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Water Rights, Water Quality & Water Solutions in the West

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SHARED GROUNDWATER REPORT

MISSISSIPPI V. TENNESSEE; CITY OF MEMPHIS; AND MEMPHIS LIGHT, GAS & WATER DIVISION
SPECIAL MASTER'S REPORT

by Don Blankenau / Blankenau Wilmoth Jarecke LLP (Lincoln, NE)

Introduction

A SHARED GROUNDWATER RESOURCE / A PROVOCATIVE LEGAL THEORY

Underlying portions of eight states in the Southeast United States, lies the sprawling Mississippi Embayment Aquifer. The Mississippi Embayment is, in reality, a multi-layered system of geologic formations that is regionally important to the states which it underlies. These formations are hydrologically interconnected with varying degrees of accessibility. The most significant formation, and the one at issue in this litigation, is the Middle Claiborne Aquifer (Aquifer). The Aquifer is known by multiple names including the "Sparta Aquifer," "Memphis Aquifer," "Sparta Sand Formation," and "Memphis-Sparta Aquifer." The Aquifer is also hydrologically connected to various interstate rivers and streams, notably the Mississippi River.

The water of the Aquifer is of high quality and is relied on by many communities and agricultural producers in states throughout the Southeast. One of the communities that relies heavily on the water of the Aquifer is the City of Memphis, Tennessee. Memphis began withdrawing and using water from the Aquifer early in the 20th century, developing a wellfield south of the City but wholly within the state of Tennessee. Over the decades, Memphis' use and reliance on the Aquifer grew to approximately 162 million gallons per day in 2000. Like many cities in the United States, Memphis' use has steadily declined and by 2016 was down to 124 million gallons per day.

Although the water levels in the Aquifer have remained stable, litigation arose over the past, present, and future use of the Aquifer in 2005, when the State of Mississippi filed suit against the City of Memphis and the City's utility — Memphis Light, Gas & Water Division (MLGW). In that suit, Mississippi alleged that the decades of use by Memphis and MLGW created a cone of depression that altered the predevelopment flow of groundwater at the Mississippi/Tennessee state line. Unlike prior interjurisdictional disputes concerning water, this action was limited to groundwater. Also unlike prior water disputes, the legal theory used by Mississippi was aimed at obtaining compensation rather than apportioning and managing the resource.

Litigation Round 1: The District Court Action

Mississippi first filed suit against Memphis and MLGW in the United States District Court for the Northern District of Mississippi. Tennessee was not named a party to that suit so jurisdiction was proper before the federal district court. In its complaint, Mississippi alleged numerous claims concerning MLGW's water use, the upshot of which was this: groundwater within Mississippi is the property of the State of Mississippi. The use of wells by MLGW, while wholly located in Tennessee and operating in accordance with Tennessee law, has caused molecules of water to migrate across state lines from Mississippi to Tennessee. Although Mississippi was clear that its water users had not suffered any shortage of water or economic injury as a result of the pumping, the use of Mississippi's

Interstate Groundwater

Legal Right

Compact

Equitable Apportionment

Interstate Water Resource

Tennessee Joinder

Ownership of Water

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property (the groundwater that migrated across state lines) was a conversion of property that required compensation. In this case, Mississippi believed the value of that ill-gotten groundwater to be in the neighborhood of $1,000,000,000.

Early in the litigation, MLGW argued that before Mississippi could make any claim for compensation, it first needed to demonstrate that it had a legal right to the water it alleged was being taken by MLGW's pumping. MLGW also argued that Mississippi would need to have a compact that quantified the states' respective rights to the water or it would need a decree from the United States Supreme Court doing the same via equitable apportionment. Neither a compact nor decree existed here.

While initially unmoved by MLGW's position, the federal district court came around and just before trial was scheduled to begin, sua sponte (on its own motion) issued an order dismissing the case. The district court noted that: "the doctrine of equitable apportionment has historically been the means by which disputes over interstate water are resolved," and the dispute at issue fell within "the original and exclusive jurisdiction of the United States Supreme Court because such dispute is necessarily between the State of Mississippi and the State of Tennessee." *See Hood ex rel. Mississippi v. City of Memphis, Tenn.*, 533 F. Supp. 2nd 646, 648 (N.D. Miss. 2008). Agreeing with MLGW, the district court then dismissed pursuant to Rule 19 of the Federal Rules of Civil Procedure, holding that Tennessee was an indispensable party and could not be joined without depriving the district court of jurisdiction.

Mississippi appealed the dismissal by the district court to the Fifth Circuit Court of Appeals. The Fifth Circuit quickly affirmed the district court's decision. *Hood ex rel. Mississippi v. City of Memphis Tenn*., 570 F.3d 625 (5th Cir. 2009). In affirming the lower court, the Fifth Circuit concluded that the Aquifer was an interstate water resource which "must be allocated before one state may sue an entity for invading its share." *Id*. at 629-630 (citing *Hinderlider v. La Plata River & Cherry Creek Ditch Co*., 304 U.S. 92, 104-105 (1938)). The Fifth Circuit continued, noting that because Mississippi's claims directly implicated the sovereign interests of the State of Tennessee, Tennessee's "presence in the lawsuit was necessary to accord complete relief to Mississippi and Memphis." *Id*. at 631. That necessary joinder of Tennessee would result in a suit between states and thereby deprive the district court of subject matter jurisdiction pursuant to Article III, Section 2, Clause 2 of the United States Constitution and 28 U.S.C. 1251(a). Finally, the Fifth Circuit observed that Mississippi's claim of ownership of the water within its borders was mistaken, again citing *Hinderlider*: "The Supreme Court has consistently rejected the argument...that state boundaries determine the amount of water to which each state is entitled from an interstate water source." *Id*. at 630.

Mississippi then petitioned the United States Supreme Court for certiorari. *Mississippi v. City of Memphis, Tenn*., 130 S. Ct. 1319 (2010). In a tactically interesting move, Mississippi simultaneously filed a motion for leave to file a complaint with the Supreme Court for a new, and nearly identical action, but naming the State of Tennessee as a defendant with Memphis. This tactic offered the Supreme Court two options to review Mississippi's underlying theory of state ownership of groundwater. Mississippi's creativity however was unrewarded when, on the same day, the Supreme Court unceremoniously denied both the motion for certiorari and the motion for leave to file a complaint. In denying the motion for leave, the Court cited *Virginia v. Maryland*, 540 U.S. 56, 74 n.13 (2003) ("Federal common law governs interstate bodies of water, ensuring that the water is equitably apportioned between the States and that neither State harms the other's interest in a river."), and *Colorado v. New Mexico*, 459 U.S. 176, 187 n.13 (1982) ("[A] state seeking to prevent or enjoin a diversion by another state bears the burden of proving that the diversion will cause it 'real or substantial injury or damage.'"). With that, the case appeared to be over.

Litigation Round 2: The Original Action

Nearly four years passed after the dismissals and the states never engaged in any substantive discussions regarding the sharing or management of the Aquifer. Then on June 6, 2014 Mississippi again filed a motion for leave to file a complaint with the Supreme Court, based on the original theory and again naming the City of Memphis, MLGW, and the State of Tennessee as defendants. In this proposed complaint, Mississippi alleged that it owns a portion of the Aquifer under its territorial boundaries and the water therein. It further alleged that the well use by MLGW pulled water across state lines constituting "…a violation of Mississippi's retained sovereign rights under the United States Constitution, and a wrongful and actional trespass upon, and conversion, taking and misappropriation of, property belonging to Mississippi and its people." *Complaint* at ¶52. Astonishingly, Mississippi also alleged that the Aquifer "is neither interstate water nor a naturally shared resource." *Complaint* at ¶50.

For relief, Mississippi sought a declaratory judgment that would establish its "sovereign right, title and exclusive interest in the groundwater stored naturally in the Sparta Sand formation," *Complaint* at ¶40; and "not less than $615 million for the value of groundwater already consumed by the residents of Memphis." *Complaint* at ¶55.

Interstate Groundwater

Opposition

Original Jurisdiction

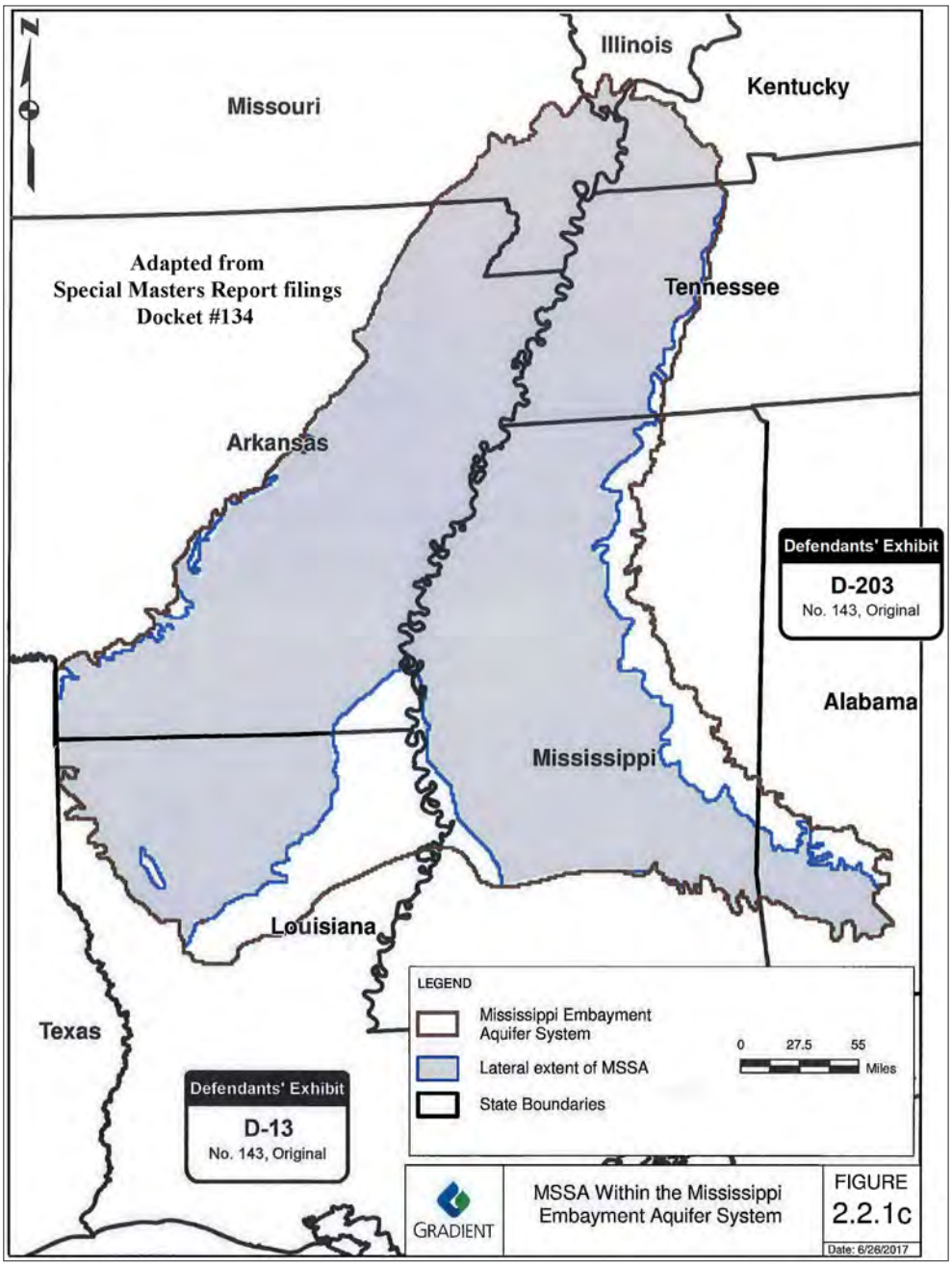
Actual or Imminent Harm

Aquifer

In response to the motion for leave to file a complaint and the brief in support of the motion, both MLGW and Tennessee filed briefs in opposition, explaining: (1) that Mississippi had previously claimed no actual present or imminent harm; (2) that the cause of action was not recognized by the Supreme Court in the context of interstate water disputes; and (3) that Mississippi had failed to take all reasonable efforts to resolve the dispute before seeking judicial resolution. As is its custom, the Supreme Court asked the United States (via the Solicitor General) for its views before agreeing to hear the case.

A Brief Sidebar Regarding Original Actions

As noted above, when one state sues another state, only one court has jurisdiction to hear the matter: the United States Supreme Court. Interestingly, although the Supreme Court (Court) is the sole judicial venue for a state in conflict with another state, the Court is not *required* to exercise jurisdiction and agree to hear the case. Historically, the Supreme Court has engaged in what it refers to as its "gatekeeping analysis." This analysis is intended to ensure that only those claims that rise to the "seriousness and dignity" of the Court's unique jurisdiction, are heard. In evaluating the seriousness and dignity of a state's claims, the Court has required that there be actual or imminent harm of a serious magnitude. The Court has explained on numerous occasions that the magnitude of harm be a "causus belli" or "cause of war" if the two states were fully sovereign. The Court has also historically admonished states to fully exhaust all other avenues to resolve the dispute before seeking judicial intervention.



Interstate Groundwater

Gatekeeping Analysis

To assist the Court in its gatekeeping analysis, the Court requests the views of the United States through the Solicitor General. The Solicitor General provides those views via briefing after having received the briefs from the state parties. The Solicitor General's briefs are intended to illuminate the relative importance of the issues, the states' efforts to resolve the dispute, and whether granting leave to file a complaint will provide jurisprudential continuity and not unnecessarily expand the role of the Court in such disputes. Obviously, the Court is not bound by the recommendation of the United States, but the views of the US are generally an important consideration for the Court in the exercise of its jurisdiction.

Special Master

If the Court decides to exercise its jurisdiction and grant leave to file the complaint, the defendants file an answer and the case is then referred to an appointed "special master." Although the Supreme Court is the trial court, it cannot logistically, or logically, function directly as a trial court. Accordingly, the appointed special master is generally given authority to conduct hearings and a trial in much the same way a federal district court would do. (Pursuant to Supreme Court Rule 17.2, the "form of pleadings and motions prescribed by the Federal Rules of Civil Procedure is followed. In other respects, those Rules and the Federal Rules of Evidence may be taken as guides."). The special master may provide reports to the Court from time to time as may be necessary, but he or she has no independent authority to make binding decisions. Accordingly, all special master reports constitute recommendations, which may be accepted as written, modified, or entirely rejected as deemed appropriate by the Court. Once a report is transmitted to the Court, the Court typically invites "exceptions" to the report from the parties. Those exceptions are fully briefed and then argument by the litigants directly to the Court is typically scheduled.

Report

Back to the Case

US Recommendation

In response to the invitation by the Court — to submit its views on whether to grant Mississippi leave to file its complaint — the United States filed its brief on May 12, 2015. The United States recommended that the Court not grant leave to file the complaint for several reasons. First, the US observed that the appropriate cause of action for a shared interstate water resource dispute is for an equitable apportionment. Second, the cause of action proposed by Mississippi had no historical precedent; and third, the parties had not fully explored a non-judicial resolution. The US argued that the claims, thus, did not rise to the seriousness and dignity of the Court's established standard. Despite the recommendation of the US, the Supreme Court issued an order granting leave to file the complaint on June 29, 2015. On November 10, 2015, the Court issued another order appointing the Honorable Eugene E. Siler, Jr., a judge with the Sixth Circuit Court of Appeals, to serve as the special master.

Interstate Water?

Shortly after the appointment of Special Master Siler, Tennessee and MLGW filed motions for judgment on the pleadings on much the same basis as they asserted in opposing the Court granting leave to file the complaint. MLGW also highlighted that the issue of whether the Aquifer was an interstate water had previously been litigated and resolved by both the Mississippi federal district court and the Fifth Circuit and could not be relitigated. The United States, now acting as amicus curiae (or "friend of the court"), filed a brief in support of those motions. Mississippi's response to the motions included its affirmation that the Aquifer was not an "interstate" resource nor did it desire an equitable apportionment of the Aquifer. Accordingly, it urged that the Special Master proceed to hearing and evaluate the evidence in light of its pioneering legal theories.

Equitable Apportionment

After review of the briefs, Special Master Siler denied the motions. In so doing, the Special Master acknowledged that Mississippi's "complaint appears to fail to plausibly allege that the Sparta Sand aquifer ("Aquifer") or the water in it is not an interstate resource" but allowed the case to "err on the side of over-inclusiveness." *Memorandum of Decision*, August 12, 2016, page 1. The Special Master then indicated he would hold "an evidentiary hearing on the limited — and potentially dispositive — issue of whether the Aquifer is, indeed, an interstate resource… ." *Id*. The Special Master further explained that if the Aquifer was an interstate resource, he would recommend to the Court that the case be dismissed because only an equitable apportionment would be available to Mississippi and Mississippi did not desire such an apportionment. *Id*.

The parties then moved through the customary discovery and pre-trial motions toward the limited evidentiary hearing, which was held on May 20, 2019. The hearing lasted five days after which post-hearing briefing and argument were entertained. The Special Master then took the matter under advisement and issued a 32-page report on November 5, 2020, nearly 18 months after the conclusion of the hearing.

Groundwater = Interstate Water

With respect to the key factual issue of the hearing, the Special Master concluded that the Aquifer was indeed an interstate resource, stating: "Substantial evidence demonstrates that the Middle Claiborne Aquifer is a continuous, interconnected hydrogeological unit beneath several states. Because it is an interconnected unit, groundwater flows within it across the Mississippi-Tennessee border. What is more, the Aquifer is connected to interstate surface waters. Each of these features individually make the resource an interstate character. Therefore, the Special Master recommends that the Supreme Court find that the groundwater at issue is an interstate resource." *Report* at 25-26.

Interstate Groundwater

Legal Theories Rejected

After dispensing with the essential factual issue, the Special Master rejected the legal theories advanced by Mississippi. The Special Master observed: "When states fight over interstate water resources, equitable apportionment is the remedy. Mississippi presents no compelling reason to chart a new path for groundwater resources. Nor do Mississippi's alternative theories override the prevailing federal common law." *Report* at 26. Explaining why equitable apportionment is the sole judicial vehicle available to address groundwater disputes, the Special Master continued: "To be sure, groundwater in aquifers and surface water in streams, rivers and lakes are not identical. But that is not the inquiry. Instead, any differences must be legally meaningful. And they are not. Indeed, equitable apportionment's strength is in its ability to tailor itself to each situation." *Report* at 27-28.

Mississippi Theories

The Special Master specifically addressed the cornerstone of Mississippi's legal theories which rest on its claim to own all of the groundwater within its borders:

> Mississippi believes it has the sole authority to govern "the appropriation of all water located within its territorial boarders." Miss. Resp. 11. For support, Mississippi claims one need look no further than the Constitution. And it is true: both Article IV, Section 3, Clause 1 and the Tenth Amendment support the doctrine of equal footing. *See Puerto Rico v. Sanchez Valle*, 136 S.Ct. 1863, 1871 n.4 (2016) (citing *Coyle v. Smith*, 221 U.S. 559, 566 (1911)). That is, the Constitution leaves each state "that residuum of sovereignty not delegated to the United States" and places no state above another. *Id*. (quoting *Coyle v. Smith*, 221 U.S. at 567). Mississippi argues that if that is to mean anything, the groundwater is theirs. But Mississippi fails to show the doctrine's applicability to another states's pumping of an interstate resource.

Report at 28-29.

State Control Over Water

The Special Master goes on to clarify just how far a state's "control over waters" extends:

> Of course, Mississippi has full jurisdiction over the lands contained within its borders. *See Kansas v. Colorado*, 206 U.S. at 93. And, of course, that right extends to "control over waters within [Mississippi's] own territories." *Id*. Never, however, has the Court allowed one state's sovereignty to subsume an entire interstate resource. …Said simply, one state cannot reach into another state to collect water.

Report at 29.

Leave to Amend

Finally, the Special Master recommended that Mississippi's complaint be dismissed with leave to amend to include a claim for equitable apportionment. *Report* at 25 and 32. This final recommendation appears consistent with the Special Master's earlier preference to "err on the side of overinclusiveness." Because Mississippi previously rejected any desire for an equitable apportionment, it is unclear whether it would so amend. Moreover, it is unclear whether such an amendment could occur without passing through the Court's gatekeeping analysis, which would require an entirely new action. In any event, an equitable apportionment action, if allowed to proceed, could not result in an award of compensation, which appears to be the primary objective of the suit. An award of compensation would be possible only if the Court had issued a decree apportioning the Aquifer and Tennessee subsequently violated that decree.

Equitable Apportionment

Compensation Limitation

Conclusion

As noted above, a report from a special master represents only a recommendation to the Court. In the coming weeks, the Court is likely to issue an order inviting the parties to file exceptions to the *Report*. If exceptions are taken, (and they are not required), they will be fully briefed and argued directly to the Court for a final, binding decision. The matter will likely be heard in the fall of 2021, with that decision in late 2021 or early 2022.

For Additional Information:
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Editor's Note: *On December 7, the Supreme Court issued an order in the case allowing Exceptions to the Special Master's Report to be filed within 45 days with supporting briefs. Replies (with supporting briefs) may then be filed within 30 days and Sur-replies (with supporting briefs) within 30 days thereafter.*

Don Blankenau is a "consulting attorney" to Memphis in this matter. Don is a founding member of the firm Blankenau Wilmoth Jarecke LLP in Lincoln, Nebraska. He has represented clients in a wide-range of water disputes including interstate cases involving the Platte River, Republican River, Missouri River and Apalachicola-Chattahoochee-Flint Rivers. He has also been involved in a variety of water disputes involving groundwater conflicts, served as administrative law judge in over 100 hearings concerning water use, and presently assists various individuals with conflicts concerning competing users. Prior to entering private practice, Mr. Blankenau served as legal counsel, assistant director, and interim director of the Nebraska Department of Water Resources. Before attending law school, Mr. Blankenau received a B.S. degree in Natural Resources Management. He received his J.D. from the University of Nebraska-Lincoln. In addition to all Nebraska state courts, he is admitted to the United States Supreme Court and multiple federal district and circuit courts.

Tribal Water Rights

COLORADO BASIN TRIBAL WATER RIGHTS

TRIBAL WATER RIGHTS & COLORADO RIVER BASIN WATER MANAGEMENT

by Jay Weiner, Rosette LLP, (Sacramento, CA)

Introduction

Tribal Claims

Senior Rights

Structural Water Deficit

The 29 Indian tribes with water rights in the Colorado River Basin (Basin) lay claim to at least 2.9 million acre-feet of water, a number that may well understate the true scale because some tribes have rights that have not yet been finally determined (*see*: *Colorado River Basin Water Supply and Demand Study, Technical Report C – Water Demand Assessment* (US Bureau of Reclamation, 2012). This water volume amounts to nearly a quarter of the estimated annual average natural flow of the entire Colorado River over the past two decades (*see*: www.doi.gov/water/owdi.cr.drought/en/#SupplyDemand). Many of these rights are among the most senior in the Basin, meaning that tribes have some of the strongest rights to receive water during times of scarcity when more junior uses face curtailment. Due to a series of legal, political, and financial constraints, however, tribes in the Basin have to date collectively been able to develop and use only a fraction of their water rights.

The Basin already faces a "structural deficit" (that is, the amount by which annual demand exceeds natural flow), a situation which risks being exacerbated as tribes continue to quantify and develop their water rights for the benefit of their members. The extent to which the Basin currently relies on un- or under-utilized tribal water rights to satisfy existing uses is unsustainable. If the Basin is to avoid a future rife with conflict, a new approach to engaging with tribes and tribal water rights is essential. Fortunately, over the past decade the Basin has begun to take tentative steps in that direction — but much work remains to be done.

The forthcoming Basin-wide negotiations over how to replace the US Bureau of Reclamation's (Reclamation's) 2007 Interim Guidelines present an opportunity to build a more sustainable foundation for tribes, states, and all Basin stakeholders from which to prepare for what seems likely to be a significantly drier future. This article examines that opportunity.

Indian Reserved Water Rights

Reserved Water Rights (*Winters*)

To appreciate where the Basin needs to go, it is worthwhile first to review how we got here.

In *Winters v. United States*, 207 U.S. 564 (1908), the United States Supreme Court first promulgated the Indian reserved water rights doctrine (which has also come to be known as the *Winters* doctrine, after the case's name). As it has been developed over a century of jurisprudence, the *Winters* doctrine holds that when land is reserved from a tribe's aboriginal territory, set aside from the public domain, or otherwise taken into trust by the United States for an Indian reservation, that reservation includes a right to enough water to satisfy the purpose or purposes of the reservation irrespective of whether the reservation's establishing documents (treaty, statute, or executive order) made any explicit reference to water or water rights. *See generally Arizona v. California*, 373 U.S. 546, 596-599 (*Arizona v. California I*).

Priority Dates

The priority date for these water rights is no later than the date of the reservation's creation, which in the western United States often occurred before significant white settlement and water development. Tribal uses that pre-date the creation of the reservation are entitled to a priority date of "time immemorial." This means that tribes often have some of the most senior water rights on a given source (this holds true for the Colorado River). *Winters* rights may apply to both surface water and groundwater. *Agua Caliente Band v. Coachella Valley Water District, et al.*, 849 F.3d 1262, 1272 (9th Cir. 2017).

Quantity Issue

PIA Standard

While the priority date for tribes' *Winters* rights are thus generally clear, the quantity of water reserved is a much more complicated — and contentious — question. In *Arizona v. California I*, the United States Supreme Court (Supreme Court) endorsed the "practicably irrigable acreage" (PIA) standard as an appropriate basis for quantifying the *Winters* rights of five tribes with mainstem Colorado River rights in the Lower Basin (the Chemehuevi Indian Tribe, the Cocopah Indian Tribe, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, and the Quechan Indian Tribe). 373 U.S. at 600. *Arizona v. California* did not address the rights of tribes with mainstem claims above Lake Mead.

PIA Inquiry

Under the PIA standard, the inquiry generally focuses on: how much of a reservation's land base is arable; what sort of water supply and infrastructure might be necessary to cultivate that arable land; and whether the combination of hydrologic and financial investment is "practicable." (There is, however, no requirement that once water rights have been quantified on a PIA basis that the water must actually be dedicated to agricultural use. *Arizona v. California*, 547 U.S. 150, 168 (2006) ("2006 Consolidated Decree")).

Tribal Water Rights

"Homeland" Standard

"Reasonable" Amount

Settlements

Uncertainty Effects

Natural Flow

Allocations

Upper Basin

Lower Basin

Flow Estimates

1944 Mexico Treaty

As the formulation of the PIA standard readily makes clear, questions may arise upon which reasonable minds can differ. Almost any piece of ground can be made irrigable with enough water and funding — hence the western water law truism "water runs uphill to money." The United States' history of massive investment to benefit non-Indian agriculture and settlement has demonstrated this principle time and again. Tribes, however, have rarely been able to benefit from that same largesse.

For some tribes, PIA is also a less appropriate standard, due to factors such as treaty purposes and geography. More recently, therefore, courts have articulated a more flexible "homeland" quantification standard that takes as its starting point that reservations are intended to provide permanent homelands for tribes and their members, and that the purposes for which water can be used are extremely broad. *See*, *e.g.*, *In re General Adjudication of All Rights to Use Water in Gila River System and Source*, 35 P.3d 68 (2001); *In Re Application for Beneficial Water Use Permit Nos. 66459-76L, Ciotti et al*., 923 P.2d 1073, 1079 (1996). The homeland standard, however, is subject to similar uncertainties and grounds for disagreement as the PIA standard — at core, disputes over what constitutes a "reasonable" amount of water to satisfy a tribe's present and future needs. Litigation and settlement negotiations are the two (not necessarily mutually exclusive) pathways that exist to resolve these questions.

Both litigation and negotiation can be contentious, expensive, and protracted. For the last four decades, the pursuit of settlements has been the declared policy preference of the United States. Tribes, too, have often preferred negotiated settlements to litigation, not least for the federal financial and other resources that tribes are often able to secure in exchange for compromising on the scope and extent of their claims. Of the 32 congressionally approved water rights settlements in the modern era (which is generally considered to have begun with the 1978 Ak-Chin settlement), 15 relate to the rights of tribes in the Colorado River Basin. *See*: *Indian Water Rights Settlements* Congressional Research Service R44148 (May 15, 2020).

Some tribes have settled portions but not the entirety of their water rights claims. For example, the Navajo Nation settled the bulk of its claims in New Mexico in 2009 and has a settlement of its Utah claims presently pending before Congress. The Nation has yet to resolve its claims in Arizona, however, or the remainder of its claims in New Mexico. Similarly, the Ute Mountain Ute Tribe has settled its claims in Colorado, is actively litigating its claims in New Mexico, and is not currently engaged in any processes to resolve its claims in Utah. And these are not the only tribes with unresolved water rights claims.

Moreover, many tribes with fully quantified rights often continue to search for the financial and other resources to fully develop their entitlements, meaning that their demands are likely to continue to grow over time as well. The lack of certainty regarding the full scope of tribes' water rights and overall water use is a significant variable for the Basin as it considers how to plan for future demand — especially in light of a potentially diminished water supply.

Hydrologic Trends in the Colorado River Basin

Crossing through seven states and draining nearly a quarter of a million square miles, the natural flow of the Colorado River varies dramatically from year to year based on precipitation, snowpack, and other climatic conditions (www.doi.gov/water/owdi.cr.drought/en/#SupplyDemand). The 1922 Colorado River Compact allocated the consumptive use of the River equally between the states of the Upper Basin (Colorado, New Mexico, Utah, and Wyoming) and the Lower Basin (Arizona, California, and Nevada), assigning each Basin 7.5 million **a**cre-**f**eet of water per **y**ear (AFY) — though it left open the possibility that the Lower Basin's allocation could expand by another million AFY (1922 Compact at Art. III(a) and (b)). To achieve this balance, the Upper Basin is required to deliver to the Lower Basin 75 million **a**cre-**f**eet (AF) of water over each 10-year period (1922 Compact at Art. III(d)), allowing for higher flow years to offset reduced deliveries during lower flow ones. At the time, this allocation could have been viewed as almost conservative, as flow estimates prepared by the US Reclamation Service (predecessor to today's Bureau of Reclamation) beginning in 1906 indicated that the River was producing on average 18 million AFY of natural flow over the 16 years preceding the execution of the 1922 Compact. (Though, even then, some existing longer-term data suggested that 18 million AFY reflected an unusually wet period, and that a natural flow average closer to 15 million AFY would have been a more accurate benchmark. *See, generally*, Fleck and Kuhn, *Science Be Dammed* (University of Arizona Press, 2019)).

The 1944 United States-Mexico Water Treaty, which addressed transboundary issues between the two countries in the Colorado and Rio Grande River Basins, recognized a Mexican entitlement to Colorado River water in the amount of 1.5 million AFY. Then-contemporaneous flow records suggested that full development of the Mexican entitlement could theoretically begin to overstress the river, as the average annual flow between 1906 and 1944 was 16.3 million AF. Prior to 1944, however, consumptive uses in the Basin had never exceeded 10 million AFY, thereby preserving an ample wet-water cushion between supply

Tribal Water Rights
Lake Mead

Lake Powell

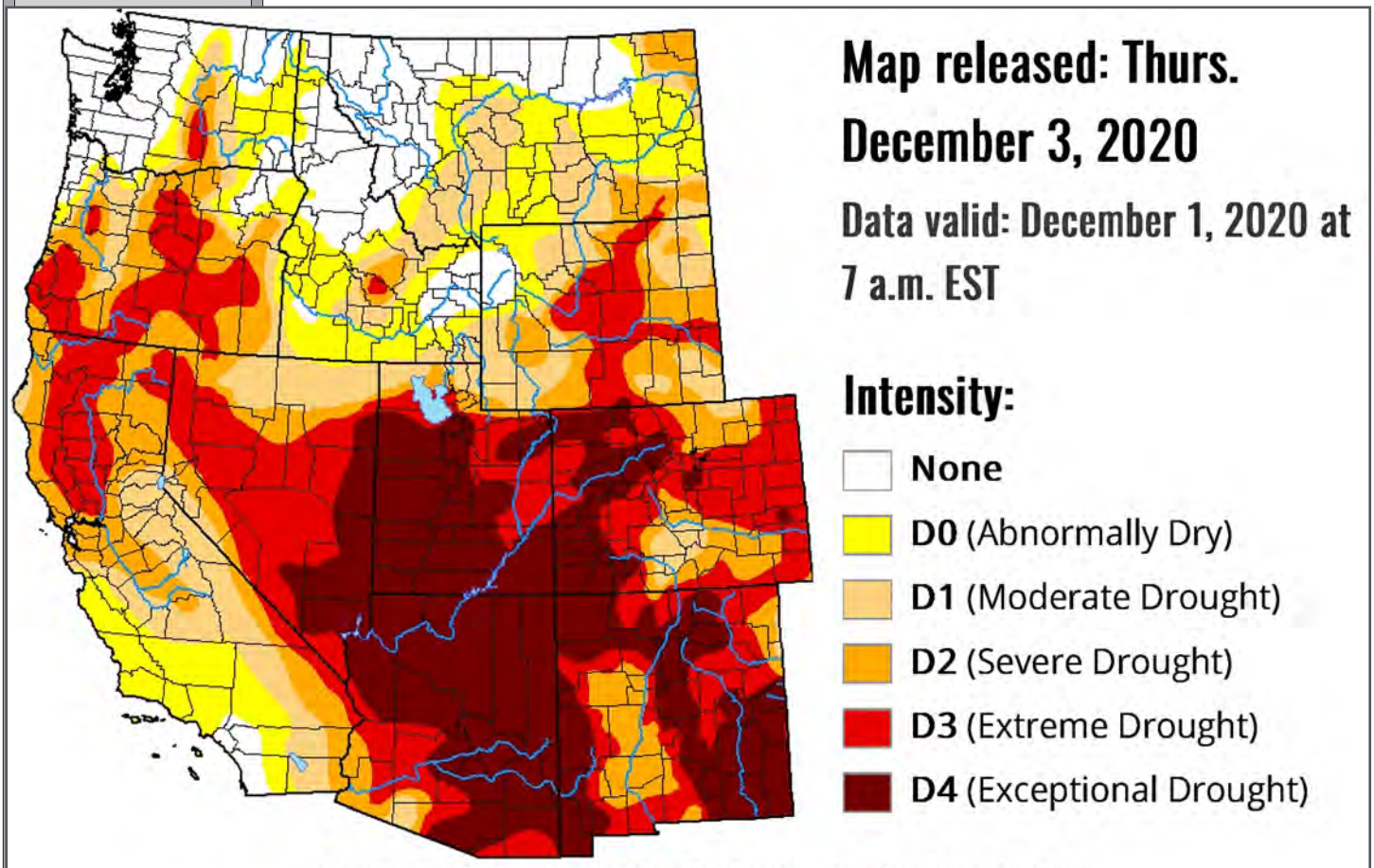
Demand Growth

Drought or "Aridification" ?

and demand. The 1928 enactment of the Boulder Canyon Project Act (45 Stat. 1057, as amended, 43 U.S. C. § 617 *et seq*.), and the subsequent construction of what is now known as the Hoover Dam, created Lake Mead. This reservoir's storage capacity allowed the Lower Basin to: better manage its entitlement; capture additional water from high flow years to offset the risk of lower flows; and later facilitated the United States' ability to meet its treaty commitments to Mexico. The construction of the Glen Canyon Dam between 1956 and 1966 created Lake Powell, adding another massive storage facility to the Basin. This further enabled water from high flow years to be retained as a cushion against drier ones and ameliorated more of the risk of variability in water supply.

However, the demand side of the equation burgeoned as well. Consumptive use of Colorado River water grew steadily through the second half of the 20th Century. In 1950, consumptive uses in the Basin totaled roughly 9.5 million AF, while in the year 2000, aggregate consumptive use had reached 16.7 million AF. Expanded use in California and the 1990s completion of the Central Arizona Project, which doubled Arizona's Colorado River demand, were particular drivers of this increase. At the same time, the River's annual average flow declined, with the 1906-2015 dataset showing an average of 14.8 million AFY. Yet the current supply/demand imbalance is in fact even starker than what that math would suggest.

For the past 20 years, the Basin has been caught in the driest period since Reclamation began keeping written records over a century ago, and by some measures the second driest period of the last 1,200 years (*see* Colorado River Research Group (2020) *Reflections of Two Tumultuous Decades in the Colorado River Basin*). The average annual natural flow during the 2000s has been only about 12.4 million AF. Although commonly referred to as a drought, there is increasing scientific consensus that the Basin — and, indeed, much of the western United States — is entering into an era of climate change-driven water scarcity better characterized as "aridification" (*see* Overpeck and Udall (2020) *Climate Change and the Aridification of North America*).



Adapted from US Drought Monitor website: https://droughtmonitor.unl.edu/
The US Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC.

Tribal Water Rights

Storage Capacity

Tensions

California's Demands

Interim Surplus Guidelines

Shortage Issues

Litigation Threat

At the beginning of the 2000s, Lake Mead and Lake Powell were nearly full after the comparatively wet decade that was the 1990s. Lake Powell rang in the new millennium sitting just above 3,681 feet in elevation, while Lake Mead was right around 1,214 feet — meaning that the storage capacity of the two reservoirs was roughly 94% full. Then, between 2000 and 2004, the Basin produced an average of barely 10.5 million AFY of natural flow. Both reservoirs were drawn down dramatically to make up for the difference between demand and natural flow supply. By the end of 2004, Lake Powell had dropped below 3,564.5 feet, a loss of nearly 13 million AF, and Lake Mead fell to roughly 1,130 feet, a loss of over 10.6 million AF. Together, the reservoirs entered 2005 at barely above 50% of their total storage capacity. This constituted an unsustainable rate of loss. These declining water supplies exacerbated longstanding tensions between the Upper and Lower Basin, as well as between and among individual Basin states and individual water users. Tensions increased over: delivery obligations; entitlements; and how to cope with the risk of increased scarcity. Disturbing questions arose about whether, when, and how Reclamation might have to declare a shortage and curtail deliveries to Lower Basin states and water users.

The 2007 Interim Guidelines

Background

Recounting the whole tangled backstory of inter- and intra-state conflict over the Colorado River is beyond the scope of this article. But throughout this history runs the thread of fear of California's voracious thirst. The 1922 Compact itself can be seen as an effort to cabin California's ability to establish senior rights to Colorado River water in order to preserve for the other Basin states supplies of water they could grow into. *See Arizona v. California* I, 373 U.S. at 608-09. Arizona refused to ratify the 1922 Compact (it did not do so until 1944), so the 1928 Boulder Canyon Project Act further delineated principles for the division of waters among the Lower Basin states, which ultimately led to the determination that California would be entitled to 4.4 million AFY, Arizona 2.8 million AFY, and Nevada 300,000 AFY of the Lower Basin's 7.5 million AFY share of the River. However, despite this ostensible cap, California's geography as the most downstream state, coupled with its huge agricultural and urban demands, allowed it to continue to utilize unused portions of other states' allocation (as well as unused tribal water rights) and "surplus" water from Lake Mead. Indeed, between 1963 and 2002, California continuously used over 5 million AFY from the Colorado River (www.usbr.gov/lc/region/g4000/wtracct.html). As the 1990s progressed, this situation became increasingly untenable. Tensions heightened with the completion of the Central Arizona Project, which allowed Arizona to effectively double its Colorado River demand, and the booming growth of southern Nevada throughout that decade.

In 2001, the US Secretary of the Interior promulgated Reclamation's *Interim Surplus Guidelines* — largely in an effort to provide California with sufficient predictability to embark on an orderly process to reduce its water budget. With 2002 being an inordinately poor water year, California accelerated its demand reduction, as memorialized in the 2003 *Quantification Settlement Agreement*, which relied heavily on agriculture-to-urban water transfers, and ultimately brought California's use down toward its decreed entitlement (www.usbr.gov/lc/region/g4000/wtracct.html). But the continued drought meant that even reduced California use was insufficient to relieve the pressure on the system from total Lower Basin demands.

While the 2001 *Interim Surplus Guidelines* laid out a management plan for the allocation of surplus water, the Basin lacked clearly defined procedures for addressing the effects of protracted natural flow shortages. By 2004, tensions in the Basin were running high as the Upper Basin states raised concerns about the amount of water they were being required to deliver from Lake Powell to satisfy demands in the Lower Basin. There was also controversy over the unresolved issue of the extent of the Upper Basin's responsibility to contribute water to satisfy the United States' 1944 Treaty obligation to Mexico. Arizona and Nevada, whose Colorado River rights are subject to curtailment ahead of California's, were also extremely concerned about how the US would make water allocation decisions that might affect their interests. (*Arizona v. California I* made clear that the Boulder Canyon Project Act granted the Secretary of the Interior vast discretion to unilaterally impose shortage sharing criteria in the Lower Basin. 373 U.S. at 592-594).

Drought Response

To head off the growing threat of interstate litigation, the Basin states and the federal government began a process in 2005 to develop a set of operating criteria to address a range of water conditions, particularly low flows. These negotiations ultimately led to the adoption of the 2007 Interim Guidelines, which will govern Reclamation's management of the Basin through the end of 2026.

Tribal Water Rights

Reservoir Conditions & Deliveries

Water Banking

Shortage Triggers

Lower Basin Allocations

Shortage Deliveries (Lower Basin)

Coordinated Reservoir Operations

Intentionally Created Surplus (ICS)

As articulated by Reclamation, the 2007 Interim Guidelines has three key purposes:

1. [I]mprove Reclamation's management of the Colorado River by considering trade-offs between the frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, and on water supply, power production, recreation, and other environmental resources;
2. [P]rovide mainstream United States users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions; and
3. [P]rovide additional mechanisms for the storage and delivery of water supplies in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions.

Reclamation Draft 7.D Report (October 23, 2020) - Available at: www.usbr.gov/ColoradoRiverBasin/#7.D.ReviewDraftReport (page 4)
(Reclamation anticipates finalizing the Report before the end of 2020).

To meet these purposes, the 2007 Interim Guidelines contained clearly delineated criteria for managing shortages in the Lower Basin, set out a management system tied to specific elevations for coordinating the operations of Lakes Powell and Mead, created a water banking program to bolster elevations in Lake Mead, and (perhaps optimistically) modified the 2001 Interim Surplus Guidelines. *See*: *Reclamation Draft 7.D Report* at 4.

The shortage guidelines set out triggers for Lower Basin curtailments based on elevations at Lake Mead. There were no similar curtailment guidelines for the Upper Basin because the 1948 Upper Colorado River Basin Compact allocated to the Upper Basin states water based on a percentage of available flows rather than using the sort of numeric allocations identified for the Lower Basin states in the Boulder Canyon Project Act and reflected in the *Arizona v. California* decrees. When flows were lower, the Upper Basin states' allocation consequently diminished accordingly as they were simply carving up proportionate pieces of a smaller pie. (This does not apply to Arizona's small portion of Upper Basin water, which is simply a flat 50,000 AF allocation).

This situation helps explain the Upper Basin states' particular sensitivity to expanded demand in the Lower Basin. The more water moved downstream to satisfy Lower Basin needs, the smaller the pie the Upper Basin states had to divide among themselves. Under the Interim Guidelines, a shortage would occur when Reclamation's Annual Operating Plan for the coming year projected that Lake Mead's elevation would be at or below 1,075 feet on January 1. In times of shortage, Lower Basin deliveries would be reduced below the 7.5 million AFY entitlement reflected in the 1922 Compact as follows:

Interim Guidelines Curtailment (in AF) Project Jan. 1 Mead elev.	Arizona	Nevada	California	Total LB Allocation
≤ 1,075 and ≥ 1,050	312,000	13,000	0	7,167,000
< 1,050 and ≥ 1,025	400,000	17,000	0	7,083,000
< 1,025	480,000	20,000	0	7,000,000

2007 ROD at §XI.G.2.D.

To help forestall the risk of a shortage being declared, the coordinated reservoir operations included balancing criteria that called for the release of up to 9.5 million AFY from Lake Powell to Lake Mead depending on projected elevations. *Id.* at §XI.G.6. Between 2008 and 2019, an average of just over 9 million AFY was released from Powell to Mead. (Excluding the very wet year of 2011, when 12.52 million AF was released, that average drops to approximately 8.7 million AF.) *See*: *Draft 7.D Report* at 16.

The water banking tool was called the Intentionally Created Surplus (ICS) program. It established a framework to incentivize water users to conserve or import water into the Colorado River system to support elevations at Lakes Powell and Mead. *See: 2007 ROD* at §XI.G.3; *Draft 7.D Report* at 28-29.

Although a full discussion of the ICS program is beyond the scope of this article, the key takeaways for present purposes are that:

- the total volume of ICS that could be created was capped at a total of 2.1 million AF (and further capped by state, with 1.5 million AF allocated to California, and 300,000 AF each for Arizona and Nevada)
- the process for additional participation in the ICS program was extremely cumbersome (requiring, among other things, the unanimous consent of the original participants)
- the program's rules for both creating and taking later delivery of ICS water were fairly rigid

Tribal Water Rights

Mexico's Conditions

Taken together, these aspects significantly limited water users' (and particularly tribes') ability to participate in the ICS program, and led to the creation of less ICS under the Interim Guidelines than might otherwise have been possible. *See: Draft 7.D Report* at 33. (For additional information regarding the ICS program, *see* Kowalski, *TWR* #107 and Synder & Kowalski, *TWR* #179).

Efforts to increase flexibility and to support Lake Powell and Lake Mead elevations included the negotiation of Minute 319 to the 1944 United States-Mexico Treaty. Among other things, Mexico agreed to specific conditions to implement the 1944 Treaty's general recognition that Mexico might have to share shortage on par with Colorado River water users in the United States and was afforded the right to bank portions of its entitlement in Lake Mead.

Reservoir Elevations

The Drought Contingency Plans

Despite the steps taken through the Interim Guidelines and follow-on negotiations with Mexico, elevations in both reservoirs continued to drop toward levels that might trigger not just a shortage declaration in the Lower Basin, but reductions in (or even the total loss of) hydropower generation capacity at Lake Powell and that could compromise the Upper Basin's ability to comply with its 1922 Compact delivery obligations.

Drought Conetngency Plans (DCPs)

With prodding from the Secretary of the Interior in 2013, the Basin states began discussions on strategies to avoid these outcomes. These efforts ultimately culminated in the execution and Congressional approval of the Upper and Lower Basin Drought Contingency Plans (DCP) in 2019. (*See* Snyder and Kowalski, *TWR* #179; Editor's Article, *TWR* #182.) The DCPs are intended to remain in place until the end of 2026, coterminous with the Interim Guidelines.

The Upper Basin DCP calls on the Basin states to create a demand management program to ensure that their 1922 Compact delivery obligations can continue to be met. (This remains a work in progress. *See* Bovee, *TWR* #201). The Lower Basin DCP was much more specific, and built on the Interim Guidelines' shortage criteria by revamping both the Lake Mead elevations at which "contributions" (i.e. cutbacks) would be required and establishing an expanded schedule of contributions from the Lower Basin states.

Lower Basin DCP

Cumulative DCP and Interim Guidelines Contributions Project Jan. 1 Mead elev.	Arizona	Nevada	California
≤ 1,090 and > 1,075	192,000	8,000	0
≤ 1,075 and ≥ 1,050	512,000	21,000	0
< 1,050 and > 1,045	592,000	25,000	0
≤ 1,045 and > 1,040	640,000	27,000	200,000
≤ 1,040 and > 1,035	640,000	27,000	250,000
≤ 1,035 and > 1,030	640,000	27,000	300,000
≤ 1,030 and ≥ 1,025	640,000	27,000	350,000
<1,025	720,000	30,000	350,000

The Lower Basin DCP also:

- expanded the size of the ICS pool to 2.7 million AF
- removed the state-by-state sub-caps
- allowed for the delivery of stored ICS water at lower Lake Mead elevations
- made other adjustments to the Interim Guidelines' ICS provisions to better incentivize ICS creation

Individual intra-state agreements accompanied the DCP identifying how each state would make any required contribution.

Tribes & ICS

Notably, as part of the process for identifying how Arizona's DCP contributions would be made, the Colorado River Indian Tribes (CRIT) and the Gila River Indian Community (GRIC) entered into agreements to conserve water in Lake Mead — thus becoming the first tribes able to participate in the ICS program, and exemplifying a recent trend of better integrating tribes into Basin governance and planning. These agreements proved integral to the political viability of Arizona's intrastate shortage allocation plan. To become effective, however, the CRIT and GRIC agreements (technically ICS "exhibits") had to be approved by Congress as part of the federal DCP ratifying legislation. Congressional approval was necessary because it proved impossible to secure the consent of all the existing ICS contractors to the tribes' exhibits, which had been a condition of the Interim Guidelines for the creation of new ICS.

Tribal Water Rights

Tribal Exclusion

Surplus Conditions

Ten Tribes Partnership

Integration Needs

Tribal Comments

Distinct Perspectives

Forbearance

The Role of Tribes in Basin Governance

Historically, governance and policy making related to water issues in the Colorado River Basin has been controlled by the Basin states and the federal government. There is some logic to this longstanding failure to include tribes. Article VII of the 1922 Compact specifically disclaimed any effect on tribal water rights ("Nothing in this compact shall be construed as affecting the obligations of the United States of America to Indian tribes"), and a materially identical provision was included as Article XIX of the 1948 Upper Basin Compact. *Arizona v. California I* further defined the rights of the five tribes at issue in that case as "present perfected rights" within the meaning of the 1922 Compact, further insulating the tribes' rights from encroachment by future water development in the Lower Basin. 373 U.S. at 600. However, the Supreme Court's 1964 decree in that case also created an incentive structure for Basin states to try to inhibit (or at least not facilitate) tribes' water use, given that any tribe's water use within a state gets charged to that state's Compact allocation. *Arizona v. California*, 376 U.S. 340, 343 (1964).

Also, as a practical matter, for the better part of the 20th Century the Basin's supply and demand calculus did not require meaningful consideration of the effects of senior tribal water rights on other uses. Into the 1990s, the Basin largely operated in conditions of surplus, not deficit. The Upper Basin states had not (and still have not) come close to developing their full Compact allocations. The Lower Basin states' fights over their respective entitlements largely centered on Arizona and Nevada wanting to maintain the ability to grow into their Compact allocations without being displaced by California.

Given the myriad challenges and resource constraints faced by each of the tribes in the Basin; their individual positions in regard to the resolution of their own water rights claims and efforts to then develop those rights; and each tribe's unique geography, history, culture, and goals for the future; for many years there was little incentive for tribes individually or collectively to proactively demand representation in Basin governance.

This situation began to change with the formation of the Ten Tribes Partnership (TTP) in 1992. Consisting of the five Lower Basin tribes whose rights were decreed in *Arizona v. California* (the Chemehuevi Indian Tribe, the Cocopah Indian Tribe, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, and the Quechan Indian Tribe), four Upper Basin tribes with mainstem Colorado River water rights (the Ute Tribe, the Southern Ute Tribe, the Ute Mountain Ute Tribe, and the Jicarilla Apache Nation), and the Navajo Nation, (which has Colorado River mainstem rights in both the Upper and Lower Basin), the TTP was formed specifically to "increase the influence of tribes in Colorado River management and provide support for the protection and use of tribal water resources." *See*: https://tentribespartnership.org/the-ten-tribes-partnership/.

Other events have further clarified the need to better integrate tribes into Basin planning processes, including: the enactment of the 2004 Arizona Water Settlements Act, Pub. L. 108-451 (Dec. 10, 2004), which (among other things) made the GRIC the single largest entitlement holder of Central Arizona Project water; and the approval by the Supreme Court in the 2006 Consolidated Decree of a 13,000 AFY forbearance agreement entered into by the Quechan Indian Tribe and the Metropolitan Water District of Southern California (MWDSoCal).

Viewed in this light, the Interim Guidelines reflect a significant missed opportunity. From tribes' perspective, there was a lack of sufficient government-to-government consultation from the United States during the negotiating process. While the Guidelines spoke of a desire to increase "flexibility" in the Basin, no consideration was given to whether and how tribes could provide or facilitate creative mechanisms for addressing the risks of looming water shortages. Particularly illustrative of these views are comment letters sent to Reclamation over the past seven months by various tribes regarding Reclamation's ongoing review of the Interim Guidelines, including: www.usbr.gov/lc/region/programs/strategies/7Dcomments/7Dcomments_ColoradoRiverIndianTribes.pdf
htwww.usbr.gov/ColoradoRiverBasin/documents/7DReportcomments_GRIC.pdf
www.usbr.gov/lc/region/programs/strategies/7Dcomments/7Dcomments_QuechanIndianTribe.pdf
www.usbr.gov/lc/region/programs/strategies/7Dcomments/7DComments_CollectiveTribalLetter.pdf
(I provide these links so the reader can have a small example of the distinct — but often complementary perspectives — individual tribes have. As Daryl Vigil, temporary executive director of the TTP and one of the co-facilitators of the Water and Tribes Initiative, is fond of saying: "If you know one tribe, you know one tribe.").

Reclamation's Pilot System Conservation Program (PSCP), by contrast, specifically included tribes as part of its effort to prop up elevations in Lakes Powell and Mead. Created in 2014, and funded primarily by the Central Arizona Water Conservation District, MWDSoCal, the Southern Nevada Water Authority, and Denver Water, the PSCP sought out entitlement holders willing to forego delivery of Colorado River

Tribal Water Rights

water they would otherwise divert and use in exchange for compensation. CRIT, the Fort McDowell Yavapai Nation, GRIC, and the Tohono O'odham Nation all participated in rounds of the PSCP, conserving over 110,000 acre-feet of water and receiving over $21 million in exchange. *See*: www.usbr.gov/lc/region/programs/PilotSysConsProg/pilotsystem.html.

Tribal Water Study (TWS)

The collaboration between Reclamation and the TTP between 2014 and 2018 on the Tribal Water Study (TWS) marked another important step in the Basin's efforts to better understand and address the role of tribal water rights. After Reclamation's 2012 Colorado River Basin Supply and Demand Study made an attempt to characterize tribes' water rights and development plans without close coordination with tribes themselves, the TTP pushed for a more focused examination of the rights and development plans of its member tribes in a process informed directly by the tribes themselves. Finalized in 2018, the TWS looks directly at tribes' current and anticipated water uses and the potential effects that additional tribal development may have for the Colorado River. Importantly, the TWS also identifies a series of challenges confronting tribes and the entire Basin relating to the full recognition and development of tribal water rights — issues that are important to bear in mind as the Basin begins to plan for its post-2026 future.

TWS Purposes & Challenges

Specifically, the TWS list of challenges includes:

- Administrative and Legal Constraints
- Responding to Colorado River Basin Water Supply Challenges
- Data Collection and Tools for Water Management
- Agricultural Water Use Challenges
- Domestic, Commercial, Municipal, and Industrial Water Use
- Establishment of Continuous, Sustainable Funding
- Diverse Geography of Tribal Reservations
- Cultural and Environmental Challenges to the Use of Tribal Water
- Socioeconomic Considerations

For more details, *see*:
Final Tribal Water Study at: www.usbr.gov/lc/region/programs/crbstudy/tws/finalreport.html
TWS "*Challenges & Opportunities Related to Development of Tribal Water*" at: www.usbr.gov/lc/region/programs/crbstudy/tws/docs/Ch.%207%20Challenges%20and%20Opportunities%2012-13-2018.pdf

Arizona's DCP Process

The DCP process, particularly in Arizona, also reflected progress in better incorporating tribes into Basin decision-making. Arizona created a 38-member steering committee to guide its participation in the DCP negotiations, which included representatives from CRIT, GRIC, and the Tohono O'odham Nation. Reclamation also worked with the Intertribal Council of Arizona to provide a clearinghouse for other interested tribes to monitor and keep abreast of the Arizona discussions. While certainly not perfect — some Arizona tribes continue to feel their concerns and interests were not adequately considered during the DCP negotiations (*see*, *e.g.*, www.usbr.gov/lc/region/programs/strategies/7Dcomments/7Dcomments_Ak-ChinIndianCommunity.pdf) — the role tribes were able to play in the DCP process nonetheless reflects significant improvement from where things stood when the Interim Guidelines were being developed.

Moving Forward: The Post-2026 Period

Crisis Estimates

The Interim Guidelines, PSCP, and DCP have so far helped keep the Basin out of crisis. But the trend lines remain alarming. Reclamation's most recent 24-month study (dated November 2020) projects that Lake Mead will drop below elevation 1,075 by the end of the 2021 water year (9/30/2021), and will decline to nearly elevation 1,060 by the end of the 2022 water year. While Lake Powell elevations are not predicted to be under similar pressure (ranging from roughly elevation 3,575 at the end of the 2021 water year and recovering to approximately elevation 3,590 by the end of the 2022 water year), Reclamation's most recent Five Year outlook (August 2020) projects a 23% chance that Lake Powell will sink below elevation 3,525 feet by 2025 and a 10% chance that it will by then decline beneath its minimum power pool elevation of 3,490 feet. The Five Year outlook is far more pessimistic about Lake Mead, reflecting a 77% chance that it will be below elevation 1,075, with a 16% chance of it being between elevations 1,025 and 1,050, and a 19% chance of it plunging below elevation 1,025. These are the potential consequences of the Basin's ongoing structural deficit. (August 2020 Five Year outlook available at: www.usbr.gov/lc/region/g4000/riverops/crss-5year-projections.html.)

Efficiency v. Expansion

It is against this backdrop that the negotiations over what will replace the Interim Guidelines and DCPs will play out.

Addressing the structural deficit puts a premium on reducing and/or increasing the efficiency of existing uses of Colorado River water, rather than expanding them. This is already a point of contention

Tribal Water Rights

Demand Risks

Tribal Development

Collaborative Path

Water Marketing

Market Limitations

Cooperative Agreements

Consumptive Use Metric

Development Incentives

Forbearance

between the Upper and Lower Basin, with the former wishing to preserve the possibility of additional development up to its own Compact allocation instead of simply having to move more water from Lake Powell to Lake Mead. This makes the prospect of additional tribal development potentially even more threatening, especially to states (such as Arizona) that currently rely on un- or under-developed tribal water rights to satisfy existing demand. Yet tribes — as illustrated by the TWS, for example — fully intend to continue to grow into the totality of their water rights. This dynamic risks putting tribes on a collision course with the Lower Basin's need to belt-tighten.

While Basin states cannot legally interpose themselves to preclude additional on-reservation development of tribes' quantified water rights, they do retain significant practical leverage when it comes both to tribes whose rights have not yet been finally determined through settlement or litigation, and to tribes who must navigate political processes to obtain federal or other financial investment to continue to develop their water resources. (These are not mutually exclusive categories of tribes). Thus, while it won't be possible to stave off the eventuality of tribal development, there are certainly ways to seek to delay such development to privilege existing users to the detriment of tribes and their members.

A more collaborative path is possible, however, and in the Basin's best interests to pursue. Making it easier for tribes to market water — whether to support elevations in Lake Mead or to transfer directly to other water users to ameliorate the potential risks of curtailment — can create successful models of cooperation, bringing needed resources to tribes and providing greater certainty to existing users. Many individual Indian water rights settlements have included marketing provisions, allowing tribes and neighboring communities to benefit together from the deployment of tribal water rights. The part played by certain tribes in PSCP and DCP illustrate that this is a management tool the Basin is becoming increasingly comfortable with even outside the context of specific settlements.

Yet limitations on tribes' ability to market water restrict the full utility of this approach. The Indian Non-intercourse Act, 25 U.S.C. § 177 has been interpreted to preclude tribes from marketing water to third parties or off their reservations absent specific congressional authorization. (Whether this interpretation is correct is beyond the scope of this article). As just noted, individual Indian water rights settlements have authorized tribal water marketing, at least under specified terms and conditions. For tribes without settlements, however, the path to water marketing can be more complicated. But creative efforts are underway. For example, CRIT is currently working with the State of Arizona to pursue the enactment of federal legislation that would authorize the tribe to lease water for use and underground storage elsewhere in Arizona. This initiative would also see CRIT enter into cooperative agreements with the State for coordination and accounting verification, creating a pathway for the two sovereigns to collaborate so that the Tribe's water can be utilized in a way that also serves to advance the State's interests (*see* https://new.azwater.gov/public-notice/CRIT). As the process to negotiate a post-2026 framework for Basin management moves ahead, exploring ways to facilitate and broaden opportunities and legal authorizations for tribal water marketing should be part of the agenda.

An even more significant step would be to move away from existing consumptive use as the metric by which potential tribal transfers would be measured. CRIT, GRIC, and the Tohono O'odham Nation were only able to participate in PSCP and DCP because they had irrigated land they could fallow and/or groundwater storage options (which would directly remove water from the River) that they could choose not to utilize. That allowed them fit into the Basin model where the amount of reduced consumptive use is all that can be credited to water savings projects. There may be logic to that approach — since return flows would otherwise have been available to satisfy downstream users who will presumably continue to demand water, it is only by reducing a consumptive use that a credit to the overall water budget occurs. But it creates a perverse incentive structure for tribes. As long as consumptive use is the only measure for marketable water, then tribes interested in capitalizing on the opportunities water marketing can provide are best served by finding the cheapest, wettest on-reservation projects they can come up with to maximize their use of water so that they can subsequently free up water for marketing. Indeed, in that scenario, the better tribes get at developing projects that prevent return flows from reaching the Colorado River, the better the payoff in terms of creating pools of marketable water. There are certainly economic and other resource constraints that currently limit tribes' ability to engage in these sorts of efforts at scale. But as the Basin contemplates its post-2026 future, it should take a hard look at creating a better incentive structure.

One model that recommends itself is the Quechan Indian Tribe's forbearance agreement with MWDSoCal. To resolve long running litigation over the boundaries of the Fort Yuma Indian Reservation and the tribe's associated *Winters* rights, the Tribe reached a settlement with MWDSoCal, the Coachella Valley Water District, the State of California, and the United States. As part of the settlement, the parties agreed (and the 2006 Consolidated Decree confirmed) that the Tribe was entitled to an additional 20,000 AF of water for reservation land in California above what had been set out in the 1964 *Arizona v.*

Tribal Water Rights

Forbearance

On-Reservation Needs

California decree. Given the reductions in overall California use contemplated by the 2003 Quantification Settlement Agreement, the Tribe's development of this water would have directly reduced a California contractor's supply by a commensurate amount. The Tribe, however, would also have needed to invest significant resources to be able to put that water immediately to use. So the parties reached an agreement where, if the Tribe in any given year forbore the use of up to 13,000 AF of that water, MWDSoCal would be entitled to take that water instead in exchange for compensating the Tribe on a per-AF basis. The embrace of these sorts of arrangements more broadly across the Basin would increase flexibility, allow for greater predictability, and provide tribes with revenue streams to satisfy tribal needs (whether water-related or otherwise). Such agreements change the incentive from needing to develop the thirstiest uses possible — which is what the current system effectively encourages — to one of collaboration.

Expanded tribal water marketing is not a panacea, of course, as tribes' on-reservation needs will continue to exert upward pressure on total Basin demand. This is particularly true for tribes facing acute challenges in providing potable water to their members. The COVID-19 crisis has thrown this situation into stark relief, and it is unconscionable that in 21st Century America, many tribal members continue to lack reliable access to water for basic human needs.

As a September 2020 fact sheet issued by the Water and Tribes Initiative stated:

> In a basin that enjoys vibrant, growing urban areas, productive agriculture, and much economic wealth, the tragedy that many tribal members living on reservations do not have access to safe and clean water, let alone running water, should no longer be treated as outside the scope by water decision-makers.

www.naturalresourcespolicy.org/docs/water-tribes/universal-access-to-clean-water-9-1-final.pdf.

This is another subject that belongs on the agenda in the negotiations over the Basin's post-2026 framework.

Conclusion

Tribes, states, the federal government, and other Colorado River Basin stakeholders have taken important steps over the past several years to better integrate tribes into Basin decision-making and governance. As the Basin stands at the threshold of hashing out its post-2026 future, these efforts must be built upon and strengthened. Difficult choices and trade-offs may be required to address the likelihood of continued water scarcity into the future.

No sustainable solution will be possible without full engagement and collaboration with the Basin's tribes.

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The views expressed in this article are his own.

ESA Update

ENDANGERED SPECIES ACT UPDATE

NEW & PROPOSED ESA REGULATIONS

by Elizabeth Howard, Schwabe Williamson & Wyatt (Portland, OR)

Introduction

The federal Endangered Species Act of 1973 (ESA), 16 U.S.C. § 1531 et seq, was enacted for the purpose of protecting and conserving endangered and threatened species and their ecosystems. While few would disagree with the Act's goals, substantial disagreement remains as to the best way to achieve them and the balance that should be struck in doing so. The transition to the Trump Administration and a 2018 US Supreme Court decision led to new and proposed new rules for the implementation of the ESA. These rules — whether proposed or final — are an indication that key ESA provisions remain subject to interpretation, and are a harbinger for continued legal challenges as we move into a new presidential administration.

Legal Challenges

Background

The United States Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) (collectively, the "Services") administer the ESA via joint regulations in Chapter IV of Title 50 of the Code of Federal Regulations (C.F.R.). Each of the Services have regulations specific to their own implementation as well, located at 50 C.F.R. part 17 for the FWS and at 50 C.F.R. parts 222 through 226 for the NMFS.

2019 Rules

New Rules

In 2019, under the Trump Administration, the FWS and NMFS finalized three new rules implementing the ESA. Those rules impact the implementation of Section 4 and Section 7 of the ESA, specifically addressing: species listing decisions; critical habitat designations; and consultations on federal agency actions that may impact listed species or habitat.

Section 4: Listing Decisions

Listing Species

Under Section 4 of the ESA, the Services are required to list species to receive ESA protections if they are endangered or likely to become so. The statute requires that the Services list species that have been "identified as in danger of extinction," *i.e*., are endangered, or that are "likely to become so within the foreseeable future," i.e., are threatened. 16 U.S.C. § 1533(b)(1)(B). The Services make a determination as to whether a species is endangered or threatened based on the presence of any one or more of five factors, which are as follows:

Listing Factors

(A) the present or threatened destruction, modification, or curtailment of [the species'] habitat or range;
(B) overutilization [of the species] for commercial, recreational, scientific, or educational purposes;
(C) disease or predation [of the species];
(D) the inadequacy of existing regulatory mechanisms [to protect the species]; or
(E) other natural or manmade factors affecting [the species'] continued existence.

16 U.S.C. § 1533(a)(1).

The new rules make a few minor changes to the wording of the listing and delisting rules. Historically, the listing rule included the phrase "without reference to possible economic or other impacts of such determination," meaning that a listing decision was to be made without reference to these other factors. The 2019 rule removed this phrase, bringing the rule's language into line with the statutory language but not otherwise changing its meaning. The Services can gather economic information as they deem helpful and necessary, but consistent with the statute, they cannot consider economics or other impacts when making a listing decision.

Economic Impacts

The 2019 rules also removed the terms "recovery" and "error" from the delisting factors. This change clarified that the same factors used for listing a species would also be used for delisting decisions, and, like the removal of the economic impacts language from the listing rule, brings the delisting rule into line with the statutory language. 50 C.F.R. § 424.11(e); 16 U.S.C. § 1533(a)(1).

Delisting Factors

"Foreseeable Future"

The new rules also codified a definition of the term "foreseeable future." The evaluation of what constitutes "the foreseeable future" is fundamental to a determination as to whether a species is a threatened species. The term "threatened species" means "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. §1532(20).

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New "Foreseeable Future" Rule

In 2009, the Department of Interior, Office of Solicitor issued an opinion defining the term "foreseeable future" as it relates to decisions whether to list a species as threatened. The new rules codified this opinion into rule. 50 C.F.R. § 424.11(d) now reads:

> In determining whether a species is a threatened species, the Services must analyze whether the species is likely to become an endangered species within the foreseeable future. The term foreseeable future extends only so far into the future as the Services can reasonably determine that both the future threats and the species' responses to those threats are likely. The Services will describe the foreseeable future on a case-by-case basis, using the best available data and taking into account considerations such as the species' life-history characteristics, threat-projection timeframes, and environmental variability. The Services need not identify the foreseeable future in terms of a specific period of time.

Interpretation Change?

At a minimum, the codification of the definition of "the foreseeable future" will create more certainty as to how the term is defined, as it can no longer be changed simply through the issuance of a new Office of Solicitor's opinion. That said, the language of the rule still leaves a lot of room for interpretation, and it would seem likely that how it is applied under the Biden Administration will be different than how it was or would have been applied under a Trump Administration.

Section 4: Critical Habitat

Section 4 also requires that the Services designate and protect habitat of a listed species that is considered to be critical at the time the species is listed. 16 U.S.C. § 1533(a)(3)(A). The critical designation is to be made by rule, and "to the maximum extent prudent and determinable." *Id*.

Critical Habitat Designation

The rules implementing this provision of the ESA detail certain circumstances under which designation of critical habitat would not be prudent. The new rules expanded those circumstances from two to five such that 50 C.F.R. § 424.12(a) now reads as follows:

> (1) The Secretary may, but is not required to, determine that a designation would not be prudent in the following circumstances:
>
> (i) The species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the species;
>
> (ii) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;
>
> (iii) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;
>
> (iv) No areas meet the definition of critical habitat; or
>
> (v) The Secretary otherwise determines that designation of critical habitat would not be prudent based on the best scientific data available.

Prudency Designation

Occupied Habitat Emphasis

Importantly, the new rules also change how critical habitat is designated, placing a primary emphasis on designation of *occupied* habitat. Toward that end, the rules require that areas where threatened or endangered species are present at the time of listing to be evaluated for designation *first* and before unoccupied areas are considered. 50 C.F.R. § 424.12(b)(2).

Unoccupied Designation Standard

The new rules also impose a higher standard for designating unoccupied habitat as critical such that those areas cannot be designated unless occupied critical habitat is too limited geographically to ensure the conservation of the species. *Id*. And, even then, unoccupied areas can only be designated if there is "a reasonable certainty both that the area will contribute to the conservation of the species and that the area contains one or more of those physical or biological features essential to the conservation of the species." *Id*. These rules are a response to the US Supreme Court's 2018 decision in *Weyerhaeuser Co. v. United States Fish & Wildlife Service*, 139 S. Ct. 361 (2018) (*Weyerhaeuser)* and are therefore unlikely to be successfully challenged or changed during the Biden Administration.

Section 4(d): Rules Protecting Threatened Species

One of the key protections for a listed species is the prohibition of acts that will harm members of the species. The ESA provides a different level of protection on endangered species than it does for threatened species. Under Section 9 of the ESA, the "take" (*e.g*., any action that would harm, harass, capture, or kill) of any species listed as endangered is strictly prohibited. 16 U.S.C. § 1538(a)(1)(B). However, for species listed as threatened, Section 4(d) directs the Services to issue regulations as "necessary and advisable to provide for the conservation of [threatened] species." 33 U.S.C. § 1533(d).

"Take" Distinctions

4(d) Blanket Rule

For many years, FWS extended the take prohibitions applicable to endangered species to threatened species under its "§ 4(d) blanket rule." NMFS, in contrast, issued species-specific protections on a case-by-case basis in a manner consistent with the statutory design and direction under Section 4(d).

Species-Specific Protections

The new rules bring the FWS approach to protecting threatened species into line with that employed by NMFS and the statute, such that both Services will now issue species-specific 4(d) protections for threatened species on a case-by-case basis. 50 C.F.R. § 17.31; §§ 17.40 to 17.48. In practice, we may expect the FWS to issue threatened species regulations that merely adopt endangered species take

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prohibitions as the 4(d) Rule — particularly under a Biden Administration that may be less willing to craft regulations that account for non-biological factors that can lead to species conservation. This approach would not be unprecedented, as it is also employed by NMFS even as it adopts "species-specific" 4(d) Rules.

Section 7: Interagency Consultation

Consultation Required

Section 7 of the ESA requires that federal agencies consult with the Services (FWS for non-anadromous fish and terrestrial species; NMFS for anadromous fish) for any action the federal agency authorizes, funds, or carries out. This "consultation" is designed to insure that any "such action is not likely to jeopardize the continued existence" of an endangered or threatened species or "result in the destruction or adverse modification of [the species' critical] habitat… ." 16 U.S.C. § 1536(a)(2).

"Informal Consultation"

Under Section 7, federal agencies can first engage in what is referred to as "informal consultation" with the Services in order to determine whether their action is indeed likely to adversely affect listed species or designated critical habitat. Informal consultation allows an agency to determine whether formal consultation will be necessary or not. 50 C.F.R. § 402.13(a). If not, the Services will provide a written concurrence letter confirming that the agency action is not likely to adversely affect listed species or critical habitat and that formal consultation is unnecessary for the action to move forward in compliance with the ESA. 50 C.F.R. § 402.13(c). If, however, the action is determined to be likely to adversely affect listed species or critical habitat, the federal agency must engage in formal consultation with one or both of the Services, depending on the species impacted.

Formal Consultation (BiOp)

During formal consultation, each (or one) Service issues a biological opinion evaluating whether the agency action will jeopardize listed species or cause adverse modification to designated critical habitat. If the action as proposed will result in adverse impacts, the biological opinion will incorporate a reasonable and prudent alternative(s) that, if implemented, will allow the action to proceed while avoiding jeopardy of the species and adverse impacts to critical habitat. This information is critical as the federal agency may only proceed with its proposed action where it will not jeopardize the species or adversely affect critical habitat. 50 C.F.R. § 402.14; 16 U.S.C. § 1536(a)(2).

Incidental Take

Where the biological opinion concludes that the proposed action will result in incidental take as part of an otherwise lawful activity (*i.e.*, an activity that will not cause jeopardy or adversely modify critical habitat), the Service(s) issue an incidental take statement which provides parameters for such incidental take, reasonable and prudent measures to avoid the incidental take, and triggers to reinitiate consultation if warranted. 16 U.S.C. § 1536(b)(4).

The new rules made several important changes and clarifications to the regulations implementing federal agency consultations. Those changes have a direct impact on how the Services evaluate the potential impact of federal agency actions on listed species and critical habitat. The changes also modify the consultation process.

Impact "As a Whole"

With regard to a proposed action's impact on critical habitat, the rules require that the Services look at destruction or adverse modification across critical habitat "as a whole" as opposed to within the action area, unit or at any other scale that is less than the entirety of the designated critical habitat. While information about impacts at the activity or project scale can be used to determine impacts across the whole of the designated area, the rules require that the agency action be evaluated for impacts to critical habitat as a whole. This broader look means that we can likewise expect the agencies to take a broader look at reasonably prudent alternatives that may be necessary in order to find that an action will avoid adverse modification of critical habitat as a whole.

"Effect of the Action"

The rules also modified the "effects of the action" definition. This definition is at the heart of the consultation process as each federal agency is required to review the effects of its action to determine whether the action may affect a listed species or critical habitat. 50 C.F.R. § 402.14(a). This evaluation process generally culminates in a biological assessment through which the federal agency documents its determination of whether the proposed action is likely to adversely affect any listed species or critical habitat (note that this evaluation can, and often does, occur through informal consultation discussions and may result in the written concurrence discussed previously). 50 C.F.R. § 402.14(b). The term "effects of the action" previously explicitly stated that effects that are direct, indirect, interrelated, and interdependent with the proposed action would be included as effects of the action. That language was removed in the new rules, and the definition instead establishes a "but for" and "reasonably certain to occur" two-part test for those impacts that are to be considered as effects of the action.

Two-Part Test

The rule defines the effects of the action as:

> ...all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

50 C.F.R. § 402.02. This definition refines and creates more certainty around what will be counted as an effect of a proposed agency action.

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Environmental Baseline

Supreme Court Ruling

No Discretion

Simplified Consultation

Expedited Consultation

Programmatic Consultation

Time Limits

Consultation Re-Initiation

Legal Challenges

Separate Action

In addition to this change, the Services implemented a new, stand-alone definition of "environmental baseline." This change was intended to make it clear that "environmental baseline" is a consideration that is separate from the effects of the action. Under the definition, the "consequences of ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are included in the environmental baseline." The effects of the action are weighed against this environmental baseline.

This particular rule change was predicated on the decision in *National Association of Home Builders v. Defenders of Wildlife*, 551 U.S. 644 (2007). There, the US Supreme Court found that when an agency does not have discretion to protect a species due to a non-negotiable requirement in its own implementing statutes, the agency cannot legally be required to insure, under the ESA, that its action will not jeopardize a species. *Id*. at 667 (where an agency is "required to do something by statute, it simply lacks the power to 'insure' that such action will not jeopardize endangered species"). In other words, the court found that an agency cannot comply with the direction not to jeopardize a species under Section 7(a)(2) where it does not have the discretion to do so. The rule extends this reasoning to the definition of environmental baseline by acknowledging that where an agency does not have the discretion to change its activity or modify an existing facility that is affiliated with its proposed action, the agency cannot be required to evaluate how it would avoid jeopardy or adverse modification of critical habitat by changing that activity or facility in the Section 7 consultation process. That said, the activity or facility is still to be treated as part of the existing environmental baseline when evaluating effects of the action.

The rules also modify the consultation process itself. Some changes streamline the process. An action agency may now submit its National Environmental Policy Act analysis (i.e., an environmental impact statement) or other reports to initiate consultation — it does not have to develop a separate biological assessment to start the formal consultation process. The Services can also adopt the federal agency's initiation packet information, including any biological assessment prepared by the federal action agency into its biological opinion, avoiding the need to re-write the submitted information into the biological opinion where appropriate. Further, the Services may now conduct "expedited consultations" for projects with "minimal adverse effects or predictable effects based on prior consultation experience."

The rules also codify the programmatic consultation process, adopting a definition of that term and in so doing, validating a consultation technique that has been in use for some time as a method that can improve the efficiency of a consultation process. 50 C.F.R. § 402.02:

> *Programmatic consultation* is a consultation addressing an agency's multiple actions on a program, region, or other basis. Programmatic consultations allow the Services to consult on the effects of programmatic actions such as:
> (1) Multiple similar, frequently occurring, or routine actions expected to be implemented in particular geographic areas; and
> (2) A proposed program, plan, policy, or regulation providing a framework for future proposed actions.

The new rule also imposes time limits for informal consultations. 50 C.F.R. § 402.13(c). Once the process starts, the Services must issue their determination that an action will not likely affect the species, *i.e*., a written concurrence, within sixty (60) days, or, upon mutual consent, not more than 120 days after the concurrence letter is requested. Of course, the action agencies can extend this timeframe by waiting to make the request until they are certain the Services will have time to respond positively to the request — a similar approach has been employed in the formal consultation process for some time.

The new rules conversely add process and time to the consultation process by requiring that an action agency *re-initiate* consultations even in the instances where there was not a formal consultation process. 50 C.F.R. § 402.16(a). Previously, re-initiation was reserved for formal consultations only. As a mitigating factor, perhaps, the rule does exempt programmatic land use plans from this more expansive re-initiation requirement in instances where new species are listed or new critical habitat is designated, allowing those species and habitats to be addressed through action-specific consultations instead. 50 C.F.R. § 402.16(b). This exemption ensures that project impacts are considered outside of an extended (often multi-year) biological assessment and biological opinion on the impacts of already evaluated parts of a land use plan.

Litigation Status: 2019 Rules

The three rules were challenged by environmental plaintiffs in the US District of Northern California in August 2019. The environmental groups' complaints argued, among other things, that the rules violated the National Environmental Policy Act because the Services did not prepare an adequate Environmental Impact Statement. One complaint also argued that the Services violated Section 7 of the ESA by failing to consult with each other. The cases were challenged and initially dismissed for lack of standing, but with leave to refile, which the environmental plaintiffs did in June 2020.

Several states filed a separate action challenging the rules. *State of California et al v. Bernhardt et al*, Case No. 4:19-cv-06013 (N.D. Cal., September 25, 2019). That case is proceeding with multiple intervenors including states like Alabama, Montana, Kansas, Nebraska, and Arizona, as well as industry groups. Briefing deadlines extend into 2021. A summary judgment hearing is scheduled for June 24, 2021. The case is being managed in conjunction with the two cases re-filed by the environmental plaintiffs.

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"Habitat" Definition

"Critical Habitat"

Habitat Issue

Habitat Subset

"Habitat for the Species"

Designation Stipulation

Rulemaking Response

2020 Proposed Rules

In addition to the three rules finalized in 2019, the Services have this year proposed two additional new rules. The first proposed rule would provide a definition for "habitat" to be utilized by both Services. The second proposed rule is a further revision to the rules pertaining to the designation of critical habitat and would be applicable to the FWS only. *See* www.federalregister.gov/documents/2020/09/08/2020-19577/endangered-and-threatened-wildlife-and-plants-regulations-for-designating-critical-habitat; www.federalregister.gov/documents/2020/08/05/2020-17002/endangered-and-threatened-wildlife-and-plants-regulations-for-listing-endangered-and-threatened. These rules both stem from the US Supreme Court's 2018 holdings in *Weyerhaeuser Co. v. United States Fish and Wildlife Service* (see below).

As explained above, the ESA requires that Services list species as endangered or threatened, and to the maximum extent prudent and determinable, at the same time "designate any habitat of such species which is then considered to be critical habitat." 16 U. S. C. § 1533(a)(3)(A)(i).

"Critical habitat" is defined by statute as:

> (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
>
> (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

16 U.S.C. § 1533(5)(A).

Despite its emphasis on conserving and protecting ecosystems, the ESA does not include a specific definition for habitat, and, neither do the rules implementing the statute. As a matter of course, the Services have therefore made critical designation determinations without a separate determination as to whether the designated area meets any definition of habitat. Instead, relying on the definition of critical habitat alone, the Services have designated areas deemed "essential for the conservation of the species" as critical habitat based on the "implicit premise that any specific area satisfying that definition was habitat." *See* www.federalregister.gov/documents/2020/08/05/2020-17002/endangered-and-threatened-wildlife-and-plants-regulations-for-listing-endangered-and-threatened, p. 47334.

The US Supreme Court (Supreme Court) brought this practice to a screeching halt in the 2018 dusky gopher frog *Weyerhaeuser* decision. Following a designation in which the FWS designated an area lacking any characteristics of the dusky gopher frog's habitat as critical habitat, several landowners challenged the proposed designation. After a federal district court order and a split court of appeals decision in favor of the FWS's designation of the area (referred to as Unit 1) as critical habitat, the Supreme Court ruled that:

> According to the ordinary understanding of how adjectives work, "critical habitat" must also be "habitat." Adjectives modify nouns — they pick out a subset of a category that possesses a certain quality. It follows that "critical habitat" is the subset of "habitat" that is "critical" to the conservation of an endangered species.
>
> Of course, "[s]tatutory language cannot be construed in a vacuum," *Sturgeon v. Frost*, 577 U.S. ___, ___, 136 S. Ct. 1061, 194 L. Ed. 2d 108, 121 (2016) (internal quotation marks omitted), and so we must also consider "critical habitat" in its statutory context. Section 4(a)(3)(A)(i), which the lower courts did not analyze, is the sole source of authority for critical-habitat designations. That provision states that when the Secretary lists a species as endangered he must also "designate any *habitat of such species* which is then considered to be critical habitat." 16 U. S. C. §1533(a)(3)(A)(i) (emphasis added). Only the "habitat" of the endangered species is eligible for designation as critical habitat. Even if an area otherwise meets the statutory definition of unoccupied critical habitat because the Secretary finds the area essential for the conservation of the species, *Section 4(a)(3)(A)(i)* does not authorize the Secretary to designate the area as *critical* habitat unless it is also *habitat* for the species.

Weyerhaeuser, 139 S. Ct. at 368 (emphasis in original).

In other words, the Court held that an area cannot be designated as critical habitat unless it is first determined to be habitat. The *Weyerhaeuser* case was remanded back to the 5th Circuit Court of Appeals and then to the US District Court of the Eastern District of Louisiana (Case No. 2:13-cv-00234-MLCF-SS) for further proceedings. *Markle Interests LLC v. United States Fish & Wildlife Service*, 919 F.3d 963 (5th Cir. April 2, 2019). The case was ultimately resolved through a consent decree in which the court vacated the designation of the area lacking any characteristics of dusky gopher frog habitat (Unit 1) from the final rule designating critical habitat.

On August 5, 2020, in response to the *Weyerhaeuser* ruling, the FWS and NMFS issued a proposed rule that would add a definition of habitat to the regulations implementing Section 4 of the ESA. The proposal requested comments on two definitions, or variations thereof:

- Proposed Definition #1: The physical places that individuals of a species depend upon to carry out one or more life processes. Habitat includes areas with existing attributes that have the capacity to support individuals of the species.

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Existing Rule Remains

Critical Habitat Exclusion

Impacts Consideration

Reviewable Action

Exclusion Analysis

Federal Lands Considerations

***Weyerhaeuser* Perists**

• Proposed Definition #2: The physical places that individuals of a species use to carry out one or more life processes. Habitat includes areas where individuals of the species do not presently exist but have the capacity to support such individuals, only where the necessary attributes to support the species presently exist.

This proposed rule would be in addition to the existing rule that requires that critical habitat be designated where a species occupies the habitat and that unoccupied areas be designated as critical habitat only where critical habitat occupied by the species is inadequate to ensure the species survival and the unoccupied area has one or more features essential to the conservation of the species. 50 C.F.R. § 424.12(b)(2). The public comment period for this rule ended September 4, 2020.

The other newly proposed rule — which is applicable to the FWS only — is based on the ruling in *Weyerhaeuser* as well. It relates specifically to the agency's determinations to exclude critical habitat from a designation decision.

Under Section 4(b)(2) of the ESA, both Services may exclude any area from a critical habitat designation if they determine "…that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat," unless they determine, "based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned." 16 U.S.C. § 1533(b)(2). Congress added this provision in 1982 so that the Services would have authority to, and would, consider a broad range of impacts when they designate critical habitat — *i.e.*, economic, national security, and other relevant impacts — and take those impacts into account when making the critical habitat designation.

In *Weyerhaeuser*, the Supreme Court held that "Section 4(b)(2) requires the Secretary to consider economic impact and relative benefits before deciding whether to exclude an area from critical habitat or to proceed with designation." 139 S. Ct. 371. FWS cannot make a critical habitat designation without first undertaking a review of the impacts of its potential designation on the economy, national security, and other relevant considerations. Only by undertaking this review can FWS make an informed determination as to whether the benefits of excluding an area outweigh the benefits of including it as critical habitat.

In its explanation for the new proposed rule, the FWS notes that it interprets the Supreme Court's direction to review these other impacts as creating a judicially reviewable action under 5 USC § 706(a)(2) should the FWS decline to conduct a Section 4(b)(2) exclusion analysis. Previously the Services treated the exclusion determination as being completely within their discretion and thus, non-reviewable under the Administrative Procedures Act. *See* Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act, 81 Fed Reg 7226 (Feb 11, 2016).

Within this context, the proposed rule outlines two circumstances where the FWS will conduct the critical habitat exclusion analysis: 1) "when a proponent of excluding the area has presented credible information in support of the request;" and 2) when the FWS exercises its "discretion to evaluate any particular area for potential exclusion." The FWS acknowledges its limited expertise as to what constitutes credible information and proposes to give appropriate weight to those with relevant expertise presenting information on non-biological, i.e., economic, social, etc., impacts.

The proposed rule also modifies its approach to this determination from the 2016 Policy. The 2016 Policy took the position that federal lands generally would not be excluded from critical habitat. The proposed rule requires that FWS consider the administrative and transactional costs that would be avoided by excluding federal lands, and does not take a categorical position regarding the exclusion federal lands. The proposed rule also directs FWS take impacts identified by federal lands permit, lease and contract holders and community impacts identified by state and local governments into account. In other words, it requires FWS to takes a broader and arguably more realistic approach as to what the economic and "other relevant" impacts of a critical habitat designation will be such that FWS can then — in compliance with the law and Supreme Court ruling — exercise its discretion to evaluate those impacts and weigh them in order to determine whether the benefits of exclusion outweigh the benefits of inclusion in its designation.

Conclusion

Whether the Trump Administration will try to finalize these rules before December 31, 2020, or the Biden Administration will seek to undo any such efforts, remains to be seen. Either way, the Supreme Court's *Weyerhaeuser* decision will guide future critical habitat designations and will do so regardless of the final fate of the 2020 proposed rules.

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WATER BRIEFS

KLAMATH DAM REMOVAL CA/OR

COST OVERRUN PROTECTION

A Memorandum of Agreement (MOA) was announced on November 17, 2020 by Berkshire Hathaway-owned PacifiCorp, the States of California and Oregon, the Karuk and Yurok Tribes, and the Klamath River Renewal Corporation (KRRC) that describes how the parties will proceed with implementation of the Amended Klamath Hydroelectric Settlement Agreement (KHSA) and, ultimately, dam removal. The 2020 MOA describes how the parties will implement the Amended KHSA and address FERC's concern for additional protection against potential cost overruns, while respecting PacifiCorp's commitment to transferring ownership before dam removal begins. The MOA calls for Oregon and California to serve as co-licensees with KRRC, allowing PacifiCorp to transfer ownership and responsibility for dam removal to the "dam removal entity" as called for in the KHSA.

The Amended KHSA was signed by 23 parties in 2016 to set the terms for the removal of four hydroelectric dams on the Klamath River and related restoration activities. The KHSA called for ownership of the dams — and any liability associated with dam removal — to be transferred from PacifiCorp to KRRC prior to dam removal. The Federal Energy Regulatory Commission (FERC) is charged with oversight of hydroelectric dams in the US. Implementation of the KHSA requires approval from FERC for the ownership transfer of the dams and separate FERC approval of the plan to decommission and remove the dams and related facilities.

In response to a KRRC and PacifiCorp filing, FERC approved the partial transfer of the license to KRRC on July 16, 2020, but required PacifiCorp to stay on as co-licensee. In its decision, FERC noted that "...it would not be in the public interest for the entire burden of these efforts to rest with the Renewal Corporation…Were the Renewal Corporation to be the sole licensee, it might ultimately be faced with matters that it is not equipped to handle."

Importantly, FERC found in its Order that KRRC had the technical and legal capacity to perform dam removal and that KRRC funds were likely sufficient to complete the project. The Order concluded KRRC's extensive due diligence that accounted for input from an independent Board of Consultants required by FERC adequately responded to the Commission's information requests across many technical aspects of the project. However, the FERC Order required PacifiCorp to remain a co-licensee to serve as a financial backstop for any unexpected costs that might exceed the $450 million available for the project under the KHSA. PacifiCorp viewed the FERC terms as inconsistent with the KHSA and immediately entered into discussions with other signatories to the KHSA. PacifiCorp has long viewed transfer of ownership prior to removal as important to protect its customers from any potential liability arising from dam removal and considers those protections a core benefit of the settlement agreement.

The MOA:

- Confirms that KRRC will remain the dam removal entity for the project.
- Seeks to remove PacifiCorp from the license and add the States of California and Oregon as co-licensees prior to the beginning of demolition.
- Resumes all planning and permitting processes immediately for dam removal.
- Nearly doubles contingency fund held by KRRC and contractors to further address FERC's concern for additional protection against potential cost overruns.
- Calls for the immediate filing of the "Amended License Surrender Application" with FERC (KRRC's detailed plan to remove the dams and implement related restoration activities).
- Fully commits all parties to support removing the Klamath dams, thus returning the Klamath River to a free-flowing condition and allowing salmon and steelhead to regain access to more than 400 miles of historical habitat.

With the MOA in place, the parties will submit an Amended License Surrender Application to FERC to allow the project to begin in 2022 with dam removal in 2023. Implementation of the amended KHSA requires two approvals by FERC. First, FERC must approve the transfer of the license for the dams from PacifiCorp to the KRRC and the states. Second, FERC must approve the dam removal plan. The KRRC project will be the largest dam removal and river restoration project in US history.

For info: MOA available at: www.klamathrenewal.org/memorandum-of-agreement/

WATER BRIEFS

PEBBLE MINE HALTED AK

CORPS PERMIT DENIED

On November 25, the US Army Corps of Engineers (Corps) denied the application for the key federal permit for the proposed Pebble Mine. The Corps said the mine would cause significant degradation and significant adverse effects to the waters and fisheries of the Bristol Bay region in Alaska.

The Corps announced in August that the project could not be permitted "as currently proposed" and required Pebble Limited Partnership to create a new compensatory mitigation plan. Since then, technical experts concluded that it would be nearly impossible for the company to meet those mitigation standards. In the meantime, Pebble's reputation took a hit with the release of the Pebble Tapes, which led to CEO Tom Collier's resignation. Throughout the two-year permit review process, many organizations, federal and state agencies, independent scientists, and individuals raised concerns about this project. Among them were the project's expected destruction of streams and wetlands, its untested and incomplete water management and mitigation plans, its unreliable tailings dam design, and its huge economic costs. Those concerned about the mine also cited threats to existing businesses, communities, and cultures that rely on the intact fishery.

The final Environmental Impact Statement documented nearly 200 miles of impacted streams and 4,500 acres of impacted waters and wetlands (See FEIS at 4.22-15, Table 4.22-1.). The Army Corps said the function of the tailings facility was "uncertain," and the Corps' EIS contractor described it as "very similar" to the facility that failed catastrophically at the Mount Polley mine in 2014.

Read more about the Bristol Bay Tribes efforts to protect their homelands at: www.narf.org/cases/pebble-mine-bristol-bay/

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SHASTA DAM RAISE CA

WATER STORAGE CAPACITY

On November 19, the Trump Administration released the Shasta Lake Water Resources Investigation Final Supplemental Environmental Impact Statement (SEIS) to increase water storage capacity in northern California's Shasta Lake reservoir by 634,000 acre-feet, or more than 200 billion gallons. This is enough water to support more than 6 million Californians annually. The Final SIES addressed the proposal to raise the 600-foot-tall Shasta Dam by 3%, or an additional 18.5 feet (a Supplemental EIS is used when new or updated information becomes available after the publication of the Final EIS).

Although the decision to raise the dam is facing widespread opposition, including from California's Attorney General Xavier Becerra (*see* AG's Comment Letter, October 5th), the Trump Administration touted the opportunity. "President Trump has made investing in our existing infrastructure a top priority. Raising Shasta Dam is one of the smartest and most cost-effective opportunities we have before us," said US Bureau of Reclamation Commissioner Brenda Burman. "Shasta Dam sits at the head of California's largest water system — the Central Valley Project. Not only will the project benefit farms, communities and the environment, it will provide ample opportunities for smarter water management." Reclamation's press release went on to note, "[F]or decades, many federal western water infrastructure investments have been undermined by federal inaction and the State of California. In fact, there has not been any major federal water storage infrastructure built since 1979 even as the state's population has nearly doubled. Today's actions are yet another example of how the Trump Administration is working to enhance water storage capacity and appropriately protecting species and habitats."

The supplemental document provides information relevant to Reclamation's application of Clean Water Act Section 404(r), updates modeling to be reflective of the 2019 Biological Opinions, provides an updated analysis on effects to the McCloud River, and considers public input.

For info: Shasta Dam website: www.usbr.gov/mp/ncao/shasta-enlargement.html; Attorney General's website: https://oag.ca.gov/home

HABITAT RESTORATION CA

RECLAMATION GRANT

A research team from California State University, Chico (University) will continue its work to re-establish juvenile salmon and salmonid habitats along the Sacramento River, after learning it would continue to be funded by the US Bureau of Reclamation (Reclamation). Chico State Enterprises received a $10 million grant over five years to help restore 47.3 acres of juvenile salmon habitat and 4.3 acres of spawning habitat along the Upper Sacramento River. Susan Strachan, the restoration's project manager from the University's Geographical Information Center (GIC), credits much of the work's success thus far to the project's partners, which include the Sacramento River Forum, the California Department of Water Resources, River Partners, the Yurok Tribe, Tussing Ecological Sciences and the Pacific States Marine Fisheries Commission.

Nearly five years ago, a University research team led by Mandy Banet, an aquatic ecologist in the Department of Biological Sciences, joined a multi-agency project — funded by a $16.9 million grant — to re-establish juvenile salmon and salmonid habitats along the Sacramento River. The new round of funding will continue the program that has been developed pursuant to a scientific advisory group, while adding a monitoring program component to assess the occupancy and residency time of the restored habitats by juvenile salmon. "As the data continues to develop, the program will be working with design engineers on a feedback loop that documents the project elements being utilized by the juvenile salmon so that designs can maximize their potential for success," Strachan explained.

The restoration projects follow a workflow that includes project identification, reconnaissance, planning and design, construction and monitoring. The multi-agency collaboration working to implement these restoration projects on the Upper Sacramento has had significant success over the past four years — with seven projects completed thus far, three currently underway and one scheduled in 2021, the final year of the existing funding agreement. Side channels are vitally important habitat for juvenile Chinook salmon and steelhead, and the flow changes have particularly impacted the critically endangered winter run Chinook salmon. Continued success in the side channel restoration projects could see a positive impact on the economy, recreation, culture and the environment.

For info: GIC website at: https://apps.csuchico.edu/directory/Department/GIC

WATER BRIEFS

DIOXIN CONTAMINATION TX

TCEQ REPORT RELEASED

On November 20, TCEQ completed and released its report, *Source Characterization of Dioxin Loads in the Houston Ship Channel and Upper Galveston Bay, AS-192*. This document provides historic information on hydrodynamic, water quality, and mass balance modeling which was the basis for evaluating dioxin concentrations in the Houston Ship Channel (HSC) and upper Galveston Bay to characterize the nature, extent, and potential sources of dioxin contamination in the HSC and upper Galveston Bay. The HSC is part of the San Jacinto River (SJR) Basin located in southeast Texas and drains into Galveston Bay. The watershed encompasses most of Harris County and the greater Houston area occupies most of the watershed. The goal of this project is to evaluate options for reducing contaminant concentrations in fish tissue to levels that are an acceptable risk to consumers.

The Houston Ship Channel System consists of 14 designated segments, which together comprise the "enclosed" portion of the Houston Ship Channel proper with its major tributaries and side bays. This project includes ten of the designated Houston Ship Channel System segments. The Houston Ship Channel has long been one of the three or four busiest ports in the United States.

The Texas Department of State Health Services (TDSHS) advises that consumers restrict their consumption of catfish and blue crab caught in the Houston Ship Channel because dioxin concentrations found in them pose a risk to consumers. Dioxin is a generic term for a suite of toxic and environmentally persistent compounds. Overexposure to dioxin can cause a variety of harmful health problems, including cancer, birth defects, diabetes, developmental delays, and immune system abnormalities. More information about the consumption advisory is available in Advisory 55 on the DSHS website.

The main Data Report file contains, summarizes, and discusses the data collected to support the TMDL project. The Appendixes file has data in electronic format (Excel spreadsheets or Access databases), in folders corresponding to appendixes described in the Data Report. Most of the stream data for water, sediment, and tissue are also in the TCEQ SWQMIS database; air and runoff and effluent data are not.
For info: TCEQ website: www.tceq.texas.gov/waterquality/tmdl/26-hscdioxin.html

WOTUS LAWSUIT US

SUMMARY JUDGMENT MOTION

On November 23, California Attorney General Xavier Becerra and New York Attorney General Letitia James, leading a multistate coalition, filed a motion for summary judgment in their lawsuit challenging the Trump Administration's unlawful final rule redefining "waters of the United States" (WOTUS) under the Clean Water Act (CWA). Under the new rule, more than half of all wetlands and at least 18% of all streams are left without federal protections. Western states like California are even harder hit, with 35% of all streams deprived of federal protections as a result of the region's dry climate. In the filing, the coalition argues that the rule is arbitrary and capricious, contrary to the text and primary objective of the Clean Water Act, and should be vacated. For additional information about the new WOTUS impacts, *see* Roose, *TWR* #200.

The AG's press release asserted that the definition of "waters of the United States" under the Clean Water Act is critical to maintaining a strong federal foundation for water pollution control and water quality protection that preserves the integrity of our waters. Becerra also maintained that the 2015 Clean Water Rule enacted during the Obama Administration provided much-needed clarity and consistency in federal Clean Water Act protections. It specifically included within the scope of protected waters, the headwaters of rivers and creeks as well as other non-traditionally navigable waters, such as wetlands and ephemeral streams, which have significant impact on downstream water quality.

According to the Motion for Summary Judgment, the 2020 rule narrows the definition of "waters of the United States" to eliminate federal protections for many of California's waterways, including waters that the state relies on for drinking water, wildlife habitat, agriculture, and recreation. The coalition argues that the rule is arbitrary and capricious, and should be vacated because it:

- Contradicts the CWA's objective of maintaining and restoring the integrity of the Nation's waters and the EPA's own scientific findings;
- Reduces and eliminates protections for ephemeral streams, tributaries, adjacent waters, wetlands and other important water resources that significantly affect downstream waters without basis;
- Fails to comply with controlling Supreme Court precedent established in *Rapanos v. United States*; and
- Lacks a reasoned explanation or rational basis for changing long-standing policy and practice.

Attorneys General Becerra and James are joined by the attorneys general of Connecticut, Illinois, Maine, Maryland, Massachusetts, Michigan, New Jersey, New Mexico, North Carolina, Oregon, Rhode Island, Vermont, Virginia, Washington and Wisconsin, and the District of Columbia, as well as the California State Water Resources Control Board, the North Carolina Department of Environmental Quality, and the City of New York in filing the motion.
For info: Summary Judgment Motion available at: https://oag.ca.gov/sites/default/files/States%20and%20Cities%20MSJ.pdf

GLYPHOSATE IMPACTS US

EPA DRAFT EVALUATION

On November 25, the Environmental Protection Agency (EPA) released a draft biological evaluation finding that glyphosate is likely to injure or kill 93% of the plants and animals protected under the federal Endangered Species Act. The long-anticipated draft biological evaluation released by the agency's pesticide office found that 1,676 endangered species are likely to be harmed by glyphosate, the active ingredient in Roundup and the world's most-used pesticide. The draft biological opinion also found that glyphosate adversely modifies critical habitat for 759 endangered species, or 96% of all species for which critical habitat has been designated.

Hundreds of millions of pounds of glyphosate are used each year in the United States, mostly in agriculture but also on lawns, gardens, landscaping, roadsides, schoolyards, national forests, rangelands, power lines and more. According to the EPA, 280 million pounds of glyphosate are used just in agriculture, and glyphosate is sprayed on 298 million acres of cropland each year. Eighty-four percent of glyphosate

WATER BRIEFS

pounds applied in agriculture are applied to soy, corn and cotton, commodity crops that are genetically engineered to tolerate being drenched with quantities of glyphosate that would normally kill a plant. Glyphosate is also widely used in fruit and vegetable production.

EPA for decades steadfastly refused to comply with its obligation under the Endangered Species Act to assess the harms of pesticides to protected plants and animals, according to the Center for Biological Diversity (Center). But it was finally forced to do this evaluation under the terms of a 2016 legal agreement with the Center. The Center's press release noted that earlier this year, relying on confidential industry research, the EPA reapproved glyphosate. EPA's assessment contradicts a 2015 World Health Organization analysis of published research that determined glyphosate is a probable carcinogen.

For info: Draft Report available at: www.epa.gov/endangered-species/draft-national-level-listed-species-biological-evaluation-glyphosate#executive-summary; Lori Ann Burd, 971/ 717-6405, laburd@biologicaldiversity.org or www.biologicaldiversity.org

GROUNDWATER LOSS WEST

CLIMATE CHANGE IMPACT

A new report was posted on the USGS website November 10 regarding groundwater resources in the Colorado River Basin (Basin). Understanding recent historical and projected trends in precipitation and temperature in the Basin, and estimating what the projected changes in these climate parameters may mean for groundwater resources in the region, is important for water managers and policymakers to sustainably manage water resources in the basin. *See* Tillman, F.D., Gangopadhyay, S., and Pruitt, T., 2020, *Trends in Recent Historical and Projected Climate Data for the Colorado River Basin and Potential Effects on Groundwater Availability*: U.S. Geological Survey Scientific Investigations Report 2020–5107, 24 p., https://doi.org/10.3133/sir20205107.

Historical (1896–2019) precipitation and temperature data for the upper and lower Colorado River Basins were analyzed to better understand recent trends in climate data that may affect groundwater resources in the area. Basic principles of hydrology indicate that periods of decreasing precipitation as well as increasing temperature would have a negative effect, that is, reduction in groundwater infiltration and hence, reduced recharge of aquifer systems.

Projected climate data from water years 1951 through 2099 were evaluated to understand what current global climate models are projecting about future conditions in the Basin, and what this might mean for groundwater systems in the region. Precipitation in the upper basin is projected to increase throughout the rest of the century, rising to 6% above the 1951–2015 historical period by mid-century and to 9% above the historical period by the end of the century. Temperature in the upper basin also is projected to be above the recent historical median throughout the rest of the century, with steady warming in decadal average temperatures expected until the last quarter of this century. In contrast to projected precipitation in the upper basin, precipitation in the lower basin is projected to be the same as, or slightly less than, the historical period throughout most of the rest of this century. Like projected temperature in the upper basin, temperature in the lower basin also is projected to be above the recent historical median throughout the rest of the century. Comparing median projections for all future decades with median results from all historical decades, future precipitation is expected to be greater than that of the past in the upper basin, though no significant difference is projected for precipitation in the lower basin. Significant increases are expected in temperature in both the upper and lower basins.

For info: Report available at: https://doi.org/10.3133/sir20205107

WASTEWATER TREATMENT PA

CWA / CRIMINAL CHARGE

The Pittsburgh Water and Sewer Authority (PWSA), headquartered in downtown Pittsburgh, has been charged by criminal information in federal court and a former supervisor has been indicted for violating the Clean Water Act (CWA), United States Attorney Scott W. Brady announced on November 18th. The PWSA has been charged and will plead guilty to one count of violating its National Pollutant Discharge Elimination System Permit (NPDES Permit) by discharging sludge into the Allegheny River. The Authority will also plead guilty to seven counts of making false statements in written reports about the amount of sludge it was sending the ALCOSAN's waste treatment facility. Under the terms of the plea agreement, PWSA will agree to adhere to the terms of a comprehensive Environmental Compliance Program to correct the violations of federal law and to prevent further unlawful pollution of the Allegheny River.

In a related matter, former Aspinwall Drinking Water Treatment Plant supervisor Glenn Lijewski, 69, of Pittsburgh, was indicted on November 12, 2020, and charged with one count of conspiracy to violate the CWA and two counts of violating the PWSA's Clean Water Act Industrial User Permit. The indictment alleges that Lijewski was directly responsible for the unauthorized discharge of clarifier sludge into the Allegheny River in violation of the PWSA's NPDES Permit. It further alleges Lijewski directed other plant employees to discharge sludge into the river. Finally, the indictment alleges Lijewski directed employees to use estimated sludge flow numbers instead of actual numbers, and that the use of these estimated numbers violated PWSA's Industrial User Permit.

"For seven years, the Pittsburgh Water and Sewer Authority has failed to meet its public trust obligations in complying with the Clean Water Act during the production of drinking water for the citizens of Pittsburgh," said U.S. Attorney Brady. "Today's criminal charges shed light on years of mismanagement and malfeasance."

The Criminal Information filed alleges that PWSA violated its NPDES Permit when its employees at the Aspinwall Drinking Water Treatment Plant discharged sludge generated during the drinking water treatment process into the Allegheny River. Under the terms of its NPDES Permit, PWSA was only permitted to discharge storm runoff water and partially treated drinking water that needed to be emptied out of a clarifier prior to cleaning and repairs. That water was referred to as "clarifier blowdown." PWSA was not permitted to discharge clarifier sludge into the Allegheny River.

For Info: US Atty.'s website: www.justice.gov/usao-wdpa

CALENDAR

December 15 WEB
Poop Loop - Turning Wastewater into Biosolids and Sustainable Agriculture: AWRA-WA Virtual Dinner Meeting & Election Results, 7:00 pm - 8:00 pm Pacific Time. Presented by the American Water Resources Association, Washington Section. For info: www.waawra.org

December 16 WEB
Public Stakeholder Workshop to Overview Proposed Water Loss Standards & Regulatory Framework, 1:00 pm Pacific Time. Presented by the State Water Resources Control Board. For info: www.waterboards.ca.gov/water_issues/programs/conservation_portal/water_loss_control.html

December 16 WEB
Drinking Water Systems: 2020 Regulatory Update Webinar, American Water Works Association Event. For info: www.awwa.org/Events-Education/Events-Calendar

January 20 WEB
Developing a Water Conservation Plan and Climate Action Plan Webinar, American Water Works Association Event. For info: www.awwa.org/Events-Education/Events-Calendar

January 21-22 WEB
California's Changing Coastal & Shoreline Management - Legal and Regulatory Insights and Responses Seminar, Live Webcast Broadcast from San Francisco. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

January 27 WEB
Staying Ahead of PFAS Using AWWA's Source Water Evaluation Guide Webinar, American Water Works Association Event. For info: www.awwa.org/Events-Education/Events-Calendar

January 28-29 WEB
Endangered Species Act Conference - 28th Annual - Live Webcast, PROMO Code SPP50 for $50 off for TWR Readers. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

January 28-29 WEB
Electric Power in the West - 26th Annual Seattle Conference, Interactive Online Broadcast. For info: Law Seminars International, 206/ 567-4490, registrar@lawseminars.com or www.lawseminars.com

January 28-29 WEB
Texas Wetlands - Virtual Event, New Virtual Format. For info: CLE International, 800/ 873-7130 or www.cle.com

January 29-30 TX & WEB
Association of Water Board Directors Mid-Winter Conference, Austin. In-Person Event and Internet Accessible. For info: http://awbd-tx.org/wp/events/future-conferences/2021-mid-winter-conference/

February 10-11 WEB
AWWA Virtual Summit on Sustainable Water Management, PFAS, and Waterborne Pathogens Webinar, American Water Works Association Event. For info: www.awwa.org/Events-Education/Events-Calendar

February 22 WEB
Floodplain Regulation Development in Oregon & Washington Public Ports: Weekly Four Part Series Webinar, Remainder of Series: March 1, 8 & 15. $100 Early Bird Discount (Code EB100) - Expires 12/17/20. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

March 1 WEB
Floodplain Regulation Development in Oregon & Washington Public Ports: Weekly Four Part Series Webinar, Remainder of Series: March 8 & 15. $100 Early Bird Discount (Code EB100) - Expires 12/17/20. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

March 4-5 OR & WEB
The Mighty Columbia Seminar, Portland. Hotel Monaco, 506 SW Washington Street. Available Via Live Webcast; PROMO Code SPP50 for $50 off for TWR Readers. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

March 5 OR
Oregon Association of Water Utilities Sunriver Conference 2021, Sunriver. Water Law Class Presentations. For info: www.water-law.com/coming-events/?event_id1=6495

March 8 WEB
Floodplain Regulation Development in Oregon & Washington Public Ports: Weekly Four Part Series Webinar, Remainder of Series: March 15. $100 Early Bird Discount (Code EB100) - Expires 12/17/20. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

March 15 WEB
Floodplain Regulation Development in Oregon & Washington Public Ports: Weekly Four Part Series Webinar, $100 Early Bird Discount (Code EB100) - Expires 12/17/20. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

March 15-25 WEB
36th Annual WateReuse Symposium, Virtual Conference. For info: https://watereuse.org/news-events/conferences/

March 17-18 VA
2021 Association of Clean Water Administrators Mid-Year Meeting, Alexandria. Hilton Alexandria Old Town. For info: www.acwa-us.org

March 18-19 MT
Real Estate & Land Use Law in Montana, Missoula. TBA. For info: The Seminar Group, 800/ 574-4852, info@theseminargroup.net or www.theseminargroup.net

March 23-26 TX
Western States Water Council Spring 2021 (195th) Meeting, El Paso. Hopes to Return to In-Person Meeting. For info: www.westernstateswater.org/upcoming-meetings/

The Water Report
Water Rights, Water Quality & Water Solutions in the West
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CALENDAR

(continued from previous page)

March 31 WEB
Staying Ahead of PFAS Using AWWA's Drinking Water Treatment for PFAS Selection Guide Webinar, American Water Works Association Event. For info: www.awwa.org/Events-Education/Events-Calendar

April 6-8 AZ
Arizona Water 2021 Conference & Exhibition, Phoenix. Phoenix Convention Center & Virtual Options. Presented by the Arizzona Water Association. For info: www.azwater.org/group/annualconference

April 6-8 WEB
The WaterNow Alliance Virtual Summit: Accelerating Sustainable Water Innovation to Build Safe, Healthy and Prosperous Communities. For info: https://waternow.org/event/waternow-alliance-summit/

April 7-8 DC
Council of Infrastructure Financing Authorities (CIFA) Water Infrastructure Summit, Washington. Hyatt Regency at Capitol Hill. Convening Leaders in the Clean Water and Drinking Water State Revolving Funds (SRFs), Public Finance Sector, Federal Government and Broader Water Community. For info: www.cifanet.org/conferences