clauses allowing unilateral modification, a certifying authority can unilaterally modify the content of a certification so long as the federal agency agrees that the certification can be modified (Id. at 66631). In the 2023 Rule, EPA clarified that "the certifying authority is not required to obtain the federal agency's agreement on the language of the modification" (*Id*. at 66663 to be codified at 40 CFR § 121.10(a)).

NEIGHBORING JURISDICTIONS

Certifying authorities are not the only entities that participate in certification decisions. Neighboring jurisdictions play a role, though that role is more limited. The 2023 Rule defines a neighboring jurisdiction as "any state, or tribe ... other than the jurisdiction in which the discharge originates or will originate" (*Id*. at 66662 to be codified at 40 CFR § 121.1(g)). In other words, a neighboring jurisdiction could be upstream or downstream or potentially not directly adjacent to the jurisdiction where the discharge originates.

Discharge Impacts

Section 401 requires a federal agency that receives a permit or license application and a certification or waiver to "immediately notify" the Regional Administrator (33 USC § 1341(a)(2)). Consistent with the 2020 Rule, the 2023 Rule interprets "immediately" to mean that the federal agency must notify EPA within 5 days of receiving the certification. The Regional Administrator then has 30 days to determine whether "such a discharge" from the project will affect water quality in a neighboring jurisdiction (Id. at 66665 to be codified at 40 CFR § 121.13(a)). If the Regional Administrator determines a neighboring jurisdiction's water quality may be impacted, the Regional Administrator will notify the neighboring jurisdiction, the federal agency, and the project proponent (*Id*. to be codified at 40 CFR § 121.13(b)). The neighboring jurisdiction then has 60 days to notify the Regional Administrator if it determines that "such discharge" from the project will violate any of its water quality requirements (*Id.* to be codified at 40 CFR § 121.14(a)).

Inconsistency

Notably, EPA concluded that the scope of review in the neighboring jurisdiction provision of the 2023 Rule is limited to "discharges from the project" (88 Fed. Reg. 66637). This is in stark contrast to EPA's much broader interpretation of the overall scope of certification in the 2023 Rule, which covers the "activity as a whole." It is also not clear from the regulatory text or preamble whether EPA intends the neighboring jurisdiction review of the "discharge" to include only the discharge that triggered the requirement for water quality certification or if it means any kind of discharge from the project, point source or nonpoint source. It also creates some internal inconsistency in the 2023 Rule that is sure to be examined by any court asked to review the 2023 Rule.

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Public Hearing

In the 2023 Rule, notification from the neighboring jurisdiction that a certified discharge will violate its water quality requirements initiates the objection process, which includes a public hearing from the federal agency regarding the neighboring jurisdiction's objection (Id. to be codified at 40 CFR § 121.15(b)(3)). At the public hearing, the federal agency considers recommendations from the neighboring jurisdiction, the Regional Administrator, and any additional evidence presented at the hearing (*Id*. to be codified at 40 CFR § 121.15(d)). The federal agency will then determine whether additional license or permit conditions are required (*Id.*). If the federal agency determines that there is no condition or set of conditions sufficient to prevent the project's discharge from violating the neighboring jurisdiction's water quality requirements, it may not issue the license or permit (Id. to be codified at 40 CFR § 121.15(e)).

TAS for Tribes

The 2020 Rule limited the definition of neighboring jurisdiction to a state or a tribe that receives "**t**reatment in a similar manner **a**s a **s**tate" (TAS). The 2023 Rule seeks to expand the number of tribes that can participate in the certification process by providing a new procedure for tribes to obtain a limited-purpose TAS to participate as a neighboring jurisdiction (Id. at 66663 to be codified at 40 CFR § 121.11(d)). A tribe seeking TAS to become a certifying authority and a tribe seeking TAS that only wants to be considered as a neighboring jurisdiction must meet the same requirements. These requirements include: recognition of the tribe by the Secretary of the Interior; demonstration that the tribe exercises substantial governmental duties and powers over a defined area; the tribe's authority to regulate surface water quality; and the tribe's capability to administer an effective water quality certification program, which can be limited for the purpose of a neighboring jurisdiction (*Id*. to be codified at 40 CFR § 121.11). In accordance with the 2023 Rule, a neighboring TAS tribe will most often base its objections on water quality requirements, including those based on tribal law, as few tribal water quality standards have been approved by EPA for CWA purposes (*Id*. at 66653).

Clause Removal

ENFORCEMENT

The 2023 Rule removes the enforcement provisions that were included in the 2020 Rule and does not contain any language related to enforcement (*Id*. at 66634). The 2023 Rule preamble states that, because certification conditions become part of the federal license or permit, the issuing federal agency is responsible for enforcement of those conditions. However, if state law authorizes a state to enforce certification conditions and other federal law does not preclude the same, a state may seek to enforce a certification condition based on that state law authority (*Id*). This is essentially the same position EPA took in the 2020 Rule, and it is unclear why EPA declined to retain the federal agency enforcement authority in the 2023 Rule. EPA also declined to take a position regarding the ability for certifying authorities to utilize CWA's citizen suit provision as a means for state and tribal enforcement.

Retroactive

RETROACTIVE APPLICABILITY TO PENDING CERTIFICATION REQUESTS

The 2023 Rule does not apply retroactively to certification actions previously taken under either the 2020 Rule or the 1971 regulations. In other words, EPA has said it will not require states and tribes to redo previously issued certifications so they comply with the 2023 Rule. Indeed, it would be remarkable if EPA attempted to require states or tribes to redo prior agency actions. However, the preamble explains that EPA expects that, as of November 27, 2023 (the effective date of the 2023 Rule), any pending certification request that was previously submitted under the 2020 Rule and that remains pending because the certifying authority has not yet acted to grant, deny, or waive, must be completed in compliance with the requirements of the 2023 Rule (*Id*. at 66655). EPA's intention to apply the 2023 Rule retroactively to pending certification requests is ripe for legal challenge. The Supreme Court has held that an agency may not promulgate retroactive rules absent express congressional authority (*Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988). A rule is retroactive where "it takes away or impairs vested rights acquired under existing law, creates a new obligation, [or] imposes a new duty" (*Nat'l Min. Ass'n v. U.S. Dept. of Labor,* 292 F.3d 849, 859 (D.C. Cir. 2002)). In considering this analysis, the D.C. Circuit has found that the "critical question is whether a challenged rule establishes an interpretation that changes the legal landscape." Important to this inquiry is whether the rule changes are substantive versus procedural (*Pac. Molasses Co. v. FTC,* 356 F.2d 386, 390 n.10 (5th Cir.1966). Mere procedural rules can apply retroactively. But here, because the 2023 Rule substantively deviates from the 2020 Rule in the myriad ways explained previously, retroactive application of the 2023 Rule to pending certification requests may be held invalid as "impairing prior-existing rights and affecting reliance interests" (*Bahr v. Regan,* 6 F.4th 1059, 1070 (9th Cir. 2021).

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Litigation

Conclusion

The 2023 Rule is complicated. Given the ongoing controversies, including litigation in courts across the country and questions left unanswered in the regulatory text and preamble, the 2023 Rule will likely be the subject of litigation as it becomes effective and states begin implementation. Practitioners and the regulated community are advised to monitor court decisions and agency implementation guidance to stay informed. Importantly, the 2023 Rule only reflects EPA's administration of the water quality certification program. Practitioners and the regulated community must also be aware of state-specific water quality certification regulations, application forms, submittal requirements—including those that may be updated based on the 2023 Rule—and any changes driven by court decisions and agency guidance.

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Great Salt Lake

STRATEGIES TO SECURE WATER FOR GREAT SALT LAKE

PUBLIC SUPPORT AND SURVEY RESULTS

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Introduction

Importance

Great Salt Lake is the largest saline lake in the Western Hemisphere (Wilsey et al. 2017) and plays an important role in Utah's economy, environment, and ecology (Baxter and Butler 2020; Great Salt Lake Advisory Committee 2021). It has a long history of commercial and recreational activities including mineral production, brine shrimp harvesting, waterfowl hunting, boating, and sightseeing (Utah Department of Natural Resources 2013a, 2013b). The Great Salt Lake ecosystem supports over 10 million birds representing 338 species and acts as an important stopover for migratory birds between North and South America (Great Salt Lake Ecosystem Program; Wilsey et al. 2017). In 1991, Great Salt Lake was designated as a site of "hemispheric importance" by the Western Hemisphere Shorebird Reserve Network (Wilsey et al. 2017).

IMPACTS OF A DRYING LAKE

Decline

Great Salt Lake has been declining since its contemporary record high in 1987. In November 2022, the lake dropped to its lowest level on record and reached the zone identified in the Great Salt Lake Level Matrix as having "serious adverse effects" on multiple resource values (Utah Department of Natural Resources 2013a, Appendix A; see Figure 1). Studies have shown that Great Salt Lake's decline is primarily due to human consumptive water use, with climate warming and natural variability being additional factors contributing to the drying lake (Null and Wurtsbaugh 2020; Great Salt Lake Strike Team 2023). A drying Great Salt Lake is cause for significant concern. Decreasing inflow into the lake is depriving critical wetlands of needed water, creating adaptive management challenges and conundrums (Downard and Endter-Wada 2013; Downard et al. 2104; Welsh et al. 2013). Decreasing lake levels expose the lakebed, which leads to toxic dust that impacts air quality. The dust poses human health risks and more quickly melts the lake-effect snow that Great Salt Lake creates in the surrounding mountains (Perry et al. 2019; Great Salt Lake Strike Team 2023:29). As lake levels decrease, salinity levels increase, causing threats to the viability of the lake's ecosystem (Great Salt Lake Salinity Advisory Committee 2021; Great Salt Lake Hydro Mapper).

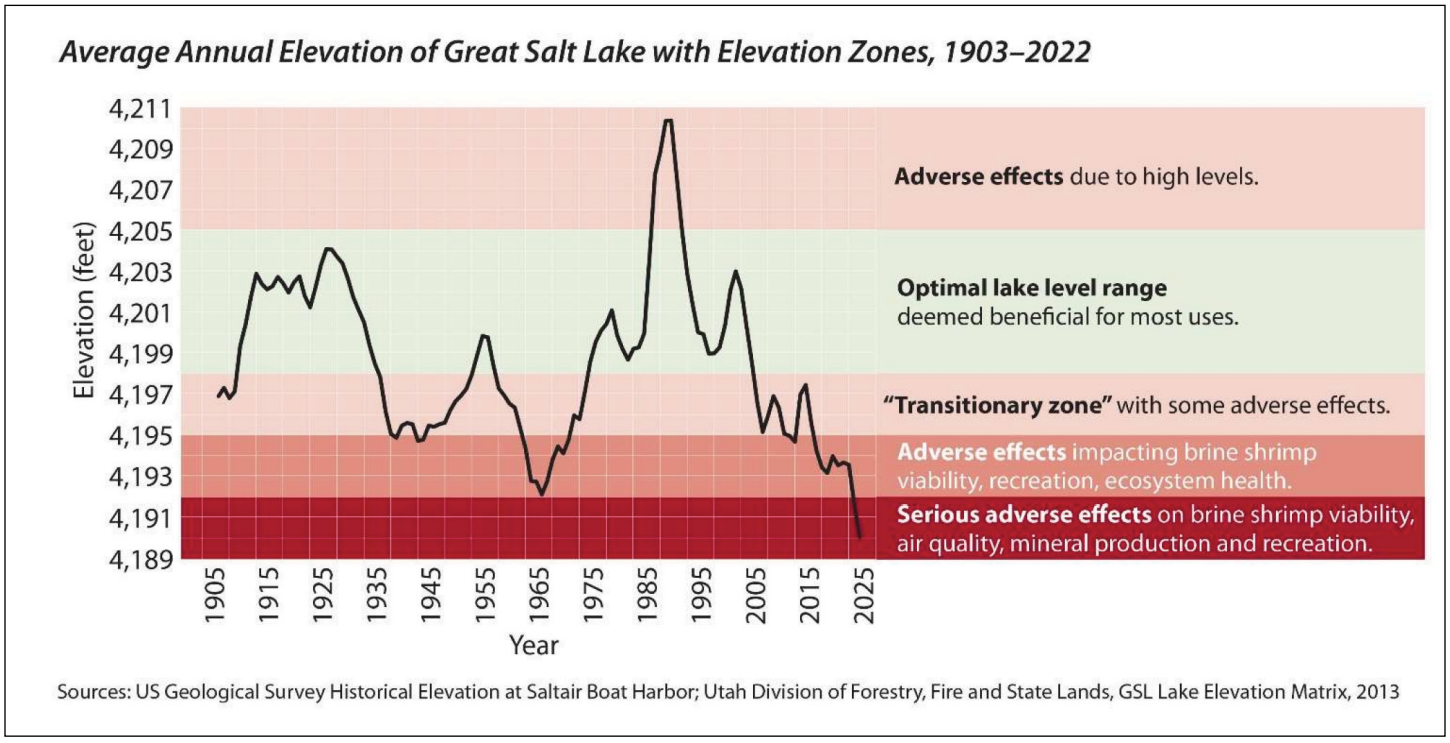

Figure 1: Graph from Great Salt Lake Policy Assessment, Great Salt Lake Strike Team, 2023, p. 4.

Great Salt Lake

Coordinated Efforts

Strike Team

Strategies

Year of Water

Additional Efforts

Support for Policy

ACTIONS TO SUPPORT GREAT SALT LAKE

As the threats of a drying Great Salt Lake have increased and become highly publicized throughout the western United States and worldwide (e.g., Great Salt Lake Collaborative; Flavelle 2022; Milman 2023; Abbott et al. 2023), the State of Utah has recognized a need for more coordinated efforts to address the magnitude of the problem. The Utah Legislature created the Great Salt Lake Advisory Council in 2010 to advise the governor, Department of Natural Resources, and Department of Environmental Quality on "the sustainable use, protection, and development of the Great Salt Lake" (HB 343 2010).

In 2013, the Division of Forestry, Fire & State Lands in the Utah Department of Natural Resources issued a Final Great Salt Lake Comprehensive Management Plan and Record of Decision for the lake. A Recommended State Water Strategy was delivered to Governor Herbert in July 2017. It identified eleven key water policy questions and recommended strategies to address them, including challenges relating to sustaining Great Salt Lake (Governor's Water Strategy Advisory Team 2017). In 2019, the Utah Legislature passed HCR-10, the "Concurrent Resolution to Address Declining Water Levels of the Great Salt Lake." A report detailing recommendations on how to ensure adequate flows to Great Salt Lake was released in 2020 in response (Great Salt Lake Resolution (HCR-10) Steering Group 2020). The Great Salt Lake Strike Team was developed in summer of 2022 as a way to bring scientists and experts together from Utah universities and state agencies to assess resource conditions and policy options (Great Salt Lake Strike Team). In November 2022, Governor Cox's office, along with executive branch agencies, issued their full report, *Utah's Coordinated Action Plan for Wate*r (Governor's Office of Planning and Budget et al. 2022). In 2023, the Utah Legislature designated a Great Salt Lake Commissioner to work with state leaders and agencies and develop a strategic plan for the lake.

Through these collaborative discussions and studies, various strategies to help Great Salt Lake have been proposed. These strategies include: agricultural water optimization; development of models to understand water depletion in the Great Salt Lake watershed; water banking and leasing to facilitate the transfer of water; engineered solutions to control lake salinity and dust hotspots in the dried Great Salt Lake lakebed; conservation measures on urban and suburban landscapes; and planning for and guiding future municipal and industrial growth to be more sustainable (Great Salt Lake Resolution (HCR-10) Steering Group 2020; Great Salt Lake Strike Team 2023).

The state has begun implementing some of these strategies. The Great Salt Lake Integrated Model (GSLIM) was completed in 2017 and updated in 2019 to help managers and policymakers forecast how future conditions could change the Great Salt Lake watershed (Jacobs Engineering Group 2019). The Utah Water Banking Act (SB 26) passed in 2020, followed by a three-year pilot program to create a Statewide Water Marketing Strategy (Lewis and DeBirk *TWR* #232). The 2022 Utah legislative session was coined the "Year of Water" by legislators, with numerous water-related bills passed and signed into law, including the creation of a $40 million Great Salt Lake Water Trust to help fund projects to improve water quantity and quality in Great Salt Lake and its surrounding wetlands (see https://water.utah.gov/wp-content/uploads/2023/01/2022-Water-Legislation.pdf). In the fall of 2022, the state raised a berm in the breach of the Union Pacific Railroad causeway across Great Salt Lake to help reduce salinity levels on the southern arm of the lake where brine shrimp harvesting occurs. The 2023 Utah legislative session expanded on the 2022 session with water legislation focused on water conservation and agricultural optimization funding (see https://water.utah.gov/wp-content/uploads/2023/04/2023-Water-Legislation.pdf). A resolution that would have set a target elevation for Great Salt Lake did not pass out of committee in the 2023 Utah legislative session. The resolution would have established a minimum lake level that would bring salinity levels in the lake into an optimal lake level range deemed beneficial for most uses based on experts' recommendations (Utah Department of Natural Resources 2013a).

The efforts that have been made so far are an encouraging start. But many observers agree it will take enormous change in how water and growth is managed in the state of Utah to solve the problem of a drying Great Salt Lake. Utah's population has grown the fastest in the nation, according to the 2020 US Census. An October 2023 report describes a "New Utah" that has transitioned into a more populous, mid-sized state with greater anticipated in-migration than in-state growth and a strong economy (Dean et al. 2023). The report explains that the state will need to thoughtfully manage these changes to avoid impacts on Utahns' quality of life and highlights Great Salt Lake as a flashpoint that needs to be addressed.

Because urgent action is needed to save Great Salt Lake, it is helpful to policymakers to understand the kinds of policy choices Utahns are likely to support and champion. The Utah State University *Future of Great Salt Lake Survey* was conducted to gather information from Utah residents about their connections to and opinions on Great Salt Lake, their concerns over the lake and its future, what they would be willing to do individually to help protect the lake, and what additional community and state strategies they would support that would help direct water into the lake. The goal of the survey was to understand

Great Salt Lake

Public Opinions

Questions

Strata

Participation

Action & Scale

how Utahns envision the future of Great Salt Lake and their role in helping to protect it. This article summarizes selected findings from the survey and is excerpted from the full report (*see* https://usu.edu/ilwa/future-of-gsl-survey; Welsh et al. 2023).

Survey Methodology

The *Future of Great Salt Lake Survey* was conducted between September 2022 and January 2023. The survey was designed to address issues under public discussion concerning Great Salt Lake. An online version of the survey was pre-tested with 46 Utahns who have been actively engaged in Utah water policymaking and/or affiliated with various management and interest groups linked to Great Salt Lake, including the Great Salt Lake Advisory Council and the Great Salt Lake Technical Team. The survey was then revised based on pre-testing feedback.

Questions included in the survey addressed residents' opinions on Great Salt Lake and various strategies to help secure water for it. Respondents were also asked about their visions on the future of Great Salt Lake. The following topics were included in the survey:

1. Your Experiences and Familiarity with Great Salt Lake
2. Your Views on Great Salt Lake
3. Your Opinions on Securing Water for Great Salt Lake
    a. Individual Strategies
    b. Community Strategies
    c. State Strategies
4. Your Visions on the Future of Great Salt Lake
5. Information about You and Your Neighborhood

A total of 7,750 addresses were selected and evenly distributed among three strata of Utah's 29 counties. The three strata were based on proximity to Great Salt Lake and designated as follows (*see* Figure 2):

- *Great Salt Lake Counties* – the five counties Great Salt Lake lies within (Box Elder, Davis, Salt Lake, Tooele, and Weber counties);
- *Other Watershed Counties* – the six other counties primarily located in the Great Salt Lake Watershed (Cache, Morgan, Rich, Summit, Utah, and Wasatch counties); and,
- *Rest of Utah Counties* – the remaining 18 counties in Utah (Beaver, Carbon, Daggett, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Morgan, Piute, San Juan, Sanpete, Sevier, Uintah, Washington, and Wayne counties).

Surveys were sent to residential addresses with instructions for an adult over 18 to complete it. The overall response rate was 14.3% of the random sample after deleting surveys where the respondent completed less than 17% of the survey. This participation reflects a total of 1,112 usable surveys from a total sample frame of 7,750 households. Response rates varied somewhat by stratum. Response rates ranged from 15.8% in the Great Salt Lake Counties to 16.0% in the Other Watershed Counties, and 11.2% in the Rest of Utah Counties. One returned survey was unable to be categorized in any of the strata. An analysis of the demographic characteristics of respondents suggests the survey had a diverse sample set (Welsh et al. 2023).

Survey Results

OPINIONS ON SECURING WATER FOR GREAT SALT LAKE

This article focuses on Section C of the survey where we asked Utahns their opinions on securing water for Great Salt Lake. This section focused on strategies that individuals, local communities, and the state of Utah could pursue to secure more water for Great Salt Lake. When it comes to how water is used and managed in Utah, there are multiple actors and institutions who all make decisions and have authority or ability to take different actions. Change in attitudes and behavior among Utah residents is a diffused but important strategy. One of the survey goals was to understand what individuals would commit to do for Great Salt Lake and under what conditions. While the State of Utah can guide growth and development and manages the state's water resources, local county, city, and town governments are primarily responsible for land-use planning and delivering water to their residents.

Understanding Utahns' support for strategies across the three scales—individual, local, and statewide—is helpful, because actions across all three scales are not always coordinated. With greater emphasis on coordination and cooperation to solve the problem of a drying Great Salt Lake, the results of this survey are intended to help policymakers better implement strategies across the three scales.

Great Salt Lake

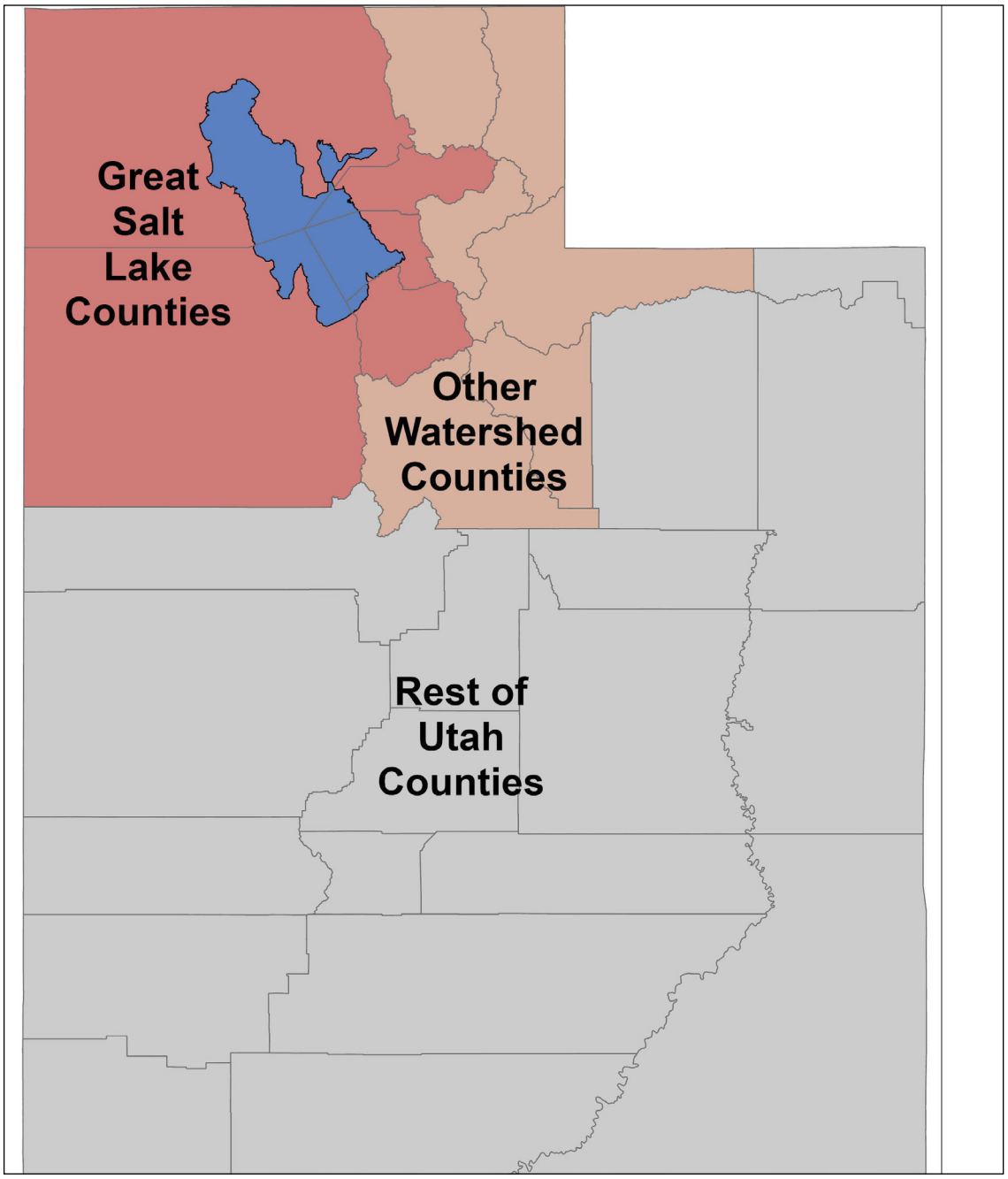

Figure 2: Map of county survey strata

INDIVIDUAL STRATEGIES

Survey respondents were asked how willing they would be to take a variety of actions, assuming those actions would contribute to efforts to secure water for Great Salt Lake (Table 1). Utahns are generally willing to do a variety of actions. Over 70% of respondents are slightly willing or very willing to use water-efficient landscapes, and over 60% are slightly willing or very willing to reduce their households' water use on a permanent basis—not just during droughts—and to let their lawns go dormant in the summer. Just under 60% (except in Salt Lake Counties, where it is higher) are slightly willing or very willing to live within a household water budget (a set allocation) based on household and property size. Utah has often been criticized for its higher per capita water use and outdoor watering, so the State of Utah and fellow residents might be encouraged to see that many Utahns would be willing to engage in such water conservation efforts. However, Utahns are not willing to accept higher-density developments in their neighborhoods or accept that their children and grandchildren may not want to live in Utah, which speaks to water-related dilemmas related to the state's rapid growth. Respondents in the Rest of Utah Counties are considerably less willing to accept higher densities in their neighborhoods, which could be related to the more rural nature of communities in these counties.

Water Budgets

Density

Great Salt Lake

Individual Actions

Table 1: Percentages of respondents willing to take individual actions to secure water for Great Salt Lake.

Question: As an individual, how willing are you to take the following actions, assuming these actions would contribute to efforts to secure water for Great Salt Lake?	County Strata			All Counties
	Great Salt Lake Counties	Other Watershed Counties	Rest of Utah Counties	
*Responses to rate on scale of 1-5**	*Percentage of respondents who marked "Slightly willing" or "Very willing"*			
Use contractors who are certified in water-efficient landscaping to design, install, or maintain my landscape and irrigation system when needed (6)	74.0	71.0	69.8	71.8
Reduce my household's water use on a permanent and ongoing basis and not just during drought periods (5)	74.6	65.3	61.2	67.7
Let my lawn go dormant and turn brown during hot, dry summer months (3)	70.0	63.7	59.3	64.9
Live within a household water budget (a set allocation) based on number of people in my household and my property size (4)	62.1	53.0	55.5	57.1
Accept that my children and grandchildren may not want to live in Utah because of water scarcity (2)	36.8	41.2	39.2	39.0
Accept higher density housing and compact development (i.e., smaller lots and more multi-unit housing) in my neighborhood (1)	40.1	36.1	29.5	35.8

** Responses appeared in the survey in the order indicated by subscript numbers. The scale for response categories were, from left to right: "Not at all willing" (coded 1); "Somewhat unwilling" (coded 2); "Neutral" (coded 3), "Slightly willing" (coded 4); and "Very willing" (coded 5).*

Water for Environment

Utahns are most motivated to reduce their water use for environmental purposes and to ensure water for future uses (Table 2). Almost 70% of Utahns are willing to reduce their water use to improve fish and wildlife habitat, increase Great Salt Lake water levels, and improve streamflow in rivers. The potential to reduce their water bills also motivates 64% of Utahns to conserve water. Environmental motivations outweigh almost all human uses, including basic indoor culinary water and agricultural use. This result holds across all three county groups. Utahns are not very motivated to reduce their water use for recreational purposes or residential outdoor water use, and least of all motivated to conserve water in order to allow increased development in their area (only 15% of Utahns).

Great Salt Lake

Motivating Factors

Table 2: Motivations to reduce household water use depending on use of conserved water.

Question: How motivated would you be to reduce your own household's water use if you knew the water you conserved would be put toward the following uses?	County Strata			All Counties
	Great Salt Lake Counties	Other Watershed Counties	Rest of Utah Counties	
*Responses to rate on scale of 1-5**	*Percentages of respondents who marked "moderately motivated" or "very motivated"*			
Improve fish and wildlife habitat (5)	77.2	63.1	68.2	69.8
Increase Great Salt Lake water levels (6)	77.9	62.1	67.4	69.4
Improve streamflow in rivers (9)	70.0	63.9	63.6	66.1
Reduce your water bill (10)	66.8	62.7	61.8	64.0
Ensure future water for indoor, residential uses (3)	62.2	60.1	59.8	60.8
Ensure future water use for agriculture (2)	54.0	57.9	58.8	56.8
Improve public urban parks and open spaces (8)	50.1	47.9	38.0	46.2
Ensure future water for outdoor, residential uses (4)	38.5	41.2	32.4	38.0
Improve opportunities for water-based recreation (7)	34.3	27.2	28.1	30.1
Allow increased development in my area (1)	13.9	15.9	14.4	14.8

** Responses appeared in the survey in the order indicated by subscript numbers. The 1-5 scale for response categories were, from left to right: "Not at all motivated" (coded 1); "Slightly motivated" (coded 2); "Somewhat motivated" (coded 3), "Moderately motivated" (coded 4); and "Very motivated" (coded 5)*

Financial Contribution

Because strategies to secure water for Great Salt Lake will require funding, respondents were asked how much money, if any, they would be willing to pay each year if they knew it would help secure water for Great Salt Lake. They were also asked how they would be willing to pay it and were given options of six different methods. Utahns are most willing to pay extra in their water bills and property taxes—with some willing to pay through sales tax and income tax—indicating that Utahns believe funding to secure water for Great Salt Lake should be a shared responsibility of water users, property owners, and state residents. More Utahns are willing to make voluntary financial donations to a nonprofit organization working on behalf of the lake than to state agencies in order to help secure water for Great Salt Lake. Respondents indicated they would be willing to contribute an average total amount of $213.50 for water for Great Salt Lake (*see* full report for more detail). The Great Salt Lake Counties had the highest average dollar amount respondents were willing to pay across all the categories, likely due to their proximity to the lake. The Rest of Utah Counties, composed of respondents who live farthest from the lake, had the lowest average dollar amount.

Great Salt Lake

Local Actions

Table 3: Support for various local government and water utility actions to secure water for Great Salt Lake.

Prompt: Local governments and water utilities have authority to regulate land use and water delivery. Please rate your level of support for your community to take the following actions to contribute to efforts to secure water for Great Salt Lake.	County Strata			All Counties
	Great Salt Lake Counties	Other Watershed Counties	Rest of Utah Counties	
*Actions to rate**	*Mean scores on a scale of 1 to 5 **			
Ensure water supply is adequate and sustainable before new developments are approved	4.63	4.56	4.48	4.57
Protect sensitive water resources in land use planning (e.g., groundwater recharge zones, natural habitat along rivers and streams, wetlands)	4.32	4.23	4.17	4.25
Provide more transparent and informative water bills to help people understand their water use data and ability to conserve	4.29	4.22	4.18	4.23
Mandate outdoor water restrictions during times of water shortage	4.02	3.81	3.74	3.87
Use more graduated tiered rates (where users pay increasingly higher rates as their use increases) to incentivize conservation	4.01	3.76	3.76	3.85
Adopt and implement land use ordinances and building codes that increase indoor and outdoor water use efficiency	4.04	3.80	3.61	3.84
Limit the amount of turf allowed in outdoor landscape installations or renovations	3.80	3.54	3.56	3.64
Bill people for the amount of water they use once meters are installed on piped irrigation systems with untreated water	3.76	3.59	3.36	3.60
Increase water prices to reflect the full cost of water	3.26	3.13	3.13	3.18

** Actions appeared in the survey in the order indicated by subscript numbers.*

*** The response categories for actions to rate were, from left to right: "Do not support at all" (coded 1); "Slightly support" (coded 2); "Somewhat support" (coded 3), "Moderately support" (coded 4); and "Strongly support" (coded 5)*

Great Salt Lake

Community Planning

Dissatisfaction

Conservation v. Infrastructure

Priorities

Planned Development

COMMUNITY STRATEGIES

Utahns were asked about a variety of actions communities (local governments and water utilities) could take to secure water for Great Salt Lake (Table 3). Survey respondents were prompted to rank their level of support for each action on a scale of 1 to 5, with 1 indicating "Do not support at all" and 5 indicating "Strongly Support." The mean score for each action is greater than 3, meaning that Utahns at least somewhat support each action. Utahns particularly want their communities to be thoughtful in how they grow and to think about water when planning. This sentiment is demonstrated by a mean response score of 4.57, which lies between "moderately support" and "strongly support" on the 5-point scale. Utahns also want communities to protect sensitive water resources in land use planning, prioritizing ecosystem health in the face of growth. Furthermore, Utahns support community actions to mandate and regulate conservation when needed, but generally support education—for example, more transparent water bills—over increasing water prices. Respondents in the Great Salt Lake Counties support these actions slightly more than respondents in the other county groups.

Utahns were also asked to rate their satisfaction with local city and county officials in their response to a shrinking Great Salt Lake on a scale from 1 to 5, with 1 indicating "Very dissatisfied," 5 indicating "Very satisfied," satisfied with the 3 (the midpoint) indicating "Unsure". Less than 10% of respondents were satisfied or very satisfied with the local response. The mean rating for all Utahns was 2.56, indicating that Utahns are generally unsure to dissatisfied with local officials' response. Over half of respondents in the overall sample were unsure, suggesting Utahns are not always aware of what is being done. In a free-response section, respondents emphasized the lack of conservation they see in their communities. One respondent wrote,

> " Seems they [local officials] are unwilling to impose restrictions or prices on water usage. We live in a desert where water is scarce already, but I see no initiatives to reduce water or promote conservation other than public messages everyone seems to ignore anyways. I see developments popping up with seemingly no regard for our water supply, covered in useless lawns to look pretty. "

Respondents in the Great Salt Lake Counties are even less satisfied than respondents in the Other Watershed Counties and the Rest of Utah Counties (*see* full report).

STATE OF UTAH

The survey asked Utahns about a variety of actions the State of Utah could do to secure water for Great Salt Lake and had them rate their support for each action on a scale of 1 to 5, with 1 indicating "Do not support at all" and 5 indicating "Strongly support" (Table 4). Like the community strategies, the mean score for each action is greater than 3, meaning that Utahns at least somewhat support each action. The action with the highest support mean shows that Utahns do want the State to require conservation and efficiency before pursuing water infrastructure projects.

In 1991, the Utah Legislature passed the Bear River Development Act (Utah Code, Title 73, Chapter 26) to develop and distribute 220,000 acre-feet of Bear River water to three water districts and Cache County, which now has a water district. The Bear River is the main inflow into Great Salt Lake, making up approximately 58% of the total. At full development, it is estimated that 85,600 acre-feet of Bear River water would be depleted from the the watershed, resulting in Great Salt Lake levels declining an additional 8.5 to 14 inches and exposing an additional 30 square miles of the lakebed (Wurtsbaugh et al. 2016). In 2021, the Division of Water Resources released a Water Resource Plan to guide planning and understanding of the State's future water needs (Utah Division of Water Resources 2021). Bear River Development is included in the plan, although the plan explains Bear River Development will likely not be needed until after 2050 and has been delayed due to conservation efforts. The State could find it helpful in their planning to know that Utahns most approve of continued conservation efforts and prioritizing water demand management over new water supply projects like this.

According to the survey, Utahns want to see the state thoughtfully plan for growth, particularly in light of climate change and drought. Utahns also think the state should be selective in its economic development strategies, assess the trade-offs in committing water resources to various economic activities, and take water supplies into account before attracting water-intensive industries. Though it had the lowest mean score, Utahns recognize that agricultural water consumption can be reduced in the Great Salt Lake watershed to increase water that goes to Great Salt Lake. Respondents in the Great Salt Lake Counties support these actions slightly more than respondents in the other two county groups.

Great Salt Lake

State Actions

Table 4: Support for various state government actions to secure water for Great Salt Lake.

Prompt: Utah's state government has authority to manage water, which is a public resource, and direct state-wide planning efforts. Please rate your level of support for the state of Utah to take the following actions to contribute to efforts to secure water for Great Salt Lake.	County Strata			All Counties
	Great Salt Lake Counties	Other Watershed Counties	Rest of Utah Counties	
*Actions to rate**	*Mean scores on a scale of 1 to 5 **			
Ensure that water conservation and efficiency are prerequisites to approval of all water infrastructure projects (4)	4.30	4.22	4.09	4.22
Promote statewide planning efforts for climate and drought resilience (8)	4.16	3.93	3.91	4.01
Coordinate with the federal government to protect Utah's watersheds and water sources (3)	4.10	3.85	3.70	3.91
Prioritize water demand management (conservation, efficiency, reuse) over new water supply development (building water storage and distribution projects) (6)	3.84	3.61	3.61	3.70
Limit state efforts to accommodate or attract water intensive industries in Utah, such as data centers or bottling plants (5)	3.82	3.67	3.52	3.69
Assess tradeoffs and impacts involved in committing water resources to various types of economic activities (1)	3.67	3.61	3.47	3.60
Promote significant reductions in Utah's per capita water use (7)	3.74	3.52	3.43	3.58
Commit an annual appropriation of money earmarked to purchase or lease water for Great Salt Lake (2)	3.53	3.22	3.08	3.30
Promote significant reduction of agricultural water consumption in Great Salt Lake watershed and dedicate the saved water to Great Salt Lake (9)	3.38	3.00	3.01	3.15

** Actions appeared in the survey in the order indicated by subscript numbers.*

*** The response categories for actions to rate were, from left to right: "Do not support at all" (coded 1); "Slightly support" (coded 2); "Somewhat support" (coded 3), "Moderately support" (coded 4); and "Strongly support" (coded 5)*

Great Salt Lake

Ranking Goals

When asked to rank goals for managing Utah's water resources, respondents prioritized water for basic human needs the highest—drinking water supply, water quality, and water for agriculture—followed by goals to protect ecosystem needs such as those for Great Salt Lake, wetlands and wildlife habitat (Table 5). Other economic and amenity uses of water—such as water for recreation or residential landscaping—were less of a priority for respondents. Interestingly, respondents ranked "saving taxpayer money" lower on the priority scale. Respondents in each county group ranked each goal in the same order, apart from the Rest of Utah Counties ranking "protecting wetlands and wildlife habitat" slightly higher (i.e., lower mean score on this scale) than "protecting Great Salt Lake". However, these are highly related goals when thinking about the Great Salt Lake ecosystem as a whole. This likely reflects the fact that respondents in the Rest of Utah Counties are generally farther from Great Salt Lake than the other counties and view protection of general wetlands and wildlife habitat on the same footing as protection of Great Salt Lake.

Table 5: Ranking of goals for managing Utah's water resources.

Prompt: Rank the following goals for managing Utah's water resources, with 1 being the highest priority, 2 being the next highest priority, and so forth until you have put all of these goals in priority order from 1 through 9 (with 9 being the lowest priority).	County Strata			All Counties
	Great Salt Lake Counties	Other Watershed Counties	Rest of Utah Counties	
*Goals for managing Utah's water resources**	*Mean Priority Rank Score (1 = highest priority, 9 = lowest priority)*			
Ensuring supply of drinking water (1)	1.63	1.53	1.61	1.59
Protecting water quality (6)	3.07	2.88	3.04	2.99
Ensuring supply of water for agriculture (2)	4.10	3.67	3.72	3.85
Protecting Great Salt Lake (5)	4.21	4.92	4.74	4.61
Protecting wetlands and wildlife habitat (7)	4.70	4.95	4.68	4.79
Ensuring supply of water for economic development (3)	6.30	5.99	6.07	6.13
Saving taxpayer money (9)	6.50	6.50	6.47	6.49
Ensuring supply of water for residential landscaping (4)	7.04	6.98	7.07	7.03
Providing recreational opportunities (8)	7.44	7.57	7.59	7.53

* *The goals appeared in the survey in the order indicated by subscript numbers.*

Great Salt Lake

Awareness

Opportunity

Urgent Situation

Coordinated Action

LEGISLATIVE ACTIONS

The survey showed that Utahns are largely unfamiliar with legislative actions. Specifically, Utahns were asked about their level of familiarity with several water-related bills that passed in the 2022 Utah legislative session, dubbed the "Year of Water". The majority of Utahns were not familiar with water legislation, shown by the high percentage of respondents who chose the "Not familiar" response category. The sole exception was that within the Great Salt Lake Counties, where less than half of respondents were unfamiliar with HB 121, a bill that focuses on water conservation at state government buildings and facilities. HB 121 also provides incentives for landowners to replace lawn or turf with drought-resistant landscaping. Most state government buildings are in the Great Salt Lake Counties, and perhaps more respondents in the Great Salt Lake Counties were interested in the incentives to replace their lawns—such programs are more prevalent there—leading to a higher percentage of familiarity with the bill.

Interestingly, over 70% of Utahns from all counties were unfamiliar with HB 410, the legislation responsible for the creation of the $40 million Great Salt Lake Water Trust to fund projects and agreements that would help secure water flows to the lake and protect and restore Great Salt Lake wetlands. Utahns were also widely unfamiliar with HB 33, which would allow farmers to avoid the "use it or lose it" provision in water law if they are leasing that water to environmental benefits. Over 80% of respondents were unfamiliar with SB 110, which requires municipalities and counties to integrate water considerations into their general plans and show how they will reduce water use in existing and future developments. These are all strategies and policies that Utahns indicated they support (Tables 3 and 4). The State of Utah has the opportunity to improve how they inform and gain more participation with citizens throughout the legislative process.

The survey asked Utahns to rate their satisfaction with the Utah Legislature and the State of Utah's response to a shrinking Great Salt Lake on a scale from 1 to 5, with 1 indicating "Very dissatisfied", 5 indicating "Very satisfied", and 3 (the midpoint) indicating "Unsure." While respondents generally are more satisfied with the State response than with their local communities' responses, Utahns are still unsure to dissatisfied with the State response to the shrinking Great Salt Lake, with a mean rating on the 1–5 scale of 2.79. Respondents in the Great Salt Lake Counties are even less satisfied than respondents in the Other Watershed Counties and the Rest of Utah Counties.

Over half of respondents were unsure, again suggesting Utahns are not always aware of what is being done. This result is also emphasized by the large percentage of respondents unfamiliar with the water legislation passed in 2022. However, participating in the survey did help encourage some survey respondents as they were able to read through the water bills that passed. This was reflected in feedback in the optional free-form response sections. Many respondents indicated that although they were glad to see that some action has been taken, they felt the situation is urgent and more needs to be done. Here are some quotes from that section:

> "The above efforts are commendable and necessary. However, none of these efforts increase water flow to the lake NOW. None of these take immediate action and actually cause actual change in 2022 to the lake, meaning we will end this year in yet another loss."

> "I knew that saving the Great Salt Lake had (very recently) become a political priority for the Utah Legislature and was familiar with some of the bills mentioned above but was honestly surprised by how many of these had passed. That being said, I feel like the situation is very drastic and requires a lot more work."

> "I actually am happy to see all the bills listed above, but I think we need to be doing more as Utahns to conserve water! This includes our legislative leaders."

Conclusion

Though Utahns are willing to take individual actions to help Great Salt Lake, the mean scores for how much respondents are committed to individual actions (Table 6: range = 2.83–3.97) are lower than the mean scores for supporting state (Table 4: range = 3.15–4.22) and local community actions (Table 3: range = 3.18–4.57). The survey results suggest Utahns want to see coordinated action across the individual–community–state scales. This means conservation savings coming from all water-use sectors and not just residential (e.g., agriculture, commercial, industrial, and institutional), as well as ensuring new development does not exacerbate the already scarce water situation. Some respondents explained in free-form response areas in the survey:

Great Salt Lake

Opinions

"We are constantly asked to conserve water. Yet every few days more housing brings more water users. The key to preserving water resources is to limit growth and stop unlimited growth and buildings."

"From my limited education on these issues, all I can say is that from my perspective, I think we should be stopping the alfalfa growing if it is for export. We would have plenty of water for all our projects if we weren't exporting it in alfalfa. So I'm not really interested in letting my lawn go brown or taking 2 minute showers if water guzzling export crops are being produced."

"It is ridiculous to be telling the public that they have to cut back on water use when the public officials keep approving and accommodating more and more residential buildings."

Utahns want to see the state and their local communities taking the initiative to save water for Great Salt Lake before asking individuals to make personal sacrifices.

Lawsuit

The potential negative impacts of a drying Great Salt Lake continue to be widely publicized in the media, and the lake's future is an important, high-profile public policy issue in Utah. In September 2023, environmental groups filed a lawsuit against the Utah Department of Natural Resources, Utah Division of Water Rights, and Utah Division of Forestry, Fire, and State Lands for failing to protect Great Salt Lake under the public trust doctrine (Compl., *Utah Physicians for Healthy Env't,* No. 230906637). The lawsuit urges the court to enforce Utah's responsibility to the public by requiring the state to maintain the lake's elevation level to at least 4,198 feet—a minimum lake elevation that the state had previously identified to maintain a healthy Great Salt Lake (Utah Department of Natural Resources 2013a)—and a grand total surface area of approximately 924,415 acres. The lawsuit notes that upstream water diversions, mostly due to agriculture, are the cause of Great Salt Lake's rapid decline but argues that the state of Utah has not used their authority to limit existing diversions to save the lake.

Tradeoffs

The overall findings from this survey show that Utahns want a healthy Great Salt Lake and believe the lake is important to Utahns' quality of life. Utahns recognize the connections between Great Salt Lake, ecosystem health, human health, and the economic well-being of the state. Utahns expect a continued decline of the lake would negatively affect them and the future of the state. However, Utahns also believe it is not too late to save the lake, and they support action by the state of Utah and their local communities to enact public policies that would help secure water for the lake. The findings of the survey imply that Utahns understand that managing Utah's water resources often involves challenging trade-offs between immediate needs and long-term preservation of the lake. The survey shows strong support to increase efforts to conserve water and thoughtfully plan for growth, including limiting plans for water-intensive industries in the state. While many Utahns recognize the large amount of water agriculture uses in the state, in general, Utahns do prioritize ensuring enough water to maintain agricultural viability. The findings suggest that policies that would dedicate water saved from agricultural water optimization projects to Great Salt Lake would be widely supported by Utahns.

Assurances

This article has been excerpted from the full research report of survey data and highlights findings that Utahns are willing to take individual actions to conserve water, but they want assurances that the water they conserve would help Great Salt Lake and other environmental needs (Welsh et al. 2023). It will be important to the public that strategies to protect Great Salt Lake account for and ensure conserved water reaches the lake. While the recently filed lawsuit insists that the State of Utah honor its public trust responsibilities to protect Great Salt Lake, state officials and local water managers should find encouragement in the public's willingness to support and participate in efforts to secure water for Great Salt Lake.

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UPDATE ON *TEXAS V. NEW MEXICO AND COLORADO*

ORIGINAL NO. 141

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Introduction

Consent Decree

Texas v. New Mexico & Colorado, Original, No. 141 reached a partial settlement among the three compacting states with the issuance of Special Master Melloy's Third Interim Report to the Supreme Court on July 3, 2023. In the Third Interim Report, the Special Master adopted the proposed Consent Decree negotiated among the three states. The Special Master's Report resolves the issues raised by Texas with respect to New Mexico's compliance with the Rio Grande Compact (Act of May 31, 1939, 57 Stat. 785).

On October 6, the United States filed exceptions to the Special Master's Third Interim Report. The United States claimed that the proposed Consent Decree should be rejected for three reasons. First, the Consent Decree disposed of the United States' Compact claims without its consent. Second, it imposed obligations on the United States without its consent. Third, it was contrary to the Rio Grande Compact.

The compacting states' responsive brief will be filed on December 4, with the New Mexico *amici* briefs and the United States' Reply to follow.

Background

Rio Grand Compact

Texas v. New Mexico and Colorado (138 US Supreme Court 954 (2018)) was brought by Texas in December of 2013, alleging New Mexico violations of the Rio Grande Compact (Compact). The river was apportioned among the states of Colorado, New Mexico, and Texas by the Rio Grande Compact in 1938. The basis for the legal dispute was that the Rio Grande Compact did not make an explicit division of Rio Grande water between Texas and New Mexico below Elephant Butte Reservoir in southern New Mexico, allowing New Mexico to deplete water released from Elephant Butte Reservoir before it reached the state line. It was assumed that the Rio Grande Project (Project) would divide the surface water between the two irrigation districts forming the Rio Grande Project according to acreage. The Elephant Butte Irrigation District (EBID) in New Mexico was assigned 57% and the El Paso County Water Improvement District No. 1 (EP No. 1) in Texas was assigned 43%.

Over time, the districts paid off repayment obligations to the federal government and took over management of each portion of the Project; EBID in New Mexico and EP No. 1 in Texas. Rather than having the United States manage Project operations as a single project, each district began advocating

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Previous Lawsuits

Delivery Obligations

Credits & Debits

Groundwater Pumping

Federal Interests

for its portion of the Project. Disputes arose between the two irrigation districts over water management. They eventually sued each other; resolving their litigation in 2008 with an Operating Agreement in which the New Mexico district gave most of the surface water to the Texas district with the unwritten understanding that New Mexico farmers could continue groundwater pumping unabated (*Elephant Butte Irr. Dist. v. United States* (D.N.M. CIV 00-1309)). The state of New Mexico sued to invalidate the Operating Agreement because the New Mexico district did not have the authority to give away New Mexico's implied Compact apportionment (*State of New Mexico v. United States* (D.N.M. No. 11-CV-00691)). Texas retaliated by filing this case, Original, No. 141.

Geography

The relevant geography illustrates the complexity of Compact accounting. The Rio Grande rises in the San Luis Valley in Colorado, flows southward into New Mexico, and then into Texas. Colorado is obligated to deliver a percentage of the recorded inflow at the Colorado–New Mexico state line under Article III of the Compact. This delivery obligation is measured by a gaging station at Lobatos, Colorado, near the state line.

In New Mexico, the Rio Grande flows through the state into Elephant Butte Reservoir, located approximately 100 miles north of the New Mexico–Texas state line. Article IV of the Compact—as amended—specifies New Mexico's delivery obligation as being into Elephant Butte Reservoir and is determined as a percentage of the inflow recorded at a gaging station at Otowi, New Mexico, between Santa Fe and Taos. The Resolution adopted at the Compact Commission meeting on February 14–16, 1949, changed New Mexico's point of delivery from San Marcial to Elephant Butte Reservoir, and revised the measurement of deliveries in Article IV. Elephant Butte Reservoir has a storage capacity of 2,000,000 acre-feet of water (*see* Figure 1).

A unique feature of the Compact is its "credits and debits" clause. Colorado can accrue debits of 100,000 acre-feet without penalty. New Mexico may accrue 200,000 acre-feet of debits. Credits and debits are erased by "actual spills" from the spillway, and accounting is reset. Post-1929 reservoirs upstream in the Middle Valley in New Mexico are required to pass surface flows down to Elephant Butte Reservoir when the storage in Elephant Butte Reservoir falls below 400,000 acre-feet.

Although the Compact was ratified in 1939, principal development in the Lower Rio Grande began in the 1950s, with the transition from row crops to high–water use pecan orchards and municipal interests. These developments were recognized in the use of the "D-2 curve" to administer deliveries of water to Texas. The D-2 curve reorganized groundwater depletions between 1950 and 1978 as part of Compact accounting.

The Rio Grande is administered as three separate stream systems in New Mexico. The Upper Rio Grande extends from the Colorado–New Mexico state line to Otowi Gage. The Middle Rio Grande is situated between the Otowi Gage and Elephant Butte Reservoir, and the Lower Rio Grande stretches from the outlet works of Elephant Butte Reservoir to the New Mexico–Texas state line.

Original, No. 141 Complaint

In its Complaint, Texas alleged that New Mexico was intercepting Texas's apportionment of surface water released from Elephant Butte Reservoir by groundwater pumping in hydrologically connected reaches of the river. Colorado was named as a party, but no claims were asserted against it. Texas sought a declaration of its rights "consistent with the Rio Grande Compact and the Rio Grande Project Act," including injunctive relief ordering New Mexico to permit the delivery of Texas's apportioned Rio Grande water, and to cease and desist from interfering with such deliveries, and damages. Texas sought to replace the Compact's Article IV delivery obligation into Elephant Butte Reservoir with a state line delivery obligation and to limit vested groundwater development in New Mexico to a "1938 Condition" corresponding to the date on which the Compact was signed. Groundwater users with pumping initiated after 1938 would be required to obtain "offsets" to ameliorate the depletive effects of their pumping on releases from Elephant Butte Reservoir.

The United States moved to intervene, asserting federal interests including: its role in operating the Project and allocating water according to Project contracts; the need to limit groundwater pumping in New Mexico; and its delivery obligation to the Republic of Mexico under the Treaty of 1906. It sought injunctions limiting interference with Project deliveries by groundwater users in New Mexico.

Interests in New Mexico impacted by the suit and appearing as *amici* include municipalities (*i.e.,* the Albuquerque Bernalillo County Water Utility Authority, and the City of Las Cruces), New Mexico State University (NMSU), and two irrigator groups within EBID (*i.e.,* the New Mexico Pecan Growers and the Southern Rio Grande Diversified Crop Farmers Association). EBID is aligned with Texas and the United States.

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Motion for Leave

Claims

US Intervention

Amici

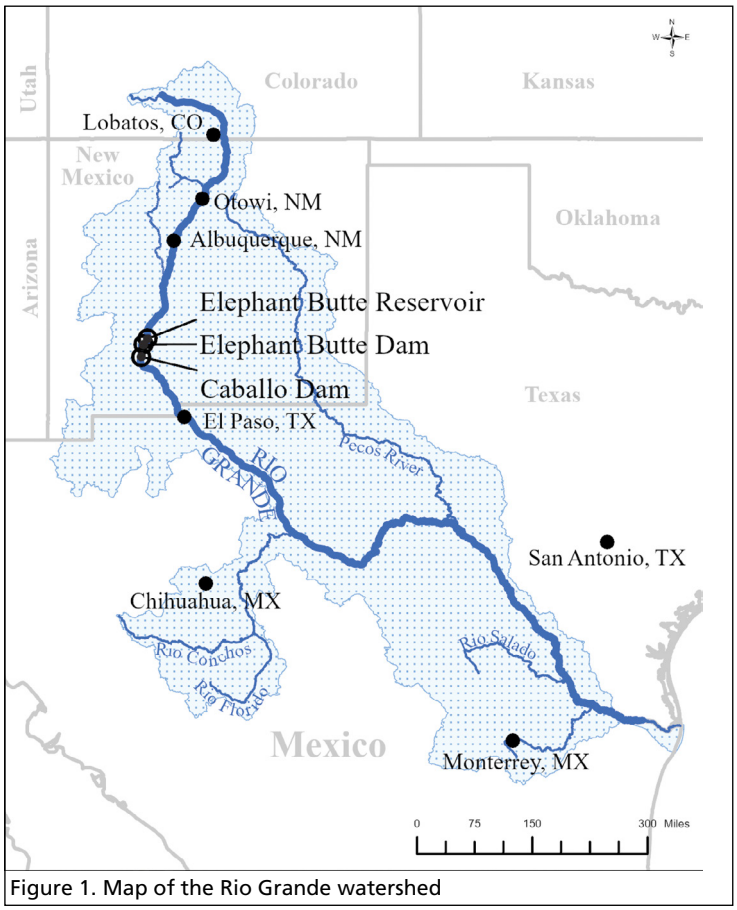

Figure 1. Map of the Rio Grande watershed

Editor's note: Amici, or "friends of the Court," are non-parties who nevertheless have important interests in the outcome of a case. Their briefs can bring issues and perspectives to a court that a party might not.

Following briefs in opposition to the Motion for Leave to file by New Mexico and *amicus* City of Las Cruces, the Supreme Court accepted the case. The Supreme Court's original jurisdiction (U.S. CONST. Art. III, Sec. 2) in actions between sovereign states is invoked by seeking leave of the Court to file a Complaint. Leave may or may not be granted.

New Mexico subsequently moved to dismiss all claims before the first Special Master. The United States moved to intervene. EBID and EP No. 1 sought to intervene. The United States' motion to intervene was denied as to Compact claims, but granted as to claims based on Bureau of Reclamation (Reclamation) law and its obligations to Mexico. The United States' claims under Reclamation law focused on Reclamation's role in supplying the irrigation districts with water released from Elephant Butte Reservoir and enjoining perceived interference with that supply by groundwater pumping in New Mexico. Exceptions were heard by the Court, which framed the issue as whether "the United States, as an intervenor, [may] assert essentially the same claims Texas already has?" (138 S. Ct. at 956). The motions by EBID and EP No. 1 were denied and not taken up by the Court. The Court allowed the United States' intervention.

The grounds asserted in the United States' Complaint in Intervention paralleled the Texas Complaint, meaning the United States did not seek to materially expand the litigation. The Court explicitly said it was not deciding whether the United States had an independent right under the Compact. An issue in the United States' Complaint in Intervention was that all hydrologically connected groundwater was "Project water" and no one below the reservoir could divert groundwater without a federal contract. The allegation is contrary to Western water law and jurisprudence, but consistent with the historical federal policy of trying to usurp state control over water resources.

New Mexico answered with counterclaims against Texas and the United States. The Albuquerque Bernalillo County Water Utility Authority (Water Authority) intervened as an *amicus* to ensure issues raised by Texas and/or the United States did not affect administration of its water rights and imported San Juan-Chama Project water under New Mexico law or the Rio Grande Compact above Elephant Butte Reservoir. Las Cruces had participated from the onset to protect its municipal supply based on state groundwater permits. Two constituent groups of irrigators within EBID appeared as *amici.* The New Mexico Pecan Growers appeared and were joined by the Southern Rio Grande Diversified Crop Farmers Association, whose irrigators principally grow row crops. Texas and the United States were joined by *amici* EBID and EP No. 1.

Summary Judgment and the First Phase of Trial

Trial was bifurcated between liability and damages. After discovery, a first phase virtual trial on liability, with primarily lay witnesses, was held between October and December 2021. A second phase on liability focusing on technical issues was set for March 2022. Prior to the first phase of trial, the Special Master resolved several issues as a matter of law on cross motions for summary judgment. The Special Master's principal rulings included the following.

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PRINCIPAL RULINGS

The Compact apportioned to New Mexico and Texas each a portion of the water downstream of Elephant Butte Reservoir. The "Compact relies on the Rio Grande Project for Water Delivery and is programmatic in its apportionment of water between Texas and New Mexico" below Elephant Butte Reservoir (Order, 3 (May 21, 2021)). The United States delivers "New Mexico's downstream apportionment" and all of Texas's apportionment through the Project (*Id.* at 46). Although neither state is a signatory to the Downstream Contracts, they represent the interests of their water users *parens patriae* in this Compact action.

Delivery Responsibilities

The doctrine of "*parens patriae*" or "father of the country" limits participation in original actions between states in the original jurisdiction of the Supreme Court to the states themselves, deeming that they represent the interests of their citizens, unless any citizens within a state can demonstrate an issue that their state is not representing them on, or on which there is adversity. Downstream Contracts define the Compact apportionments to the states (*Id.* at 49-51). These consist of contracts between the two irrigation districts and Reclamation to distribute surface water released from Elephant Butte Reservoir to EBID and EP No. 1. The United acts as a sort of "agent" of the Compact and is "charged with assuring the Compact's equitable apportionment to Texas and part of New Mexico is in fact made" (*Texas v. New Mexico & Colorado*, 136 S, Ct. 954).

The Compact apportionment requires a "protected baseline division" of Project supply according to the ratio of irrigable acres in New Mexico and Texas: 57% to New Mexico and 43% to Texas (*Id.* at 6).

The states have a "Compact-level duty to avoid material interference with Reclamation's delivery of Compact water" (*Id.* at 5). This duty includes a requirement to "avoid and prevent the capture of Rio Grande surface water, drain return flows, and hydrologically connected groundwater" if the effect of such capture is "inconsistent with Compact water deliveries" or "interferes with long-term operation of the Project" (*Id.*). With respect to its apportionment, "New Mexico's sovereign laws apply to define the relative rights between New Mexicans" (*Id.* at 48).

Finally, Texas could not "seek damages for Compact violations that predate 1985" (*Id.* at 52).

COMPACT INTERPRETATIONS

With respect to Compact interpretation, the Special Master determined that "[t]he Compact is ambiguous as to the detailed scope of the apportionments and the New Mexican duty" (Order, 47). There were two principal Compact interpretation issues for determination at trial. These were to determine the conditions that fix the "programmatic" apportionment of water below Elephant Butte Reservoir. Firstly, the Special Master had already determined that the supply must be divided according to the 57%/43% ratio, but the question remaining to be answered was: "division of what?" To answer this question, the Special Master determined that the Court must consider evidence to define a "baseline operating condition" (*Id.* at 49). Those conditions defined the "Project water supply" that must be split 57%/43% (*Id.* at 51).

Defining Supply

Interference

Second, the Court must determine the nature and contours of the duties of New Mexico, Texas, and the United States that arise under the Compact with respect to the distribution of water beneath Elephant Butte Reservoir. The Special Master determined that "New Mexico owes Texas a duty to not interfere with the Project delivery of Texas's Compact apportionment" (Order, 46-47). New Mexico asserted that Texas has a reciprocal duty to prevent interference with delivery of New Mexico's Compact apportionment through the Rio Grande Project. The question for trial concerned the "details" of this "duty and what the states intended the Compact to protect" (Order, 24).

Once the threshold issues of Compact interpretation have been determined, the Court would then decide whether there had been a Compact violation. The Special Master recognized that an alleged shortfall to either New Mexico or Texas may be the result a "combination of factors, including the United States' Project operations; New Mexican, Texan, or Mexican surface or groundwater diversions; or maintenance failures" (Order, 31).

Following these determinations, questions of injury, liability, and damages would be addressed.

Testimony

Witnesses from Texas, the United States, and New Mexico presented extensive testimony on Project operations, hydrology, historical water deliveries from New Mexico to Texas, and state administration in New Mexico. Witnesses from various *amici* appeared and testified through the parties' attorneys in the 2021 trial phase. New Mexico presented compelling evidence on Compact administration and compliance, demonstrating that Compact shortfalls occurred in only two years.

Following the first phase of the trial, the parties elected to undertake a mediation to resolve the issues.

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Mediation and Consent Decree

The mediation took two tracts: (1) Texas, New Mexico, Colorado, and the United States discussing how to articulate New Mexico's delivery obligation to Texas below Elephant Butte Reservoir; and (2) New Mexico and the United States discussing how New Mexico was going to administer within New Mexico to protect the Project. The United States was intransigent in the second tract, and the negotiations fell apart.

Negotiations

The three states continued to negotiate without the United States and reached an agreement on a proposed Consent Decree providing for a state-line delivery index—based on a hydrologic baseline—with annual and cumulative debits and credits, leaving it up to New Mexico to provide intrastate administration to meet its Compact obligations. The settlement resolves interstate issues among the three states by specifically defining the apportionment and setting standards for compliance—including gage locations, annual deliverables, and accrued debits and credits. Features of the Consent Decree include mandated index flows to be delivered at the state line enforced by water pay-back penalties for shortfalls. *Amici* Water Authority, Las Cruces, NMSU, and the independent farmer groups in New Mexico supported the settlement.

"Project Water"

The United States and the two irrigation districts opposed the settlement. Those opposing the settlement want to intervene in New Mexico intrastate administration of water rights rather than leave it to the State Engineer as set forth in New Mexico law and Western water law jurisprudence. In addition, the United States wants to establish a regulatory role over what it calls "Project water"—groundwater underlying federal reclamation projects, such as Middle Rio Grande Conservancy District in New Mexico.

Opposing Motion

The three compacting states filed a Joint Motion to Enter Consent Decree, with the United States opposing the motion. The Special Master heard oral argument on the motion in Cedar Rapids on February 6, 2023.

The United States objected to the three states' settlement on two grounds: 1) the settlement did not ensure that the Project in New Mexico was protected from other New Mexico water users; and 2) New Mexico could not be trusted to meet its Compact obligations. The United States advanced a third novel argument—that the three states' settlement contained ideas that were discussed in confidential settlement negotiations in which it had participated and therefore could not be used in a settlement that did not include the United States or without the United States waiving confidentiality.

THE EFFECTIVE EL PASO INDEX

The centerpiece of the Consent Decree is the Effective El Paso Index (Index) (Exhibit 1, Decree at II.B-F) which establishes an annual volumetric target for New Mexico to deliver water to Texas. The Index approach described in the Consent Decree is similar to that found in many other interstate water compacts in which indices are used to govern the division of water.

Generally, under an index-based compact, flow through an upstream stream gage determines a state's downstream delivery obligation. Any deviation from this obligation provides for credits (or positive departures) and debits (or negative departures) on an annual and accrued (accumulated) basis. Index-based compacts define limits for negative accrued index departures that cannot be exceeded. The Compact already has two index-based obligations upstream of Caballo Dam that function in this manner: Article III for delivery of water by Colorado to New Mexico, and Article IV for delivery by New Mexico to Elephant Butte Reservoir.

New Index

The Consent Decree defines a new Index under which the annual release from Caballo Dam will be used to determine New Mexico's obligation to deliver water to Texas at the El Paso Gage (USGS 08364000), a stream gage near the New Mexico–Texas state line. The Index is comprised of two basic parts: the Index Obligation, which establishes the New Mexico annual delivery target; and the Index Delivery, which is a measurement of amount of water that New Mexico actually delivers to Texas, largely measured at the El Paso Gage (Exhibit 1, Decree at II.B; Exhibit 6, Barroll Decl.at ¶¶ 23-30).

Obligation & Delivery

The formula used to calculate the Index Obligation is based on a 2-year regression analysis comparing historical releases at Caballo Dam with stream flows at the El Paso Gage during the years 1951–1978 ("D2 Period"). The Index Obligation will be calculated annually based on current-year and previous-year releases from Caballo Dam using this formula. The Index Delivery will be calculated annually based on annual stream flow measured at the El Paso Gage, adjusted for deliveries to Mexico, Texas water use above the El Paso Gage, and other factors (Exhibit 6, Barroll Decl.at ¶20, Exhibit 4, Hutchinson Decl. at ¶¶ 23-28).

Departure

New Mexico's compliance with the Compact will be measured by comparing the Index Obligation with the Index Delivery. The difference between the Index Obligation and the Index Delivery is the Annual Index Departure. Ideally, the Index Delivery would equal the Index Obligation every year, but the Compacting States have acknowledged that this is unlikely due to a number of factors related to the conveyance of water between Caballo and the El Paso Gage, a distance of nearly 100 miles. The Consent Decree therefore allows New Mexico to accrue (accumulate) departures so long as specified Negative

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Departure limits are not exceeded. This provision is comparable to the provisions in Article VI of the Compact which allow New Mexico and Colorado to accrue debits on their delivery obligations upstream of Elephant Butte Reservoir, within specified limits.

The Negative Departure limits set in the Consent Decree are 150,000 acre-feet for the first 5 years and 120,000 acre-feet thereafter (Exhibit 1, Decree at II.C). If New Mexico reaches 150,000 (or 120,000) acre-feet of accrued Negative Departures from the Index Obligation, it is in violation of the Consent Decree (Exhibit 7, Sullivan Decl. ¶¶ 16-19).

Trigger

To help prevent New Mexico from reaching the Negative Departure limit, the States also negotiated an intermediate negative "trigger" of 80,000 acre-feet, at which point additional water management actions will be initiated (Exhibit 1, Decree at II.D). If New Mexico reaches the intermediate negative trigger, New Mexico must first impose additional water administration to reduce accrued Negative Departures to 16,000 acre-feet within 3 years. If the reduction to 16,000 acre-feet has not occurred within three years, New Mexico has agreed to transfer to Texas a part of its apportioned water during the next 3-year period. This transfer is accompanied by an automatic adjustment to the accrued Negative Departure, with the Texas Escrow Account described in Section II.D.2 of the Consent Decree to avoid double counting.

Escrow Accounts

The Accrued Index Departures can also be positive if New Mexico over-delivers water to Texas (Exhibit 1, Decree at II.D.3). The Compacting States negotiated a similar positive "trigger" of 30,000 acre-feet. If accrued Positive Departures are greater than 30,000 acre-feet for 2 consecutive years, Texas is required to transfer a part of its apportioned water to New Mexico over a 3-year period until the Accrued Index Departures are less than 16,000 acre-feet. This transfer is to be accompanied by an automatic adjustment to the accrued Positive Departure, with the New Mexico Escrow Account used to avoid double counting. Escrow account waters must be used within 3 years of deposit (Decree at II.D.3). Together, the negative and positive triggers and related provisions provide guardrails that help ensure that New Mexico and Texas each receive their equitable apportionment.

During low water years, when Caballo Dam releases are less than 200,000 acre-feet, the Index does not apply. Likewise, when Caballo Dam releases are greater than 790,000 acre-feet, the Index Obligation is calculated as if the release were 790,000 acre-feet (Exhibit 1, Decree at II.E.1). The Compacting States have provided for certain adjustments to Index Departures, including extinguishing all Accrued Index Departures (positive and negative) during years when an "actual or hypothetical spill," as that phrase is used in the Compact, occurs (Exhibit 1, Decree at II.E.4).

Project operations and Project Accounting must be consistent with the Decree and must not interfere with the Compacting States' rights and entitlements under the Decree and Compact. Examples of procedures that are necessary to maintain consistency between the Consent Decree and Project operations are provided in Appendix 1 and explained in the Barroll Declaration (¶¶ 40-41; Decree at III.A).

Sound Methodology

Based on the technical evaluations of the Index Methodology reflected in the Hutchison, Sullivan, Barroll, and Brandes Declarations, the Index methodology will resolve the Compact dispute (Exhibit 4, Hutchison Decl. ¶¶ 102-115; Exhibit 7, Sullivan Decl. ¶¶ 23-28; Exhibit 6, Barroll Decl. ¶ 43; Exhibit 3, Brandes Decl. ¶¶ 16-23, 33-39). The States are committed to satisfying their various obligations under the Index methodology (Exhibit 5, Hamman Decl., New Mexico State Engineer).

Post-Decree Administration

Management Changes

There is a general recognition in New Mexico that whether the original action was resolved through litigation or settlement, there would have to be changes in water management in the Lower Rio Grande (LRG) in New Mexico. The most likely immediate project is a reduction in depletions through permanent fallowing of some number of irrigated acres. Other options that supplement supply in the LRG—such as importation of water from the adjacent Salt Basin, desalination, aquifer recharge, or increasing efficiency—take longer to study and implement. Supporting these projects will be intrastate administration. This would have been addressed to some degree if the second tract of the settlement had come to fruition, although many New Mexico water users thought that New Mexico had gone a bit too far in attempting to accommodate the United States. Now there must be a settlement among New Mexico water users on how they want administration to happen if it is needed for New Mexico to meet state line Compact index obligations, or litigation among New Mexico water users that are potentially subject to priority administration.

Issues

Two issues to watch are: 1) the role of the United States in operating an irrigation project that straddles state lines, implicating the role of the United States in relation to a compact or court-decreed equitable apportionment; and 2) the allegation in the United States Complaint in Intervention that all groundwater below a federal reservoir is "Project water" and any groundwater appropriator must have a federal contract to divert groundwater.

Rio Grande Lawsuit

Potential Impacts

To comply with the Consent Decree, New Mexico will have to reduce depletions in the Lower Rio Grande (below Elephant Butte Reservoir) and become more efficient with Rio Grande deliveries in the Middle Valley. The legislature appropriated funds in both regards in the last session. In addition, New Mexico is working with the Bureau of Reclamation to identify funding and projects to increase conservation and project efficiency (the staunch federal position opposing the settlement emanates from the Department of Justice; the local Reclamation is more cooperative).

The United States continues to argue that it controls and should administer all hydrologically connected groundwater near a federal project, resulting in the federalization of groundwater. If the United States were successful, it would nullify state-based groundwater permits and require federal contracts for all groundwater users, including in the Middle Valley since MRGCD is a federal project. In addition, the United States continues to advocate for a 1938 condition under the Rio Grande Compact, above and below Elephant Butte Reservoir. The essence of the claim is that depletions cannot be more than those that were occurring in 1938, thereby potentially affecting administration of the Water Authority's water rights and imported San Juan-Chama Project rights for the Drinking Water Project and its groundwater rights under Permit No. RG-960.

The United States' Exception

On October 6, the United States filed its Exception to the Special Master's Third Interim Report. In its Exception, the United States makes three arguments. First, it argues that the proposed Consent Decree would dispose of the United States' Compact claims without the United States' consent. Several legal arguments are marshaled in support of this claim. At its core, the United States seeks to expand New Mexico's delivery obligations under the Compact to encompass a duty not to interfere with the operation of the Rio Grande Project below Elephant Butte by allowing groundwater pumping or other diversions of their Project water (United States' Exception at 22). Despite provisions to the contrary in the Consent Decree, the United States maintains that "the proposed decree would impose on New Mexico only a duty to manage and administer water in a manner that is consistent with th[e] Decree" (*Id.*). From the United States' standpoint, the issue is that the proposed Consent Decree allows groundwater pumping above 1938 levels because it "would measure New Mexico's 'Compliance with the Compact' according to a state-line delivery index based on conditions during the D2 Period, from 1951 to 1978." The United States characterizes this as a period in which "groundwater pumping exploded"—albeit from the agricultural sector, which accounts for 88% of groundwater pumping in the Lower Rio Grande.

Groundwater Pumping

Obligations

Secondly, the United States argues that the proposed Consent Decree should be rejected because it would impose obligations on the United States without the United States' consent (*Id.* at 29). These include a complicated argument that the Consent Decree would impose an obligation "to make 'Project operations and Project Accounting' consistent with th[e] Decree." The United States explains that this "includes an obligation to ensure that 'Project operations and Project Accounting' are undertaken in a manner that does not interfere with New Mexico's or Texas's rights and entitlements defined in the Compact and th[e] Decree..." (*Id.*). This argument seems to contradict the United States' basis for intervention, *i.e.,* an interest in Compact administration on a par with Texas's, as well as the Supreme Court's opinion in *Texas v. New Mexico & Colorado.*

Changes to Compact

Finally, the United States argues that the Consent Decree should be rejected because it "would be contrary to the Compact" (*Id.* at 43). This argument posits that the settlement and proposed Consent Decree would be contrary to federal law "which binds the States unless and until Congress says otherwise" (*Id.*). The United States asserts that the Consent Decree would be contrary to the Compact in three ways: (1) by defining Compact compliance in terms of a Texas-state-line delivery requirement; (2) by turning the United States into an "agent" of the states; and (3) by defining compact interference beyond the 1938 baseline. *Amici* EBID and EP No. 1 filed supporting briefs on behalf of the United States' Exception.

Conclusion

Next Steps

The States' responsive brief is due on December 4. The New Mexico *amici* briefs are due on December 11. The United States' Reply is due January 3, 2024 and Oral Argument is expected in the Spring of 2024. Argument before the Court will cover a wide swath of issues. They will include the United States' role in facilitating the Compact apportionment through the distribution of surface water from Elephant Butte Reservoir, the ability of the three states to settle the Compact claims despite its opposition, and its efforts to play an expanded role in state administration in New Mexico.

For Additional Information:

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Rio Grande Lawsuit

James C. Brockmann is a shareholder in the firm of Stein & Brockmann, P.A., located in Santa Fe, New Mexico. The firm's practice is limited to water law. The firm has represented or represents a number of municipalities and domestic water providers in New Mexico. Members of the firm have participated in five original actions related to interstate water disputes, including both interstate compacts and equitable apportionment court decrees. Other areas of expertise within the firm include federal reserved water rights, regional water planning, transactional work involving water rights, water rights adjudications in state and federal court, water rights planning studies including 40-year municipal water plans, water/wastewater regulatory issues, Endangered Species Act/water issues, Clean Water Act and Safe Drinking Water Act issues, water rights legislation, international water issues, and water rights mediations. The firm represents many of the major municipalities in New Mexico. Mr. Brockmann has written and spoken extensively on New Mexico water rights matters.

Jay F. Stein is a shareholder in the firm of Stein & Brockmann, P.A., located in Santa Fe, New Mexico. Mr. Stein has practiced water law since serving as an Assistant Attorney General with the New Mexico State Engineer Office and Interstate Stream Commission. Presently, his practice is focused on water rights acquisitions and adjudications for the Albuquerque-Bernalillo County Water Utility Authority, Las Cruces, Espanola, and Gallup as well as representing national and international corporations, developers, and farming, ranching, and private interests. He has appeared in five original actions in the original jurisdiction of the United States Supreme Court. He is a New Mexico Board Certified Specialist in water law who speaks frequently on water resource issues.

WATER BRIEFS

REVISED SEIS WEST

COLORADO RIVER BASIN

The Biden–Harris administration announced on Oct. 25 the next steps in the Administration's efforts to protect the stability and sustainability of the Colorado River System and strengthen water security in the West. The Department of the Interior's Bureau of Reclamation (Reclamation) released a revised draft Supplemental Environmental Impact Statement (SEIS) as part of the ongoing collaborative effort to update the current interim operating guidelines for the near-term operation of Glen Canyon and Hoover Dams to address the ongoing drought and impacts from the climate crisis.

In order to protect Glen Canyon and Hoover Dam operations, system integrity, and public health and safety through 2026—at which point the current interim guidelines expire—an initial draft SEIS was released in April 2023. Following a historic consensus-based proposal secured by the Biden–Harris administration in partnership with states—which committed to measures to conserve at least 3 million-acre-feet (maf) of system water through the end of 2026 enabled by funding from President Biden's Investing in America agenda—Reclamation temporarily withdrew the draft SEIS to allow for consideration of the new proposal.

The Oct. 25 revised draft SEIS includes two key updates: the Lower Basin states' proposal as an action alternative, as well as improved hydrology and more recent hydrologic data. The release of the revised draft SEIS initiates a 45-day public comment period.

"The Colorado River Basin's reservoirs, including its two largest storage reservoirs Lake Powell and Lake Mead, remain at historically low levels. This advancement protects the system in the near-term while we continue to develop long-term, sustainable plans to combat the climate-driven realities facing the Basin," said Reclamation Commissioner Camille Calimlim Touton. "As we move forward in this process, supported by historic investments from the President's Investing in America agenda, we are also working to ensure we have long-term tools and strategies in place to help guide the next era of the Colorado River Basin."

Key Components of Revised Draft SEIS

Reclamation conducted updated modeling analyses using June 2023 hydrology for the No Action Alternative, Action Alternatives 1 and 2 from the initial draft SEIS, and the Lower Division proposal. The results of that modeling indicate that the risk of reaching critical elevations at Lake Powell and Lake Mead has been reduced substantially. As a result of the commitment to record volumes of conservation in the Basin and recent hydrology, the chance of falling below critical elevations was reduced to eight percent at Lake Powell and four percent at Lake Mead through 2026. However, elevations in these reservoirs remain historically low, and conservation measures like those outlined by the Lower Division proposal will still be necessary to ensure continued water delivery to communities and to protect the long-term sustainability of the Colorado River System.

Based on these modeling results, Reclamation will continue the SEIS process with detailed consideration of the No Action Alternative and the Lower Division Proposal. The revised SEIS designates the Lower Division Proposal as the Proposed Action. Alternatives 1 and 2 from the initial SEIS were considered but eliminated from detailed analysis.

FOR INFO: https://www.usbr.gov/ColoradoRiverBasin/documents/NearTermColoradoRiverOperations/20231019-Near-termColoradoRiverOperations-RevisedDraftEIS-508.pdf

COLORADO BASIN WEST

LONG TERM PLANNING

On Oct. 19, the Biden–Harris administration announced next steps in the formal process to develop future operating guidelines and strategies to

protect the stability and sustainability of the Colorado River system and strengthen water security in the West. The guidelines under development would be implemented in 2027, replacing the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead, which are set to expire at the end of 2026.

The Department of the Interior's Bureau of Reclamation (Reclamation) published the Proposed Federal Action and a Scoping Summary Report related to Colorado River Basin operations post-2026. The Scoping Report, which was supported by a 60-day public scoping period, will inform the post-2026 operating guidelines. This planning process is separate from ongoing efforts to protect the Colorado River Basin through the end of 2026.

The post-2026 planning process builds on the Biden–Harris administration's ongoing efforts to protect the Colorado River Basin. Earlier this year, Administration leaders brought together stakeholders from across the Basin to build a consensus for water conservation efforts through the end of 2026, enabled by investments from the President's Investing in America agenda. On Oct. 25, the Department issued a draft Supplemental Environmental Impact Statement to revise the December 2007 Record of Decision, which will set interim guidelines through the end of 2026 (see previous water brief). The post-2026 process will develop guidelines for when those interim guidelines would expire.

The post-2026 process is a multi-year effort that will identify a range of alternatives and ultimately determine operations for Lake Powell and Lake Mead and other water management actions, potentially for decades into the future. As part of Reclamation's robust and transparent process to gather feedback, three virtual public webinars were held during the scoping period. Reclamation also engaged Basin stakeholders via stakeholder briefings; the formation of a new Federal-Tribes-States working group; two meetings of the Integrated Technical Education Workgroup; and individual communications.

While the post-2026 process will determine domestic operations, the Biden–Harris administration is committed to continued collaboration with the Republic of Mexico. It is anticipated that the International Boundary and Water Commission will facilitate consultations between the United States and Mexico, with the goal of continuing the Binational Cooperative Process under the 1944 Water Treaty.

FOR INFO: https://www.usbr.gov/ColoradoRiverBasin/documents/post2026/scoping/Post2026Operations_ScopingReport_October2023_508.pdf

SYSTEM CONSERVATION WEST

FUNDING

At a Special Meeting of the Upper Colorado River Commission (UCRC) on Sept. 21, the Upper Division States of Colorado, New Mexico, Utah, and Wyoming—acting through the UCRC—agreed to move forward with a narrowed System Conservation Pilot Program (SCPP) in 2024. The SCPP is operated in partnership with the US Bureau of Reclamation (Reclamation) to mitigate the impacts of drought in the Upper Colorado River Basin through funding provided by the Inflation Reduction Act.

The Commissioners outlined the need for a program in 2024 that focuses on: (1) Projects that can help inform remaining questions regarding the feasibility of potential future Demand Management Storage Agreement programs, or (2) Projects that support water conservation innovation and local drought resiliency.

The Commissioners requested improvements to the SCPP process for 2024 based on the UCRC staff's report of "Lessons Learned" from the 2023 process as well as input from interviews with SCPP 2023 program participants.

The 2024 SCPP application materials and scheduled meetings are posted on the UCRC's website (http://www.ucrcommission.com/).

FOR INFO: Alyx Richards, 801/ 531-1150 or arichards@ucrcommission.com.

COLUMBIA BASIN FISH NW

MEMORANDUM

On Sept. 27, President Biden signed a Presidential Memorandum to prioritize the restoration of healthy and abundant wild salmon, steelhead, and other native fish populations to the Columbia River Basin. The Presidential Memorandum is part of the Biden–Harris administration unprecedented commitment to honor the United States' obligations to Tribal Nations and protect and restore America's natural wonders for future generations, while also recognizing the important co-benefits that the Columbia River provides to communities and businesses throughout the region.

The Columbia River and its tributaries, wetlands, and estuaries are the lifeblood of the Pacific Northwest. The river ecosystem has supported ways of life, cultural and spiritual practices, commerce, and economic growth for generations. Wild salmon, steelhead, and other native fish populations in the Columbia River Basin are essential to the culture, economy, religion, and way of life of Tribal Nations and Indigenous peoples. Actions since 1855—including the Federal government's construction and operation of dams, private dam building, population growth, and overfishing—have changed the ecosystem and severely depleted wild fish populations in the region, substantially harming the Tribes' ability to exercise their rights reserved under treaty to hunt and fish in all usual and accustomed places. Since the dams were constructed, 13 fish species have been listed as threatened or endangered.

On Sept. 27, President Biden directed all relevant Federal agencies to utilize existing authorities and available resources—and assess what additional authorities and resources may be needed—to restore these wild fish populations and help ensure that the United States upholds its treaty and trust responsibilities to the Tribes. The President is also directing the Chair of the Council on Environmental Quality and the Director of the Office of Management and Budget to explore opportunities and mechanisms to develop a partnership with Tribal Nations and States in the Columbia River Basin to ensure that Federal, Tribal, and State entities work together to achieve this goal.

The Biden–Harris administration is committed to honoring and respecting Tribal sovereignty, protecting Tribal homelands, and incorporating Indigenous Knowledge and robust Tribal consultation into planning and decision-making. This Presidential Memorandum supports Tribally led conservation efforts and helps address injustices of the past, including the decline or elimination of these fish from Tribal lands. It establishes that it is the policy of this Administration to work with Congress and with Tribal Nations, States, local governments, and stakeholders to pursue effective, creative, and durable solutions

to restore wild fish populations while delivering affordable and reliable clean energy, supporting the local agriculture economy, and meeting the many resilience needs of the region.
FOR INFO: https://www.whitehouse.gov/briefing-room/presidential-actions/2023/09/27/memorandum-on-restoring-healthy-and-abundant-salmon-steelhead-and-other-native-fish-populations-in-the-columbia-river-basin/

PFAS DATA US

FINAL RULE

On Sept. 28, the US Environmental Protection Agency (EPA) finalized a rule that will provide EPA, its partners, and the public with the largest-ever dataset of per- and polyfluoroalkyl substances (PFAS) manufactured and used in the United States. This rule builds on over two years of progress on the Biden–Harris Administration's action plan to combat PFAS pollution, safeguarding public health and advancing environmental justice, and is a key action in EPA's PFAS Strategic Roadmap.

PFAS are a category of manufactured chemicals that have been used in industry and consumer products since the 1940s. PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, and firefighting foam, as well as in certain manufacturing processes.

The reporting rule under the Toxic Substances Control Act (TSCA) is a statutory requirement under the FY2020 National Defense Authorization Act (NDAA) that requires all manufacturers (including importers) of PFAS and PFAS-containing articles in any year since 2011 to report information related to chemical identity, uses, volumes made and processed, byproducts, environmental and health effects, worker exposure, and disposal to EPA.

In order to effectively research, monitor, and regulate PFAS, EPA is taking action to better understand who is using PFAS, how they are being used, and in what quantities. This rule will produce actionable data that can be used by EPA, as well as state, local, and Tribal governments to craft policies and laws that protect people from dangerous "forever chemicals."

Since EPA proposed this rule in June 2021, the agency has provided multiple opportunities for public comment and stakeholder input, including a Small Business Advocacy Review Panel in April 2022 and an Initial Regulatory Flexibility Analysis released for public comment in November 2022.

The final rule expands on the definition of PFAS in the proposed rule to include 41 additional PFAS that were identified as being of concern. EPA has determined that at least 1,462 PFAS that are known to have been made or used in the US since 2011 will be subject to the final rule, better capturing the important data the agency needs to protect human health and the environment from these chemicals.

The final rule also streamlines reporting requirements and reduces the burden for those who made or used small quantities of PFAS for research and development purposes and for those who imported PFAS contained in articles into the US.

Data is due to EPA within 18 months of the effective date of the final rule, with an additional six months for reports from small businesses that are solely reporting data on importing PFAS contained in articles.
FOR INFO: https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/tsca-section-8a7-reporting-and-recordkeeping

SNAKE RIVER ID

QUAGGA TREATMENT

The Idaho State Department of Agriculture (ISDA) continues quagga mussel treatment in an effort to eradicate the invasive species in the Snake River.

On Oct. 3, ISDA and contractors launched a comprehensive treatment plan to eradicate quagga mussels at all stages of life. The treatment is the copper-based product, Natrix. Natrix is labeled and approved by the Environmental Protection Agency (EPA) for these kinds of aquatic applications.

The treatment is being applied at one part per million, a rate intended to eradicate mussels at all stages of life but is below the drinking water standard for humans. The copper-based treatment application is occurring across a six-mile section, less than one percent of the Snake River.

The ISDA, along with the product manufacturer, the contracted applicator, and the Idaho Department of Environmental Quality is routinely monitoring the water to evaluate treatment effectiveness, impact, and dissipation. The treatment was set to end Oct. 13.

Quagga mussel larvae were first detected in the Snake River near Twin Falls on Sept. 18, 2023, by routine monitoring conducted by the ISDA. If nothing is done, quagga mussels would quickly take over waterways and irreparably harm water use in Idaho.
FOR INFO: https://agri.idaho.gov/main/plants/snake-river-quagga-mussel-veligers/

INCIDENTAL DISCHARGE US

PUBLIC ENGAGEMENT

The US Environmental Protection Agency (EPA) is issuing a supplemental proposed rule to reduce the spread of invasive species that occurs with normal operation of large marine vessels. Following public input on EPA's 2020 proposed rule—including meetings with states, Tribes, and other stakeholders—the agency is now issuing a Supplemental Notice to share new data and control options raised by stakeholders. This supplemental proposal will bolster the development of a final rule to stem the spread of invasive species and better protect our nation's aquatic ecosystems.

EPA's proposed Vessel Incidental Discharge National Standards of Performance would reduce the environmental impact of discharges, such as ballast water, that are incidental to the normal operation of commercial vessels. The proposed standards would apply discharges to waters of the United States from:

- Commercial vessels greater than 79 feet in length
- Other non-recreational, non–Armed Forces vessels, such as research and emergency rescue vessels
- Ballast water only from small vessels (vessels less than 79 feet in length) and fishing vessels of all sizes

This supplemental notice shares new ballast water information from the US Coast Guard and additional regulatory options EPA is considering for the final rule for ballast tanks, hulls, and associated niche areas, and graywater systems. EPA is requesting comments on the issues identified in the supplemental notice during a 60-day public comment period. The public does not need to resubmit comments from the 2020 proposed rule, as the final rule will address comments received on both the proposed rule and the supplemental notice.
FOR INFO: https://www.epa.gov/vessels-marinas-and-ports/commercial-vessel-discharge-standards

CALENDAR

November 14 AZ

One Water Summit 2023, Tucson. JW Marriott Starr Pass Resort. Presented by US Water Alliance. For info: https://uswateralliance.org/events

November 14-15 WA

Washington Water Code Conference, Tacoma. Greater Tacoma Convention & Trade Center - Room 318. Law, Policy & Planning. For info: The Seminar Group: 206/ 463-4400, info@theseminargroup.net or www.theseminargroup.net

November 15 WEB

Laboratories of the Future: Tribes and Rights of Nature, Virtual. Presented by the Wallace Stegner Center and Equity, Diversity & Inclusion at Utah Law. For info: https://sjquinney.utah.edu/event/laboratories-of-the-future-tribes-and-rights-of-nature/

November 15 WEB

Centering Those at Risk: The Power of Community-Led Research for Climate Resilience Investments, Virtual. Presented by Urban Waters Learning Network For info: https://urbanwaterslearningnetwork.org/

November 15-17 DC

Eastern Boot Camp on Environmental Law, Washington DC. King & Spalding LLP. Presented by the Environmental Law Institute. For info: https://www.eli.org/boot-camp/eastern-registration

November 15-17 CA

Rate-Setting Essentials: Connecting Financial Planning, Cost-of-Service and Rate Design, San Diego. Hilton Garden Inn Bayside. Presented by the American Water Works Association. For info: https://www.awwa.org/Events-Education/Rate-Setting-Essentials

November 28-30 CA

ACWA 2023 Fall Conference & Exhibition, Indian Wells. Hyatt Regency Indian Wells. Presented by Association of California Water Agencies. For info: www.acwa.com/events/

November 28-30 OR

2023 National Clean Water Law & Enforcement Seminar, Ashville. Renaissance Ashville Downtown Hotel. For info: https://irrigation.org/2023show

Nov. 30-Dec. 1 TX

Irrigation Show and Education Week, San Antonio. Henry B. González Convention Center. Presented by the National Assoc. of Clean Water Agencies. For info: www.nacwa.org/conferences-events/

December 5-6 VA

P3 Government Conference, Alexandria. The Westin Alexandria. For info: https://www.p3gov.com/

December 5-7 CO

North American Water Loss Conference & Exposition, Denver. Colorado Convention Center. Presented by American Water Works Association. For info: https://www.awwa.org/Events-Education/Water-Loss

December 6-7 OR

Business & the Environment: Conference & Expo, Portland. Holiday Inn Portland Columbia Riverfront. The Northwest's Largest Environmental Conference & Expo. For info: https://businessandenvironment.com

December 13 WEB

Equitable Resilience Planning Frameworks, Virtual. Presented by Urban Waters Learning Network. For info: https://urbanwaterslearningnetwork.org/

December 13-15 NV

Colorado River Water Users Association 2023 Conference, Las Vegas. Paris Las Vegas Hotel. For info: www.crwua.org/future-conferences.html

December 14 WEB

Clean Water, Complicated Laws: Water Quality Ordinances - 2023 Water Quality Webinar Series. Free Webinar on Water Quality Issues, Laws & Regulations; 10:00-10:30am Pacific Time. Presented by Best, Best & Krieger. For info: https://bbklaw.com/resources

January 3-5 NV

43rd Annual UGWA Conference & Expo, Mesquite. CasaBlanca Resort & Casino. Presented by the Utah Groundwater Association. For info: https://www.utahgroundwater.org/events/#!event/2024/1/3/ugwa-conference-expo

January 3-5 CO

Colorado Water Well Contractors Association Annual Conference, Westminster. Westin Westminster. For info: https://www.cwwca.org/

January 17 WEB

Building Climate Resilience: Transforming Communities through Green Workforce Development, Virtual. Presented by Urban Waters Learning Network. For info: https://urbanwaterslearningnetwork.org/

January 18 TX

Water in the Desert: Water in the Chihuahuan Desert of West Texas, Alpine. Sul Ross State University. For info: https://bri.sulross.edu/events/water-in-the-desert-2024/

January 23-25 WEB

Water Transmission Pipeline Engineering and Management, Virtual. For info: https://www.euci.com/event_post/0124-water-pipeline/

January 29 - February 1 NV

2024 NWRA Annual Conference Week Events & Activities, Las Vegas. Tuscany Suites & Casino. For info: https://www.nvwra.org/2024-annual-conference-week

January 31 - February 2 CO

Colorado Water Congress Annual Convention, Denver. Aurora-Denver Conference Center. For info: https://www.cowatercongress.org/

February 2-8 NV

Mountain States Groundwater Expo, Laughlin. The Aquarius Casino Resort. Presented by the Groundwater and Water Well Associations of AZ, CO, NV, NM, and UT. For info: https://mountainstatesgroundwater.com/

February 13 WEB

Regulatory Compliance for Water and Wastewater Systems, Virtual. For info: https://www.euci.com/event_post/0224-water-regulatory-compliance/

February 13-16 TX

2024 Winter Conference of National Assoc. of Clean Water Agencies, Austin. Hilton Austin. For info: www.nacwa.org/conferences-events/

February 13-16 OR

The Utility Management Conference, Portland, Oregon Convernton Center. Presented by the Water Environment Federation and the American Water Works Association For info: https://www.wef.org/events--education/conferences/utilitymanagement2024/

February 24 CA

California Water Law Symposium, San Francisco, University of San Francisco School of Law. For info: https://www.waterlawsymposium.org/

March 4-7 FL

Membrane Technology Conference, West Palm Beach, Palm Beach County Convention Center. Presented by American Water Works Association. For info: https://www.awwa.org/Events-Education/Membrane-Technology

March 5-7 CO

Riparian Restoration Conference: Restoration for the Future, Grand Junction, Colorado Mesa University. For info: https://riversedgewest.org/get-involved/events/2024-riparian-restoration-conference-restoration-future

March 5-8 NV

2024 NvRWA Annual Training, Sparks, Nugget Casino Resort. Presented by Nevada Rural Water Association. For info: https://www.nvrwa.org/2024-nvrwa-conference-registration.html

The Water Report
Water Rights, Water Quality & Water Solutions in the West
3615 W. Hills of Gold Dr. Tucson, AZ 85745

CALENDAR

March 6-8 **NV**

2024 Land and Water Summit, Albuquerque. Indian Pueblo Cultural Center. For info: https://www.landandwatersummitnm.org/index.php/registration/

March 10-13 **CO**

WateReuse Symposium 2024: Removing Barriers, Elevating Opportunities, Denver. Hilton Denver City Center. Presented by WateReuse Trade Association. For info: www.watereuse.org

March 12-13 **AZ**

WRRC 2024 Annual Conference Implementing Water Solutions Through Partnerships, Tucson, University of Arizona Student Union Grand Ballroom. Presented by the Water Resources Research Center. For info: https://wrrc.arizona.edu/conference/2024

March 15-16 **WA**

2024 Pacific Northwest Ground Water Exposition, Vancouver. Hilton Vancouver Washington. For info: https://pnwgwa.org/

March 18-21 **CA**

33rd Annual International Conference on Soil, Water, Energy, and Air, San Diego, The DoubleTree Mission Valley. Presented by the Association for Environmental Health and Sciences Foundation. For info: https://www.aehsfoundation.org/westcoast

March 27-29 **TX**

RuralWaterCon 2024, San Antonio, TBD. For info: https://www.trwa.org/page/RWC23

April 3-6 **AZ**

Biennial Symposium on Managed Aquifer Recharge, Tucson. Casino Del Sol. Collaboration of the Arizona Hydrological Society and the Groundwater Resources Association of California. For info: https://ahssymposium.org/bsmar/

April 7-13 **DC**

2024 Water Week, Washington DC. TBD. For info: https://www.waterweek.us/#about-water-week