Unpacking the Policy Outcome Tendencies of U.S. Negotiated Water Settlements

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Comments welcome.

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ABSTRACT

Since the 1970s, negotiated settlements have become the popular method for forging agreement on water provision in the American West between Native American Tribal Nations and Federal, state and local actors. Such settlements require a negotiation process between multiple actors and led by the U.S. Department of the Interior, followed by codification into statute by both of houses of Congress and the president. As of late 2024, thirty-five negotiated water settlements had been completed and implemented in this manner (Congressional Research Service 2024). In this paper I plumb the central tendencies of all 35 completed agreements to see which factors inform their usage and how such factors vary across agreements and over time.

In my analysis, I find the between-agreement variability to be less pronounced than expected. The language of the thirty-five agreements is generally similar and covers the same topics, which happen to be those addressed in the pre-legislative stage of the process when negotiating parties coordinate with a Secretary-level working group in the Department of the Interior. While generally similar, there is some variation across settlements in size/scope of the water systems and the approach to environmental matters. Water systems vary from small to massive, with all settlement coalitions being broader and more representative than the traditional iron triangles of yesteryear (yet the larger water systems typically have an even larger swath of groups involved). Environmental topics across agreements tend toward similarity, except for settlements in which an endangered or threatened species is identified, requiring more in-depth work.

While cross-settlement differences were not stark, three strong trends emerged across time. First, the amount of Federal money provided in each settlement, controlling for rising costs and water system size, increases dramatically over the time series. In addition, the typical legislative path of negotiated settlements has changed, from stand-alone bills, then to bundled packages with multiple projects, and next to attachments to massive omnibus budget bills. The third trend is the increase in the use of mandatory spending for these projects where discretionary spending has been the historical norm.

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Introduction

The quote "water is life" is ubiquitous and one that fits when we consider human existence in the arid western United States. The US geographic area west of the Continental Divide and east of the Sierra Nevada and Cascade mountains averages annual rainfall of less than 15 inches per year, and below five inches per year in the geographic area where the Colorado River flows into Mexico (GIS Geography 2025). Not surprisingly, Native American tribal nations and later settlers in this region from Europe, Central and South America, and Asia have congregated near sources of water. These humans expended tremendous effort trying to manage the non-incremental patterns of precipitation, which are even more pronounced today (Smith, Strong and Wang 2015). The region is still today dotted with human settlements, more of them to be sure than at the dawn of the 20th century, but much of the land is not lived upon and the majority is Federal land, including a massive 80.1% in the State of Nevada (Congressional Research Service 2020).

With the 1902 Reclamation Act, the US Federal government formally entered a new era of development and investment in water projects in the region, beginning with five ambitious projects undertaken by the US Department of the Interior's Bureau of Reclamation (Dudley 2001): the Salt River Project (Roosevelt Dam) in south central Arizona, the Newlands Project in northwestern Nevada (Lake Tahoe, Derby Dam, Pyramid Lake), the North Platte Project in western Nebraska and eastern Wyoming

(Pathfinder Dam), the Milk River Project in northern Montana (Dodson Dam), and the Uncompahgre Project in western Colorado (Gunnison River, Taylor Park Dam).

These western water reclamation projects and hundreds more that followed transformed the west, with more available and regularized water resources for agriculture, recreation, and municipal use. Indeed, the number of dots on maps of western states multiplied as new communities popped up around water sources and began to create their own cultures and histories (Rowley 1992). That said, the political infrastructure that grew up around these projects in the west and in Washington, as had been the case for decades around coastal rivers and harbors policy- and budget-making (Ferejohn 1974), excluded many other people and important policy issues.

In terms of people and institutions, the water construction bonanza was led by a classic closed iron triangle and logroll built around House and Senate subcommittees dominated by western legislators, leaders in the U.S. Department of the Interior's Bureau of Reclamation, and various western agricultural interests (McCool 1987; Reisner 1987). Notable entities excluded were Native Americans (McCool 1987, 2006) and environmentalists, both conservationists and preservationists (Norton 1995). I will discuss each entity, Native Americans and environmentalists in turn.

Native Americans

The Native American story of water rights is a profound tragedy, one that gradually expanded across history.[1] As non-native settlers pushed westward (Fisher and Fisher 2025), they would squat and claim water sources long used by Native Americans when tribes rotated around seasonally on their sacred lands. The subsequent relocation

[1] My next book, currently under review and entitled *Senators and Sovereignty: Adapting and Organizing on Indian Affairs Since 1820*, examines the founding and evolution of the United States Senate's Committee on Indian Affairs.

campaign (Trail of Tears) and land allotment processes (land runs and lotteries) implemented by the Federal government dramatically attenuated an already bad situation with regard to quality of life generally (Frymer 2017) and Indian water rights in particular (Burton 1991). Not getting a seat at the table of the western water reclamation revolution in the first-half of the 20th century was the next bad chapter related to Indian water and yet another slap in the face.

Somewhat amazingly then, when a past-as-prologue perspective might have predicted yet more bad news, and in the wake of both the U.S. House of Representatives and U.S. Senate dissolving their Indian Affairs committees as part of the 1946 Reorganization Act of Congress and relegating them to mere subcommittees of the Interior Committees, the outside-looking-in Native American nations found a decades-old legal weapon with which to wield significant political power: the *Winters Doctrine* (Burton 1991; Clayton 2024; Congressional Research Service 2024; McCool 1987; Wilds, Gonzales and Krutz 1994). Since the mid-20th century, Native American nations have strengthened their water rights by leveraging a key yet underutilized landmark 1908 Supreme Court opinion. The case, *Winters v. U.S.*, involved water rights on the Milk River in Montana. The court found, with 8 of 9 justices joining the majority, that "when the federal government created the Fort Belknap reservation it implicitly reserved the rights to a sufficient amount of the river's water to fulfill the purposes of the reservation as a homeland for the Gros Ventre and Assiniboine people" (Tribal Leaders Water Policy Council 2025).

Tribal nation leaders began to dramatize the Winters Supreme Court decision and doctrine within their governing circles and tribal attorneys endeavored to seek new court

decisions using Winters Doctrine logic in the Federal courts. This legal doctrine strengthened tribal footing in the judicial sphere and also led to tribal leaders, occasionally at first then more regularly, to be consulted and then invited to the table as new water pacts began to be negotiated around the country, including in the American West (Cosens and Royster 2012; McCool 1987).

There are several notable planks of the Winters Doctrine. Perhaps most importantly, tribal water rights are considered established at the time when the US government created a reservation or allotment of tribal land. That dimension often gives tribal water rights a more powerful senior position to other (subsequent) Western water users. Further, the rights are *not* forfeited if not fully used, what state governments and state laws refer to as prior appropriation (a form of "use it or lose it" used regularly as a gotcha technique in state-level water wars). Once quantified for the amount of water needed for agriculture on Indian lands, the rights may be used for non-agricultural purposes too, which can have enormous economic consequence for the tribes. When negotiated water settlements began to emerge in the 1970s, the Winters Doctrine was quite established and likely it was part of the reason that Native American nations were invited into negotiations on each and every settlement, and with a strong legal basis to boot once at the table. Indeed, the titles of nearly all the negotiated water settlements passed by Congress contain the name of the Native American tribes involved in the particular water system (see Appendix).

Environmentalists

The other notable excluded group in the traditional iron triangle era of Western water projects was environmentalists. And, it showed. Early Western water reclamation

projects were not especially well known for their efficient use of water, a scarce resource. Moreover, the new water projects dramatically affected the environment, altering water capture in river systems and the disposition of wetlands in major ways. Further, the use of captured water was typically for agricultural purposes (including growing high-water crops like alfalfa in the desert), which included the use of pesticides to increase crop production. These pesticides (especially toxic prior to pesticides regulation reforms later in the 20th century) further affected the land, wetlands, groundwater, and various animal and plant species.

In the early 1970s, when the Federal government innovated in the environmental policy domain by creating the Environmental Protection Agency and several new regulatory statutes, such as the Endangered Species Act and the Clean Water Act, and strengthening pesticides regulation, it forecasted another change in water policy negotiations in terms of the scope of the participants. Indeed, each negotiated water settlement since the first one was struck in 1978 has involved scientific studies by Federal agencies, including the galvanized Interior Department's U.S. Fish and Wildlife Service, and required regulations and processes to be followed with regard to the environment. Additionally, a handful of settlements saw environmental groups in a stronger position at the bargaining table than agriculture interests, which were one of the three points of the traditional tight iron triangle of Western water policy.

Having briefly traced the development of western water policy from the dawn of the 20th century into the 1970s, this paper's main purpose is to seek a systematic look at this most popular of policymaking forms of Western water pacts over the last fifty years—negotiated water settlements. Beginning with the first negotiated water settlement

codified in 1978 (the Ak-Chin Indian Water Rights Settlement Act), a total of thirty-five negotiated water settlements have been codified by Congress and the president and implemented. What factors tend to drive the development of negotiated water settlements? Negotiated settlements have been used to settle surface water allocation conflicts involving Native American tribes, the Federal government, US states and other actors. First done in a piecemeal fashion, then from 1990 onward as the express strategy of the US government, the negotiated settlement approach replaced a long line of fractious litigation, some of which had been ongoing since the dawn of the 20th century.

However one might normatively judge this development—whether as an example of responsible and efficient governing of the commons or as something the US government had to do once the courts retroactively clarified the Winters Doctrine to the massive benefit of Indian water rights—the institutional change is unmistakable. Approval of such pacts through Congress has been supported by legislators from both parties and Democratic and Republican presidents and their administrations have dutifully facilitated the consideration and implementation of negotiated settlements. These settlements, while producing savings in the costs of litigation to the multiple actors involved, have required total Federal outlays of $8.5 billion since the 1970s and many actors have (voluntarily) surrendered their prior and current legal claim to water rights (Clayton 2024; Congressional Research Service 2024).

Given the scope and policy impacts involved in negotiated water settlements, it is important for scholars to study and understand this change and its impact. Hence, a careful look at all negotiated water settlements is needed. This paper seeks to provide that treatment and analysis. Toward that end, I will next briefly discuss prior literature on

negotiated settlements. Then, I will discuss the research methods utilized and the findings of the analysis. The paper will finish with conclusions and implications.

Previous Literature

Since the 1970s, negotiated settlements have become a popular non-judicial method for forging agreement on water provision in the American West between Native American Tribal Nations and various Federal, state and local actors. The existing scholarly literature that discusses this topic has tended to come in two varieties. First, there have been descriptive summaries of the process and scope of negotiated settlements generally (Congressional Research Service 2024) and the normative advantages (McCool 1993) and disadvantages (Clayton 2024; McCool 2006) of their use. Another stream of literature includes in-depth case studies of individual negotiated water settlements seeking to explain what occurred in the agenda-setting and policy enactment phases of the process (Glennon and Pearce 2007; Wilds, Gonzales, and Krutz 1994). I shall cover each of these efforts in turn.

Negotiated Settlement Process and Benefits/Drawbacks

The negotiation and policy enactment of a Federal negotiated water settlement is quite involved and each of the 35 settlements codified into law by the Congress and presidency has followed a painstaking process, which was made more formalized through a DOI Working Group process formalized by President George H.W. Bush in the *Federal Register* (U.S. Department of the Interior 1990). The process is centered throughout on the quantification of water rights (current and future) and the underlying conceptual

frame is one of coming together, perhaps each actor giving a bit on their demands, in order to forge a broad and stabilizing settlement for the water system.

Prenegotiation may be seen as a first step. In terms of the actors involved in the given water system, who might later be involved in settlement negotiations about the water system, this could include finalizing any existing litigation or water rights adjudications that might be outstanding before deciding to go forward to pursue a negotiated settlement. The other side of pre-negotiation takes place within the Department of the Interior in three sub-phases. First, a fact-finding process starts when Tribal and non-Federal actors in the water system formally petition the Secretary of the Interior to request negotiations. "During this time, DOI and DOJ jointly examine the legal considerations of forming a [within DOI] negotiation team" (Congressional Research Service 2024: 5). Should the Secretary of Interior decide to form a team, consisting of representatives from relevant bureaus within DOI (e.g. Indian Affairs, Reclamation, Fish & Wildlife), that team has 9 months to submit a fact-finding report to the Secretary pertaining to the disposition of moving forward with a negotiated settlement process (Congressional Research Service 2024). Such a process is run out of the Interior Secretary's office and is inclusive across DOI offices in a manner that belies the closed iron triangle arrangement of yesteryear, when Bureau of Reclamation leaders seemingly did as they wished (Reisner 1987).

Still within DOI, a second sub-phase, should the negotiating team recommend proceeding and the Secretary gives the green light, involves the DOI negotiating team consulting with DOJ and examining the likely positions of the potential parties to a negotiated settlement and developing a potential Federal negotiation position. This

assessment quantifies the cost of various potential settlement outcomes, including eventual failure of the process (Congressional Research Service 2024). The third DOI sub-phase involves the Secretary's Working Group (consisting of all Assistant Secretaries within DOI) recommending a negotiating position to the Secretary and an estimate of Federal funding needed (which is reconciled with OMB).

Second, if having proceeded successfully through prenegotiation, the next step involves the actual negotiations process (Colby, Thorson and Britton 2005). Such settlements require an involved negotiation process between the multiple actors in the water system and led by the DOI federal negotiation team assembled in the prenegotiation phase described before. The DOI offices mentioned above oversee the process and are joined at this juncture by the Bureau of Indian Affairs' Branch of Water Resources and Water Rights Negotiation/Litigation Program, which provides technical assistance in support of Indian claims. The Bureau of Reclamation's Native American Affairs Program also helps facilitate and OMB is also involved on fiscal aspects (Congressional Research Service 2024).

Once the second stage (negotiation) is complete and water system users have agreed to a specific framework, the proposed settlement is presented for Congressional approval. The settlement legislation must pass both the House and Senate in identical form and then signed by the president. Such legislation requires a simple majority in the House (e.g. 218 of 435). Senate passage is also seemingly by a simple majority (e.g. 51 of 100), but Senate rules permit any one Senator to filibuster considered legislation such a negotiated settlement. To stop a filibuster 60 out of 100 Senators must vote to proceed

to passage. The exception to this aspect in the Senate is if the legislation is attached to the annual budget reconciliation bill, which the Senate rules dictate cannot be filibustered.[2]

Another area of the literature relates to the benefits and drawbacks of using negotiated settlements. On the positive side of the ledger, some scholars have extolled the benefits of coming together to forge a settlement. In his early work on negotiated water settlements Dan McCool (1987) discussed the incentives to bargain for various actors in terms of forging a stable arrangement everyone can live with, even if not perfect, including Indian tribes and environmentalists. Wilds, Gonzales and Krutz (1994), in their study of the Truckee-Carson-Pyramid Lake Water Rights Settlement Act of 1990, extolled the benefits of actors working together to conserve water by, for example, having the Bureau of Reclamation store water owned by the Pyramid Lake Paiute Tribe (which resides at one end of the water system) in high altitude reservoirs near Lake Tahoe during the summer months in order to lessen the rate of evaporation.

In subsequent research, McCool (2006) somewhat changed his position normatively, seeing less promise in negotiated water settlements. He raised concerns that Native Americans were perhaps not getting the water deals that they truly deserved based on their legal standing. He called the rise of negotiated settlements in this more recent book a potential second era of treaties between Indian Tribes and the Federal government. This analogy was not meant as a compliment or beacon of hope, to be sure. Rather, it was suggestive of the possibility of the Federal government, like it did in the late 19th and early 20th centuries, not following through on its promises with Native

[2] Beyond the 35 negotiated settlements examined in this paper, there occasionally are settlements which the Administration deems do not require a public law be passed through Congress and signed by the president. These cases involve settlements that do not go beyond the confines of existing Federal laws related to the particular water system. There have been four such negotiated settlements that did not require congressional approval and presidential signature.

American Nations. McCool (1992) had also raised concerns about tribes losing their independence and becoming too dependent on water welfare.

McCool also began to point fun at environmentalists who would cut deals, describing the practice in a less than complimentary manner as "green pork." This term was meant to tie the new processes to old processes of pork-barrel politics and iron triangles (McCool 1992). However, the broadened cast of characters involved in negotiated settlements is much less suggestive of a tight geometric shape. In a hard-hitting recent law review article, Max Clayton (2024) describes some of the incentives and benefits of negotiated settlements for Native Nations, but then raises concerns about the tribes signing away their past claims on water rights.

In conclusion, these studies of process and the benefits and drawbacks of settlements are informative and speak to the importance of the topic and the importance of studying negotiated water settlement. However, these studies stop short of advancing our systematic explanatory and empirical understanding of negotiated water settlements.

In-Depth Case Studies of Settlements

Another stream of literature includes case studies of individual negotiated water settlements (e.g. Wilds, Gonzales, and Krutz 1994) or particular sub-topics of settlement implementation in water systems that have formalized such a deal (e.g. Pearce and Glennon 2007). Wilds, Gonzales and Krutz show demonstrably that an iron triangle no longer existed over the Truckee-Carson-Pyramid Lake water system. In this case, the previously quite powerful irrigated agriculture entity (TCID—the Truckee-Carson Irrigation District), seemingly one of the three points of the historical iron triangle in this water system, chose to walk away from settlement negotiations altogether. Yet, that did

not stymie the process as the settlement, which strengthened tribal prerogatives for two nations in the water system and funded ambitious programs for multiple endangered and threatened species, still passed Congress and was signed into law by President George H.W. Bush in late 1990.

In a legal analysis of multiple negotiated settlements involving Colorado River water in the State of Arizona, Pearce and Glennon (2007) explore the legality of tribes selling their water to other entities, including back to the actors that supplied the new water to the Indian tribe per new negotiated water settlements. The authors raise the possibility that this goes beyond the bounds of the original Winters Doctrine, as Indian tribes are gaining water from outside the system and then "marketing" it for sale. And, yet, the authors allow for the possibility of this being legal since the negotiated settlement provisions are so specific as they are codified in Federal law, in terms of these new water rights gained by multiple Native Nations. It will be interesting to see if such water marketing is challenged in court and, if so, whether the Federal courts see it as violating Federal law (including the Winters Doctrine).

These case studies are rich and provide thoughtful explanation on particular settlements and sub-topics of negotiated water settlement implementation. However, they fall short on generalizability. By definition, the explanations developed for the single case examined or sub-topic explored may be the exception rather than the rule. It is perhaps therefore a reach for these authors to raise normative points or predictions about the broader sphere of all negotiated settlements. In an attempt to bring generalizability, I will now turn to an analysis of all 35 negotiated settlements.

Research Design

This paper seeks to provide a systematic analysis of US negotiated water settlements by examining all 35 negotiated water settlements that have been enacted in the United States through congressional and presidential approval, beginning with the first such negotiated settlement (Ak-Chin Indian Community Act of 1978) through to the most recent one (Hualapai Tribe Water Rights Settlement Act of 2022). I study the process and outcome of each settlement and compare it to the status quo prior to enactment to draw inferences about the important drivers of each settlement process.

Prior literature on negotiated settlements suggests that settlements: (1) settle political crises; (2) invest in tribal institutions; (3) clarify legal provisions; (4) clearly delegate to agency actors; and (5) responsibly manage resources/improve the environment (Burton 1991; Clayton 2024; Colby, Thorson and Britton 2005; Congressional Research Service 2024; McCool 1987, 1992, 2006; Wilds, Gonzales and Krutz 1994). I begin with these five explanations as I work through each negotiated settlement and also examine (considering the increase in wildfires) whether fire protection and prevention were in the equation. The goal of this research design is to empirically gain a sense of which factors or goals tend to be most important in negotiated settlements.

To date, thirty-five (35) negotiated water settlements had been completed through statutory approval by the Congress and president, and twelve (12) more settlements were under consideration (Congressional Research Service 2024). This list of 35 negotiated settlements was verified at multiple sources, including CRS (which I utilized) and the

Department of the Interior. The actual approved language of each settlement, as well as a summary, was accessed through the American Indian Law Center's Native American Water Rights Settlement Project, which centralizes key information about each settlement at the University of New Mexico Digital Repository (American Indian Law Center 2024).

. Data was coded about each settlement, including: the *year* of enactment by Congress and the president; the *bill title*; the US *state* in which the project sits; the Native American *Tribes* involved; *tribal population*; total *acre-feet of water* awarded; the *Federal funding* authorized in $ millions; whether the settlement passed a *stand-alone* bill or was *bundled* with other legislation; whether there was *investment in tribal institutions* separate from the water system; the Federal *agency* over the project; and, variables tied to the presence or absence of each of the five explanations identified above--(1) *settling political crises*; (2) investing in tribal institutions (variable described just above); (3) clarifying legal provisions; (4) *clearly delegating* to agency actors; and (5) responsibly *managing natural resources*/improving the environment. I also coded a variable for the total annual revenue nationwide from Native American gaming using data from the National Indian Gaming Commission (2025). Since 1989, casino gambling has been legal on Indian lands, expanding dramatically the slight revenues realized from bingo.

I plumbed the central tendencies of all completed agreements to see which factors impacted and informed their usage and how such factors varied across agreements and over time. The goal was to empirically gain a sense of which factors, goals and trends tend to be most important in the formation of negotiated water settlements. I next turn to the findings.

Empirical Findings

I will take two cuts at the empirical patterns. First, I will present what I found cross-sectionally as I compared across the agreements. Next, I will explore things from a temporal perspective. The paper will finish with conclusions and implications.

In my analysis of all 35 negotiated water settlements, I found the between-agreement variability to be less pronounced than expected. Indeed, rather than a re-creating of the wheel each time, the language of the thirty-five public laws was generally similar. Given the structure described above that takes place out of the Secretary of Interior's office to structure the pre-legislative process, perhaps similarity should not come as a surprise. Toward that end, the settlements tend to cover the same topics: who gets water and how much, a defined Federal investment for development of the water system, a review of environmental regulations and processes to be followed, and, importantly, the parties agreeing to waive their prior and current legal claims related to the particular water system.

While generally similar, the cross-settlement comparison did show some variation in size/scope of the water system and environmental matters. The water systems varied from quite small (e.g. the diversion of Virgin/Santa Clara River water to the Shivwits Band of Paiute Indians in Utah) to massive (agreements pertaining to the Central Arizona Project in Arizona). While agreements tended to yield a set of actors broader than traditional iron triangles of yesteryear, the larger water systems tended to have an even wider swath of groups involved. Environmental topics across agreements tended toward similarity, with the exception of the cases where an endangered or threatened species was involved (e.g. Lahontan cutthroat trout and cui-ui fish at Pyramid Lake in Nevada), in

which case more work in implementation was required to be in compliance with Federal laws such as the Endangered Species Act.

While the cross-settlement differences were not stark, several interesting trends emerged across time. First, and to rewind and repeat on the pre-legislative process stages described above in the literature review, the entire process of negotiated water settlements has been elevated above the subsystem level to the macro-political sphere (Baumgartner and Jones 1993). That is, while pre-negotiated settlement water projects (Reisner 1987) were processed by water barons in largely-closed policy subsystems (e.g. iron triangles, including industrial-oriented Bureau of Reclamation leaders, western legislators on key congressional committees, and irrigated agriculture interests), negotiated settlements are pursued at a more salient political level with more and higher-level officials involved and a broader array of actors in each water system at the negotiating table. Even within the Department of the Interior, the notion that the Bureau of Reclamation leaders must work together on each and every negotiated settlement with leaders in the Bureau of Indian Affairs, the U.S. Fish and Wildlife Service, and the Bureau of Land Management (to name but a few of the bureaus at the Interior working group table) brings out a qualitatively different dynamic. Moreover, the Interior Working Group must also coordinate with the President's Office of Management and Budget and the Department of Justice.[3]

Second, the amount of Federal money provided in each settlement, controlling for rising costs and size of water systems, has increased dramatically. Table 1 shows average project costs, costs per tribal member, and costs per acre-foot of water produced for three

[3] See the source under References from the *Federal Register* for further explication of this process (Department of the Interior 1990). And, see Wilds, Gonzales and Krutz (1994) for interview evidence gathered on the record from multiple Assistant Secretaries of Interior on a key 1990 settlement.

increments of the time series: 1978-1992, 1993-2009, and 2010-2024. The average project cost was $54.9 million for settlements approved by Congress and the president between 1978 and 1992. The average project increased more than seven-fold to $402.5 million for settlements approved between 1993 and 2009. During the 2010 to 2024 time period, the average settlement project cost rose more than 27% to $514.4 million. The total project costs per tribal member and per acre-foot of water also rose dramatically across the three time periods. The project cost per tribal member for settlements approved by Congress and the president between 1978 and 1992 was $9230, rising dramatically to $16,548 per tribal member between 1993 and 2009, then to $18,889 between 2010 and 2024. Also seeing steep growth was the project cost per acre-foot of water produced, which was $434 for settlements approved by the Congress and president between 1978 and 1992, rising six-fold to $2591 per acre foot for settlements approved between 1993 and 2009, then up to $4443 per acre foot for projects approved between 2010 and 2024. In summary, the approved budget authorizations for negotiated settlement water projects have seen a meteoric rise over time.

Table 1. Negotiated Settlement Projects Costs by Time Period.

	1978-1992	1993-2009	2010-2024
Avg. project cost	$54.9 million	$402.5 million	$514.4 million
Cost per tribal member	$9,230	$16,548	$18,889
Cost per acre-foot of water	$ 434	$ 2,591	$ 4,443
Number of projects	*14*	*9*	*12*

In addition to the epoch rise in project costs, no matter how the data are cut, the typical legislative path of negotiated settlements has also changed over time, from stand-

alone acts to bundled bills with multiple Interior projects to attachments to massive omnibus budget bills. Table 2 displays this trend quite clearly. In the first time period (1978-1992) , the vast majority (nearly 2/3) of negotiated settlements were considered in Congress as stand-alone bills. This stand-alone bill percentage fell to a minority of settlements (44.4%) during 1993-2009, then to just a quarter (25%) of settlements going it alone from 2010-2024. Over time, the concomitant form of settlement consideration was in a bundle with other projects or as an attachment to a budget omnibus bill. This trend in legislative form is a significant change because processing the settlements in this manner likely increases the chances of success compared to stand-alone bills (Krutz 2001). Moreover, decisions on bundling legislation, especially what gets attached to an omnibus budget bill, are made by key majority party leaders in the House and Senate, further evidence that negotiated water settlements have become salient to macro-political actors.

Table 2. Legislative Path of Negotiated Water Settlements.

	1978-1992	1993-2009	2010-2024
Stand-alone bill	9 (64.3%)	4 (44.4%)	3 (25.0%)
Bundled with other projects	5 (35.7%)	4 (44.4%)	6 (50.0%)
Attached to budget omnibus	0 (0.0%)	1 (11.2%)	3 (25.0%)
Number of projects	*14*	*9*	*12*

Associated with this involvement of congressional party leaders in negotiated water settlements in this increase in the use of mandatory spending for the water projects associated with negotiated settlements. Over $1 billion dollars in mandatory spending have been appropriated in this manner since 2010 (Congressional Research Service

2024). This trend is significant as it was the case traditionally that such projects had to get in line after receiving initial budget authorization to attain an actual budget appropriation through the annual discretionary budget process. In contrast the mandatory budget side of things is where entitlements reside, such as Social Security, and such funding is not subject to annual appropriations. In this way, when mandatory spending is approved, it is locked in and, in effect, both authorization and appropriation are accomplished.

In summary, somewhat surprisingly, the cross-sectional findings showed much similarity across negotiated settlements, with some exceptions for size/scope of a project and the environmental requirements involved should an endangered or threatened species be impacted by the water system. It was the time varying analyses that yielded the more interesting trends. In all, negotiated settlements have received a hefty amount more in terms of Federal budget commitments over time, be it at the project level or measured per Tribal member or acre-foot of water (see Table 1). Moreover, negotiated settlement bills have begun to get favored status from congressional leaders for passage by increasingly seeing projects bundled with other projects or attached to omnibus budget measures, and increasingly Congress is funding projects through mandatory spending (entitlements).

Conclusion

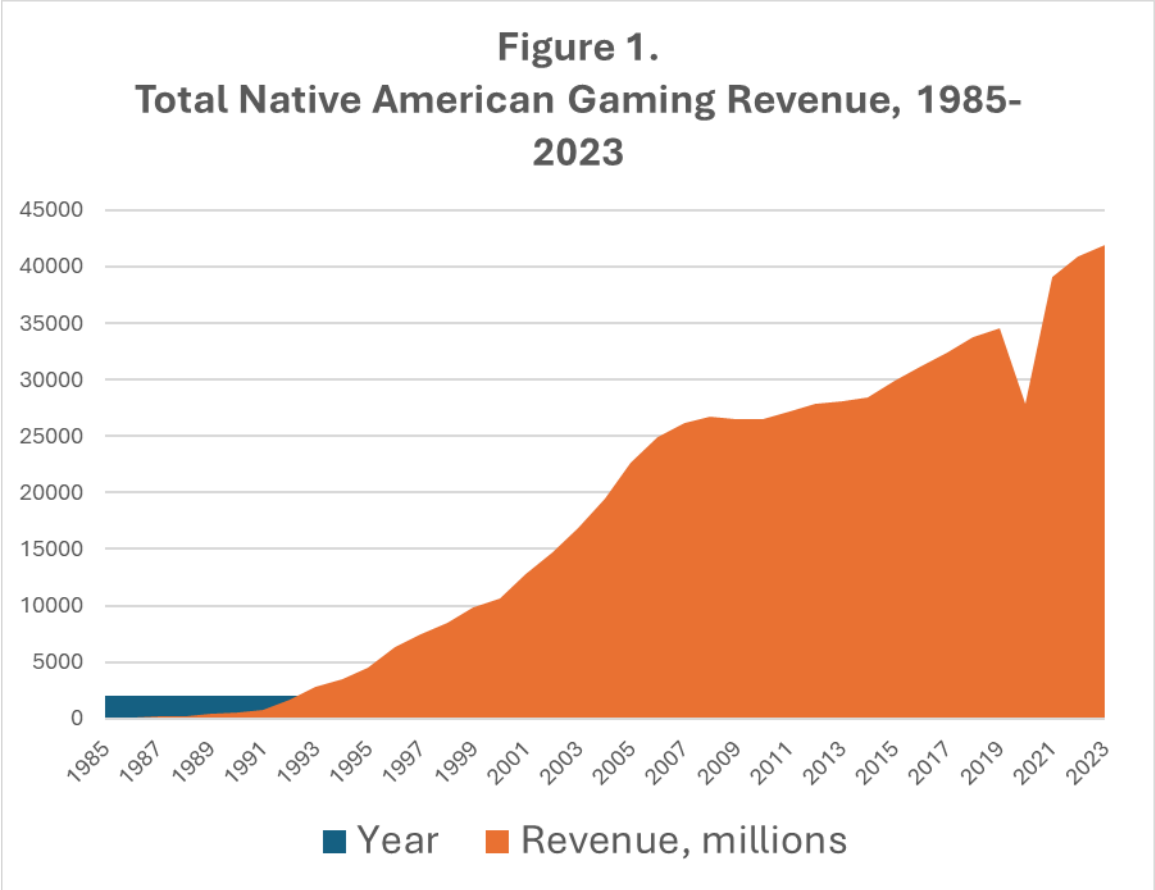
In conclusion, this paper has taken a wide and deep look at negotiated water settlements forged since the first such project was approved by Congress and signed into law by President Jimmy Carter in 1978. Over the past half-century, negotiated settlements have

become the dominant approach used to settle surface water allocation conflicts involving Native American tribes, the Federal government, US states and other actors.

This paper introduced negotiated settlements, reviewed previous literature, described the Interior-led process of negotiated settlements, then systematically analyzed all thirty-five negotiated settlements that have been approved by Congress and the president for implementation. Very telling in this exploration was the fact that Western water projects involving Native Nations have become a more salient topic to the American national government leaders in both the executive and legislative branches, and that policy considerations have broadened beyond the traditional iron triangle policy subsystem to a more visible and larger group of participants (including environmentalists).

These findings jibe with several accompanying trends, including the re-establishment of the U.S. Senate's Committee on Indian Affairs (first a select committee in the 1970s, now a permanent committee with bill referral authority) and the elevation of Native American leaders in American national government (President Joe Biden's Interior Secretary Deb Haaland was the first indigenous cabinet secretary in our country's history). It is also important to acknowledge that Indian Country is a bit better resourced today than before the late 1980s. To be sure, this is not say that all ills, inequities and biases Native Americans have faced have been fixed with the rise of Native American gaming. However, the sheer amount of money running through the Indian gaming economy is massive, a total of nearly $42 billion in calendar year 2023. Figure 1 shows the trend in annual revenues since Indian gaming was permitted on Native American lands in the U.S. beginning in 1989. Political Scientists who study the behavior of

rational political actors would hypothesize a relationship between the rise in Indian gaming and the power of Native Nations, one the one hand, and the privileged position of negotiated water settlement projects benefitting tribes, on the other.



However, the negotiated water settlements and the trends around them were well underway prior to the approval of Indian gaming in the late 1980s. The Interior department led processes and advocacy by various Native American lobbying groups and the US Senate Indian Affairs Committee were already occurring. Hence, while we may be tempted to jump to a conclusion about Indian gaming and negotiated settlements, it is likely at best a partial or contributing explanation, rather than absolute.

The other topic going forward that we will want to think further about is what happens next. It is unknown what will happen with the twelve (12) settlements still under consideration, but not yet approved, as of late 2024. Will the Trump Administration and the Republican-controlled House and Senate choose to move those forward? If the recent past is prologue, then they eventually will move these forward in the process. President Trump signed two such settlements into law during his first term, including the largest in history, the $1.9 billion Montana Water Rights Protection Act (P.L. 116-260). In recent decades, moreover, the approval of negotiated water settlements, and increased Native American influence in Washington, have been realized during eras of both Democratic and Republican party control of American national institutions.

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APPENDIX

Table 1. Enacted Indian Water Rights Settlements
(settlements by state and Tribe)

Year	Settlement and Legislation	State	Tribes	Total Acre-Feet Awarded per Year	Authorized Federal Cost (nominal, $ in millions)
1978 (1984, 1992, 2000)	Ak-Chin Indian Water Rights Settlement Act, P.L. 95-328 (P.L. 98-530, P.L. 102-497, P.L. 106-285)	AZ	Ak-Chin Indian Community of Papago Indians of the Maricopa	85,000	$101.1
1982 (1992)	Southern Arizona Water Rights Settlement Act, P.L. 97-293 (P.L. 102-497)	AZ	San Xavier and Schuk Toak Districts, Tohono O'Odham Nation	66,000	$39.8
1987	Seminole Indian Land Claims Settlement Act of 1987, P.L. 100-228	FL	Seminole Tribe of Florida	NA	NA
1988	Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, P.L. 100-512	AZ	Salt River Pima-Maricopa Indian Community of the Salt River Reservation	122,400	$47.5
1988 (2000)	Colorado Ute Water Rights Settlement of 1988, P.L. 100-585 (P.L. 106-554)	CO	Southern Ute, Ute Mountain Ute Tribes (and Navajo Nation)	70,000	$49.5
1988 (2016)	San Luis Rey Indian Water Rights Settlement Act of 1988, P.L. 100-675 (P.L. 114-322)	CA	La Jolla, San Pasquale, Pauma, Pala Bands of Mission Indians	NA	$30.0
1990	Fort Hall Indian Water Rights Act of 1990, P.L. 101-602	ID	Fort Hall Shoshone-Bannock Tribes	581,331	$22.0
1990	Fallon Paiute Shoshone Indian Water Rights Settlement Act of 1990, P.L. 101-618	NV	Paiute-Shoshone Tribe of the Fallon Reservation and Colony	10,588	$43.0
1990	Truckee-Carson-	NV/CA	Pyramid Lake	NA	$65.0

	Pyramid Lake Water Rights Act, P.L. 101-618		Paiute Tribe		
1990 (2006)	Fort McDowell Indian Community Water Rights Settlement Act of 1990, P.L. 101-628 (P.L. 109-373)	AZ	Fort McDowell Indian Community	36,350	$23.0
1992	Northern Cheyenne Indian Reserved Water Rights Settlement Act of 1992, P.L. 102-374	MT	Northern Cheyenne Indian Tribe	83,830	$73.0
1992 (1998)	Jicarilla Apache Tribe Water Settlement Act of 1992, P.L. 102-441 (P.L. 105-256)	NM	Jicarilla Apache Indian Tribe	40,000	$6.0
1992 (1994, 1997, 2004)	San Carlos Apache Tribe Water Rights Settlement Act, P.L. 102-575 (P.L. 103-435, P.L. 105-18, P.L. 108-451)	AZ	San Carlos Apache Indian Tribe	67,965	$41.4
1992	Ute Indian Rights Settlement Act of 1992, P.L. 102-575	UT	Northern Ute Indian Tribe; Ute Indian Tribe of the Uintah and Ouray Reservation	481,035	$198.5
1994 (1996)	Yavapai-Prescott Indian Tribe Water Rights Settlement Act of 1994, P.L. 103-434 (P.L. 104-91)	AZ	Yavapai-Prescott Indian Tribe	1,550	$0.2
1999	Chippewa Cree Tribe of the Rocky Boy's Reservation Indian Reserved Water Rights Settlement Act of 1999, P.L. 106-163	MT	Chippewa Cree Indian Tribe	20,000	$46.0
2000	Shivwits Band of the Paiute Indian Tribe of Utah Water Rights Settlement Act, P.L. 106-263	UT	Shivwits Band of Paiute Indians	4,000	$24.0
2003	Zuni Indian Tribe Water	AZ	Zuni Indian Tribe	10,600	$19.3

	Rights Settlement Act of 2003, P.L. 108-34				
2004	Snake River Water Rights Act of 2004, P.L. 108-447	ID	Nez Perce Tribe	50,000	$121.3
2004	Arizona Water Settlements Act of 2004, P.L. 108-451	AZ	Gila River Indian Community, Tohono O'odham Nation	653,500	$2,328.3[a]
2008	Soboba Band of Luiseño Indians Settlement Act, P.L. 110-297	CA	Soboba Band of Luiseño Indians	9,000	$21.0
2009	Northwestern New Mexico Rural Water Projects Act (Navajo-Gallup Water Supply Project/Navajo Nation Water Rights), P.L. 111-11	NM	Navajo Nation	535,330	$984.1
2009	Shoshone-Paiute Tribes of Duck Valley Water Rights Settlement Act, P.L. 111-11	ID/NV	Shoshone and Paiute Tribe of Duck Valley	114,082	$60.0
2010	White Mountain Apache Tribe Water Rights Quantification Act of 2010, P.L. 111-291 (P.L. 117-342)	AZ	White Mountain Apache Tribe	99,000	$857.2
2010	Crow Tribe Water Rights Settlement Act of 2010, P.L. 111-291	MT	Crow Tribe	697,000	$461.0
2010	Aamodt Litigation Settlement Act, P.L. 111-291 (P.L. 116-260)	NM	Nambé, Pojoaque, San Ildefonso, and Tesuque Pueblos	6,467	$311.3
2010	Taos Pueblo Indian Water Rights Settlement Act, P.L. 111-291	NM	Taos Pueblo Tribe	9,628	$124.0
2014	Pyramid Lake Paiute Tribe-Fish Springs Ranch Settlement Act, P.L. 113-169	NV	Pyramid Lake Paiute Tribe	NA	NA
2014	Bill Williams River Water Rights Settlement Act of 2014, P.L. 113-	AZ	Hualapai Tribe	NA	NA

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2016	Pechanga Band of Luiseño Mission Indians Water Rights Settlement Act, P.L. 114-322	CA	Pechanga Band of Luiseño Mission Indians	4,994	$28.5
2016	Choctaw Nation of Oklahoma and the Chickasaw Nation Water Settlement, P.L. 114-322	OK	Choctaw Nation of Oklahoma and Chickasaw Nation	NA	NA
2016	Blackfeet Water Rights Settlement Act, P.L. 114-322	MT	Blackfeet Tribe	50,000	$420.0
2020	Montana Water Rights Protection Act, P.L. 116-260	MT	Confederated Salish-Kootenai Tribe	90,000	$1,900.0
2020	Navajo-Utah Water Rights Settlement, P.L. 116-260	UT	Navajo Nation	81,500	$210.4
2022	Hualapai Tribe Water Rights Settlement Act, P.L. 117-349	AZ	Hualapai Tribe	3,414	$317.0

Source: Congressional Research Service. 2024. *Indian Water Rights Settlements.* Washington, DC: Library of Congress. https://www.congress.gov/crs-product/R44148
See also: Department of the Interior. Enacted Indian Water Rights Settlements. As of June, 2024. https://www.doi.gov/siwro/enacted-indian-water-rights-settlements