



## Infrastructures as colonial beachheads: The Central Arizona Project and the taking of Navajo resources

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“A civilization has grown up in Arizona that has added wealth and strength to our Nation. That civilization is threatened. Arizona has only one source of water if that productive civilization is to survive – that source is the Colorado River,” Arizona Senator Carl Hayden, 1963.<sup>1</sup>

## Introduction

Colonial difference is a story of national infrastructures. To understand how colonialism works across Indigenous lands, we need to focus on the physical, legal, and political factors that are involved in the building and the expansion of national infrastructures; infrastructures that arrive in some places while denied in others. This article accounts for a temporal colonial dimension of infrastructure planning. The building of infrastructures across space and time serve as colonial beachheads, establishing the conditions for future dispossession, displacement, and marginalization.

In this article, I account for colonial difference augmented in the 60-year history of Arizona’s coal-energy-water nexus, a combination of dams, power plants, pumping stations, and canals that has brought water from the Colorado River to the expanding cities of Phoenix and Tucson. The nexus was built over time and out of political compromises, evolving technologies, massive water diversions, and national financing. It was not scripted, nor uniform in logic. There was not a clear sense of settler-colonial elimination or replacement at work. The colonial beachheads of Arizona’s infrastructure projects fundamentally reflect practices of resource colonization – the transformation of Indigenous lands, jurisdictions, and sovereignties into legal-political spaces consistent with colonial laws and governance.

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<sup>1</sup> Recorded testimony before the Subcommittee on Irrigation and Reclamation, 88<sup>th</sup> Congress, UNITED STATES. CONGRESS. SENATE. COMMITTEE ON, I. & INSULAR, A. 1963. *Central Arizona project : hearings before Subcommittee on Irrigation and Reclamation, 88th Congress*, Washington, D.C., [Washington, D.C.], 1963., pg. 8.

My central argument is that the coal-energy-water nexus of Arizona serves as a *colonial beachhead* - a temporal encroachment on Indigenous lands and livelihoods, over time, to augment material and political difference that eventually overwhelms Indigenous nations and curtails certain possibilities. The implication of this understanding is to account for the politics and practice of resource colonialism in western North America over the last century. This article draws on archival research to analyze three historic eras and events: 1) the creation of the Colorado Compact in 1922; 2) Congressional funding for the Central Arizona Project in the mid-1960s, and 3) the proposed water settlements between the State of Arizona and the Navajo Nation in the early 2000s. The totality of these events augmented political difference between the tribe and Arizona over time. The water settlements in particular have had the effect of denying critical water infrastructure to Diné communities until the Navajo Nation agrees to settle its claims to the Colorado River. Today, Arizona can more easily accomplish what it wants with the region's limited water sources because of the political advantage made possible through decades of water law, water infrastructure, and water concessions along the Colorado River.

### **Infrastructures as colonial beachheads**

Infrastructures bind communities to modernization, urbanization, and capitalist circulations of wealth. The use and diffusion of material and technology was built on colonial difference and in the interest of empire-making (Headrick, 1981, Meehan, 2014, Akhter, 2015). Although recent work within postcolonial states highlight the messy, non-linear ways in which colonial infrastructures shape and are shaped by communities (van der Straeten and Hasenöhr, 2016), in settler-colonial countries like Canada and the United States, infrastructures are almost

always colonial. The doctrine of discovery and other conquest claims remain foundational for U.S. and Canadian sovereignty (Asch, 1997, Williams Jr, 2005, Miller, 2010). These colonial jurisdictions (Pasternak, 2014) – through land technologies of terra nullius and notions of private property – expand and reenforce colonial difference over space and time. Indigenous sovereignties are reduced to officially recognized administrative functions within colonial states (Coulthard, 2014, Daigle, 2016).

Settler-colonialism is often characterized as a structure, not an event (Wolfe, 2006). Useful in acknowledging the present tense nature of colonialism, in practice the framework is rigidly teleological and often hides as much as it reveals when accounting for the exacting nature of colonial dispossession over time. The objectives of colonization are not always uniform, evenly implemented, or necessarily even about Indigenous elimination and settler replacement. More often than not, colonial policy is makeshift, capricious and discriminatory, built on evolving power relations that augment political and material difference over time. Consequently, we must not only account for the expansion of colonial infrastructures spatially, as in the gradual or sudden incorporation of large swaths of tribal lands into expanding colonial claims of Canada and the United States, but we must also think about national infrastructures temporally, as in the legal-political and material instruments that intensify colonial differences in historically distinct political moments.

In the 20<sup>th</sup> century, Indigenous homelands became sites of intense resource extraction (Smith and Frehner, 2010) often through the complicated negotiations between Indigenous communities, tribal governments, and corporations. Outright policies of genocide from the 1870s to 1930s were replaced with regimes of limited autonomy, in the form of tribal

governments, designed to comport with new political and social institutions in western states and provinces (Lambert, 2007, Carroll, 2015, Powell, 2017, Dennison, 2017). These arrangements remain colonial, but not necessarily driven in the direction of Indigenous elimination. A focus on infrastructures as colonial beachheads reveals how material and legal transformations of the land, necessary for these infrastructures, not only dispossess Indigenous nations of territory, but also expand political difference. In this new brand of colonialism, suits and ties replace muskets and bayonets.

For Indigenous nations, infrastructures erase existing political and governing regimes (Pasternak, 2017). Kwakwaka'wakw Nation geographer Sarah Hunt refers to the violent production of settler geography as producing "colonialscales," which for our purposes include new political and legal transformations. A powerline or pipeline might move through Indigenous communities not intending to benefit them. For Hunt, colonialscales "naturalize the relations of domination and dehumanization inherent in colonial relations" (2014, 7). Mushkegowuk (Cree) geographer Michelle Daigle argues that the legal technologies of Terra nullius and private property were key to resource extraction and the creation of colonialscales across Indigenous territories (2018, 165). The legal-political and physical incorporation of Indigenous lands into national territories through infrastructure projects reproduced racialized inequalities that benefit settler communities over Indigenous ones (2019, LaDuke and Cowen, 2020). Indigenous researchers not only highlight the colonial nature of public works projects, but also emphasize the alternative governing frameworks through which Indigenous peoples challenge colonial infrastructures (Simpson, 2014, Spice, 2018).

During the 19<sup>th</sup> and 20<sup>th</sup> centuries, rail networks in the United States and Canada became foundational for empire building and continental control (Karuka, 2019, Cowen, 2019). Rail was constructed on lands wrestled from Indigenous nations in the construction of settler expansion. The legal and political infrastructures that followed physical ones became the basis for future colonial advancements and enclosures. Both material and legal infrastructures work as forms of colonial encroachments. Rail created checkerboard land statuses for western Indigenous nations and was the bases for forced removal and diminished territories (Chang, 2011, Kelley and Francis, 2001). The land statuses that rail fashioned survive today and affect tribal sovereignty in matters such as environmental regulation over uranium mining.<sup>2</sup>

To appreciate the total impact of national infrastructure projects on Indigenous peoples, we have to think through infrastructure through the lifecycle of projects and the politics these projects progenerate (Powell, 2015, Yazzie, 2018). Diné anthropologist Teresa Montoya layers the legacies of colonial acts, starting with the federal laws that literally gave away Indigenous lands to railroads and created areas of interspersed private and tribal lands within Diné communities, checkerboarding, that allow for developers to skirt tribal laws. Checkerboarding produced a kind of space rife for extraction, toxic polluting, and regulatory indifference (Montoya, 2019).

Similarly, control over water was a state-building project and necessary for energy production (hydropower) and urban expansion in the West. Water literally transformed the landscape while the landscape was transformed for water. Infrastructures, necessary for both

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<sup>2</sup> An example of this is recent attempts to open allotment lands in the center of Diné communities to new uranium mining despite the tribe's 2005 ban on uranium mining, processing, or transportation within the Navajo Nation.

water diversion and energy expansion, fundamentally changed the nature of colonialism at the frontier and make it difficult if not impossible for Indigenous nations to gain political leverage in the U.S. federal system. In this paper, I deploy what Cowen describes as “infrastructure as method” (2019), as a making of social realities over space and time, I examine a set of infrastructures as comprising a nexus, a coal-energy-water nexus<sup>3</sup>, that was foundational for modernizing Arizona and offsetting Diné water interests. Around Indigenous homelands, national infrastructures engineered and exacerbated colonial difference between colonial communities and tribes.

### **Colonial beachhead: killing sheep and building dams**

For an expanding U.S. empire, the West was first imagined as a site of colonial homesteading and settlement that required the displacement of Indigenous peoples (Edwards et al., 2017). For much of the 19<sup>th</sup> century, the physical control of land was the chief mechanism through which political difference between Indigenous peoples and settlers was accomplished. The United States organized violent military expeditions throughout Indigenous homelands killing and displacing communities while forcing newly created tribes onto reservations. During the Civil War, military campaigns against Indigenous peoples continued unabated, leading to several massacres. By the end of the war, federal power was stronger than ever. Much of the West was organized as federal lands outside the control of territorial jurisdiction. In 1871,

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<sup>3</sup> Although coal and energy are related, in practice they manifest quite differently. Coal mining in the Navajo Nation takes on unique social-cultural characteristics. It creates identity around labor and strong environmentalist opposition. Energy is not necessarily related to coal mining. Energy speaks more directly to the tribal-state interface. To understand Arizona infrastructure, I found it conceptually useful to separate coal from energy and include both in the accounting of network of industries and infrastructures.

Congress passed a rider to an annual appropriation act that unilaterally awarded the United States plenary power over all Indigenous nations. Soon after, the General Allotment Act of 1887 facilitated the dispossession of millions of acres of treaty lands belonging to the nations in the Great Plains (Ellinghaus, 2017).

After four years in a makeshift concentration camp in eastern New Mexico (1864-1868), Diné people signed a treaty with the United States that allowed the people to return to traditional homesites (Bailey, 1998). But many of these lands were already awarded to rail companies by Congress during the internment (Kelley and Francis, 2001). The Navajo reservation was reduced to a remote section of Arizona and New Mexico and was intentionally placed north of the Santa Fe rail's eventual route from Chicago to Los Angeles (Denetdale, 2007, Montoya, 2019).

Arizona became a state in 1912. The incorporation of Indigenous nations into both U.S. and state citizenship was uneven and contradictory (Crandall, 2019). Arizona expanded at the expense of Indigenous communities. For example, the Gladstone purchase of 1853 cut through the heart of Tohono O'odham lands. The international boundary split O'odham communities in half and divided traditional grazing lands between the United States and Mexico (Gentry et al., 2019). This was similar to what happened to Mohawk communities caught between the colonial states of Canada and the United States (Simpson, 2014).

Since the early 1900s, a core aim for Arizona state planners was the construction of a canal that would bring water from the Colorado River into the Salt River Valley where large-scale cash crop farms were developing. The colonialists named the place Phoenix out of western mythology to literally refer to the resurrection of a civilization in the desert on the site



of former Hohokam farms and waterworks along the Salt River (VanderMeer, 2010, Ross, 2011). For Arizona, statehood required population expansion and the control of all land and water resources. With the construction of the railway in the 1880s, the cattle industry rampaged the grasslands of northern Arizona (Kelley and Francis, 2001). Overgrazing of livestock led to desertification that was later blamed on Diné sheepherding practices. To this day invasive species like the Russian tumbleweed, a stereotype of the “Old West,” replaced the once thriving grasslands of northern Arizona (Van Velzer, 1997).

Many western territories and states adopted water laws that were meant to benefit miners and farmers and to support colonial expansion (Curley, 2019c). The federal government wanted to encourage people and industries to move from the east into these colonies. Newly organized territorial and state governments ignored existing Indigenous claims to both land and water. The water laws that western states adopted prioritized the first settlers to make claims on a water source. This came to be known as “first in use, first and right” and remains the governing water doctrine for most western states (Wilkinson, 1984, Matsui, 2009).

But the colonial capture of limited water sources immediately put a strain on western water ways. The states especially needed an agreement that would regulate the Colorado River and its tributaries. Representatives from the governments of Arizona, California, Nevada, Wyoming, Utah, Colorado, and New Mexico convened in Santa Fe, New Mexico to work out a compact over the future use of the Colorado River. The 1922 Colorado Compact divided the Colorado River into two equal halves, an upper and lower basin. The division of the river was decided at a place called Lee’s Ferry along what would become the western boundary of the Navajo Nation. As part of New Deal programs in the 1930s, the federal government approved

and financed the construction of the Hoover Dam and other public works projects meant for the benefit of colonial communities (Parman, 1976, Taylor, 1980). The Hoover Dam was built south of this line and was designed to hold back the Colorado River for the lower basin states (Hundley, 2009). Twenty years later, the Glen Canyon Dam, was designed to hold back waters for the upper basin (Colombi, 2014). Importantly, the dams were built to conform to the Colorado Compact, putting the power or physical land and water transformations behind colonial laws. The lake that formed behind the Glen Canyon Dam, Lake Powell, was named after John Wesley Powell, stamping the name of colonialists onto the landscapes (Farmer, 1999, Powell, 2008).<sup>4</sup>

At the same time, the Department of Interior organized the killing of thousands of churro sheep that were the cornerstone of the Diné subsistence economy (Parman, 1976, Weisiger, 2011). The sheep were targeted for overgrazing and blamed for causing desertification. Livestock reduction, as the campaign was euphemistically called, had terrible social and political consequences for the Diné people. It was a traumatic for all communities and permanently undermined the trust of Diné people in the newly formed tribal government. Historian Richard White has even suggested it was livestock reduction that made Diné “dependent” on outside capitalist economies (1983).

The New Deal of the 1930s and 1940s also led to profound social and political transformation in the United States and on western landscapes. Fossil fuels such as uranium and oil changed the federal government’s approach toward tribes (Voyles, 2015, Voggesser,

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<sup>4</sup> Similarly, the City of Page was arbitrarily named after a dead white official, John C. Page, former Commissioner for the Bureau of Reclamation, see; [https://www.usbr.gov/history/OralHistories/MERMEL,THADDEUS\(TED\)W.pdf](https://www.usbr.gov/history/OralHistories/MERMEL,THADDEUS(TED)W.pdf), pg. 28.

2010). In 1934 Congress passed the Indian Reorganization Act that reversed previous policies of allotment. Boarding schools and other programs of cultural genocide remained in place (Woolford, 2015), but the physical removal of whole communities ended. Out of this change emerged tribal governments. The governments, with authorities to sign leases, became the vehicles through which outside mineral interests could access and further exploit the land (Fixico, 2012). Through well-financed New Deal programs, the federal government ensured the modernization and enrichment of the West at the expense of tribal control over land and water while at the same time undermining subsistence economy through curtailed reservation boundaries and severe grazing regulation.

It was not until after the Second World War when the United States as a worldwide hegemon financed and designed the modernization of the West (Needham, 2014, Sneddon, 2015). The development projects in the western half of the continent were accomplished through the expansion of the federal highway system, the construction of large hydroelectric dams, and the establishment of new military bases (Ross, 2011, Nies, 2014). These new industries required infrastructures that exacerbated colonial difference between Indigenous nations and the rest of the country.

### **Augmenting of Difference: The Building of CAP**

In 1952, Arizona filed a lawsuit against California in the U.S. Supreme Court. The case, *Arizona v. California*, was about rights to the Colorado River. The Supreme Court appointed a “special master” to investigate the arguments of each state and write a report. It took more than 10 years before the Supreme Court acted on the special master’s report and supported

many of Arizona's legal claims against California (MacDonnell, 2012). The decision would later have ramifications on the development of future water projects along the Colorado River.

Importantly, the 1963 decision quantified Indigenous water claims in practicable irrigable acreage (PIA) (Thorson et al., 2006, Cosens, 2002). As a concept, PIA referred not only to the water in use, but the potential of water for development. This gave Indigenous nations a tool to make counterclaims for expanded uses of surface waters. Indigenous nations could claim water for future development projects. At the same time, PIA squarely put Indigenous water practices into the terms of a colonial governing regime. It required Indigenous nations to change how they thought about water. Although the special master's report has been interpreted as more favorable to the cause of Indian water rights (Cosens, 2002), it subsumed Indigenous water claims into the logic of the Colorado Compact, erasing prior practices and claims. This was analogous to the erasure of Indigenous water governance in Canada (Bakker, 2018, Wilson, 2019, Wilson, 2014). Already, dams were under construction all over the Colorado River and its tributaries without the consent of Indigenous nations. New laws quantified and appropriated all available waters, leaving Indigenous nations in a political drought over water sources.

On the horizon was the Central Arizona Project (CAP) – the most politically ambitious public works project in Arizona's history and one that required a stamping out of Indigenous counter claims to the Colorado River. To pass such an expensive project in the mid-1960s, when Arizona was rural and less powerful, the state needed to stipulate to California's "superior" rights to the Colorado River (August Jr and Gammage Jr, 2010). This meant that in a drought, California's water needs would be met first. Even though Arizona was legally vindicated in the

*Arizona v. California* decision, California's larger Congressional representation threatened any attempt by Arizona lawmakers to receive federal funding to develop Arizona's water rights. California's Deputy Director of Water Resources was quoted at the time as saying, "The Court has done nothing which Congress cannot undo" (1963, pg. 5). Begrudged, Arizona agreed to California's superior claims to the Colorado River in exchange for the state's support on CAP. With this compromise, Congress passed the Colorado River Basin Project Act of 1968<sup>5</sup> that provided federal funding for the project.

But the physical geography of Arizona undermined settler ambitions. To move water from the Colorado River's natural path, west of Phoenix, CAP needed to pump water over and through the Buckskin Mountains. Pumping water required vast amounts of energy. CAP needed an expensive, complex, and environmentally costly set of infrastructures to move water. The area where state planners initially thought to place these infrastructures was around the Grand Canyon National Park where the Department of Interior and Bureau of Reclamation proposed two dam sites, the Bridge Canyon Dam on the southside of the canyon and the Marble Canyon Dam to its north. The dams were meant to provide the power CAP required.

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<sup>5</sup> <https://www.usbr.gov/lc/region/pao/pdfiles/crbproj.pdf>, last accessed: 3/16/20.



Figure 1.1 Central Arizona Project – February 1967, in “Summary Report: Central Arizona Project with Federal Prepayment Power Arrangements,” Papers of Steward L. Udall, 1950-2010, Box 174, folder 4.

The planning for the dams reflected the political dominance of hydroelectric power at the time (Sneddon, 2015). Kennedy’s Secretary of Interior Steward Udall managed to get Arizona and California to agree on power and water projects and necessary water rights that would make CAP possible. In 1964, the Bureau of Reclamation proposed two dams south of Lee’s Ferry where regional state governments had artificially divided the Colorado River into upper and lower basins. The location of the dams was designed to keep the water projects firmly in the lower basin. But upper basin users remained skeptical. By 1965 ranchers in southern Colorado started to worry about CAP. An influential Colorado representative, Wayne

Aspinall, refused to move appropriations legislation forward until Arizona could somehow guarantee it would not use upper basin water.

Environmentalists also protested the dams because the dams would flood major portions of the Grand Canyon National Park. In 1966, the Sierra Club launched one of the first modern environmental campaigns. The organization purchased a full-page advertisement in the *New York Times* and asked its members to write letters to Secretary of Interior Udall and demand the cancelation of the two dams (Turner, 2015). The combined pressures from Colorado and the environmentalist persuaded Udall to look for a new source of energy. Geological surveyors conducted in the Navajo Nation during the 1950s had revealed vast deposits of coal on Black Mesa in the center of the Navajo Nation (Iverson and Roessel, 2002). Udall turned his attention to the coal resources in the Navajo Nation as a way out of the deadlock with the dams.

In lieu of two hydroelectric power plants, Udall made an agreement with the Navajo and Hopi tribes to construct a coal-fired power plant on reservation land. This would become the Navajo Generating Station (NGS), a 2,250-megawatt power plant, that operated for 50 years in the reservation. The agreement was shepherded through the Navajo Tribal Council by white attorney Norman Little. Little had to convince the council to repeal previous resolutions supporting the dam projects and switch the tribe's support to coal instead. He justified this by claiming nuclear power would soon replace coal as the dominant source of energy and Navajo coal would eventually be useless. The prediction proved wrong and coal would become a dominant feature of the Navajo Nation economy for decades (Curley, 2019b).

Despite tensions over lower basin priority rights, Arizona and California state planners were still able to agree on CAP's future course. Coal satisfied environmental groups because it would not flood the Grand Canyon or disrupt the naturalness of the Colorado River as the water passed through the park. In August of 1965, Anthony W. Smith of the National Parks Association wrote in a brief to Congress:

The interests of the people of Arizona dictate that there be no further delay in getting water into Arizona; the prompt way to get water into Arizona, the cheapest way, and the way which will have the least opposition, is to use coal (1965, pg. 2).

Similarly, in 1967 Congressional testimony on CAP, Sierra Club President David Brower said this about coal:

We are not an advocate of strip mining at the present time, but something is going to be lost. You have to weigh the kind of value you are going to lose. If you say ... it must be coal or it must be strip mining (to power CAP) I would say still, even though the desert is fine country there, it is not a world famous desert in the sense that the Grand Canyon is a world famous canyon, and I would say that that would be the lesser of two evils (1967, pg 454).

For Brower and many environmentalists at the time, it was worth sacrificing Diné land to preserve the Grand Canyon.

During a Senate hearing in May of 1967, Colorado Senator Aspinall asked Secretary Udall, "...what measures would you take to insure that the steam plant's allocations would be included within Arizona's Upper Basin allocation?," to which Udall replied, "We would tie this down by contract," and cited power plant leases between the State of New Mexico and utilities for the operation of the Four Corners Generating Station on the eastern end of the Navajo Indian reservation. Udall explained, "...the truth of the matter is that the Navajos are most anxious to have Arizona's Upper Basin water used and the Hopis, too, because their reservation



is covered for the development of coal. This will bring them a far greater return than any other possible use, so that they have no conflict in this regard” (1967, pg. 174).

In 1969, Washington Post Reporter William Greider wrote that Colorado Congressman Wayne Aspinall and Udall put 34,100-acre feet of water into the power plant lease to limit how much water Arizona could use (Greider, 1969). The offset was included in a contract between the power plant owners and the Navajo Nation and obligated the tribe not to pursue its water rights over the Colorado River for 50 years. Although the Navajo Nation made the sacrifice, this clause was designed to benefit Arizona and not the tribe. The specific language read: “In consideration ... of the benefits to the Tribe which shall accrue hereunder, the benefits the Tribe from the construction and operation of Navajo Units #1, #2, and #3, and the benefits to the Tribe from Peabody’s mining operations to provide coal fuel for said units, the Tribe agrees that during the term of this Lease,...” that 34,100 acre-feet of Colorado River water will always be available for Navajo Generating Station’s use.

During Senate testimony in May 1967, Arizona Governor Jack Williams described CAP’s impact on Arizona as critical for meeting the state’s future needs. Williams said, “Arizona’s economy is in a period of transition from a primary dependency on agriculture and mining to a greater significance of light manufacturing, distributive industries, and trade” (1967, pg. 107). Arizona literally built its water infrastructure on the suspension of Diné water rights for fifty years. NGS powered CAP and set aside 34,100 acre-feet of Colorado River water for the power plant in order to appease upper basin users and create the political conditions to make CAP possible. Fifty years delay allowed Arizona to grow, use more water, and gain more representation in Congress.

The construction of CAP lasted from 1973 until the early 1990s when the final portion of the project was installed.<sup>6</sup> This temporal offsetting of Diné water claims for fifty years exacerbated colonial difference over time. From the early 1970s until 2019 the Navajo Generating Station was a key infrastructure tied to supplying CAP with energy in order to move water from the Colorado River to Phoenix. The infrastructure allowed the State of Arizona to put to use 1.5 million of its 2.8 million acre-feet-a-year of water from the Colorado River.<sup>7</sup> Whereas the energy and water went to Phoenix and Tucson, both the power plant and the mine and their environmental burdens were located in the Navajo reservation.

The Kayenta Mine, Navajo Generating Station, and CAP were the nexus of infrastructures needed to bring Colorado River water into Phoenix and Tucson where colonial communities could expand beyond natural water limitations – creating the coal-energy-water nexus. At the same time, the preservation of the Grand Canyon became a cash cow for Arizona and the federal government. In 2018, the Grand Canyon National Park contributed \$947 million to the state's economy (Cullinane Thomas, 2019), while the Navajo Nation planned for a loss of hundreds of jobs and millions of dollars in revenue. Such divergent outcomes 50 years apart demonstrate the building of colonial difference over time through placement and design of infrastructures.

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<sup>6</sup> <https://www.cap-az.com/about-us/background>, last accessed 11/6/18.

<sup>7</sup> <http://www.azwater.gov/AzDWR/PublicInformationOfficer/documents/supplydemand.pdf>, last accessed 11/6/18.

## **Water settlements, concessions, and power: tightening the knot**

After Arizona put its abstract water rights into “wet” water through CAP, Arizona politicians started to approach Indigenous communities to “settle” and relinquish remaining claims to the Colorado River and its tributaries. The coal-energy-water nexus had moved legal-political power disproportionately in Arizona’s favor. It gave Arizona demographic, political, and – ultimately – the material means with which to pressure tribes. Western water law prioritizes the use of water, not just abstract claims on paper. CAP and similar projects put a lot of water to use and in the state’s column.

The colonial pressures Arizona is now able to muster against tribes was made possible through decades of concessions in the construction of Arizona’s coal-energy-water nexus. CAP provided for the expansion and development of Phoenix, Tucson, and other sprawling Arizona communities.<sup>8</sup> It was built on colonial water laws and legitimized damming and diversion that dramatically changed the landscape along the Colorado River. Today, colonial communities are able to demonstrate actual water use. Indigenous water practices, existent for hundreds of years (Yazzie and Baldy, 2018), is rendered abstract and hypothetical – doing epistemic violence on top of legacies of physical violence.

Without CAP and Navajo coal, Arizona would not be able to pressure the Navajo Nation with the same magnitude of promises and threats. Meanwhile, the state’s water usage has grown alongside the state’s population and GDP. Although Arizona claims the state’s water use is similar to 1950 levels per capita, the total amount of water diverted from the Colorado River

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<sup>8</sup> The modernization of the west as a political project eventually fell out of favor. The modern environmental movement eventually challenged dams and power plants. For example, VanderMeer wrote that CAP fell out of favor of the Carter administration and federal funding for future dams dried up, (2010, pg. 285).

and used in the cities has only increased over time. It can't decrease, because western water law is also constructed to penalize water users who use less than the year before incentivizing ever increasing demands on the Colorado River and its tributaries.

In 2004 Congress passed what might be the most consequential legislation on water rights for the 22 Indigenous nations captured in the territorial claims of Arizona - the Arizona Water Settlements Act. The act was the last legal-political mechanism needed to legitimize existing water appropriations and diversions that were introduced in the Colorado Compact. It was a final piece of a puzzle to complete the enclosure on aboriginal water claims in Arizona. Aside from enacting water settlements between the State of Arizona and The Gila River Indian Community and Tohono O'odham Nation, the act also established the framework through which Arizona would resolve future water settlements with tribes in the state. It set a quantifiable *maximum* amount of water tribes could claim with the remainder of unallocated water diverted to the state and city governments.

For the seven tribes without water settlements with the State of Arizona, including the Navajo Nation, the 2004 Arizona Water Settlement Act limited the total allocation between them to 67,300 acre-feet-a-year. By comparison, the Gila River Indian Community alone was guaranteed 102,000 acre-feet-a-year when it settled its claims with Phoenix and State of Arizona. Consequently, the entire water infrastructure for tribes in Arizona becomes subsequent and subservient to CAP. The Arizona Water Settlements Act requires tribes to concede to CAP and in some cases acquire water through it. In these water settlements, Arizona requires concessions on water claims before it will fund desperately needed water infrastructure in the reservation.

### *Little Colorado River Settlement of 2012*

Indian water settlements do not simply take the form of an agreement between two governments, such as the Navajo Nation and the State of Arizona. Because of Congress' plenary power over tribes, Congress must agree to the settlements between tribes and states. Senators like former Arizona Senator Kyl tend to add additional concessions beyond what is already in the agreement during the legislative process. Settlements, even when agreed upon, eventually take the form of legislation. The particulars of a water agreement must be converted into an act of Congress and this adds new considerations when thinking about water settlements.

In 2005, the Navajo Nation settled its claims to the San Juan River with the State of New Mexico. The settlement included Congressional funding for water infrastructure in the Navajo Nation. The State of New Mexico agreed to it. Pipelines crossed through the reservation and were ready to deliver drinking water to Diné communities. But Senator Kyl removed 6,411 acre-feet of water as political leverage for future water settlements between the Navajo Nation and the State of Arizona. Again in 2010, when the Navajo and Hopi tribes agreed to drop litigation over Colorado River waters in exchange for a \$800 million water pipeline on the western end of the Navajo Nation, Kyl refused to take the agreement to Congress because it was "too expensive."<sup>9</sup> The western pipeline would have provided desperately needed water to the western end of the reservation where coronavirus transmission rates were among the nation's highest in the summer of 2020.

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<sup>9</sup> [https://www.navajo-nsn.gov/News%20Releases/OPVP/May11/51611\\_NavajoNationWaterRightsCommissionBriefsNavajoNationCouncilontheStatusoftheNortheasternArizonaIndianWaterRightsSettlement.pdf](https://www.navajo-nsn.gov/News%20Releases/OPVP/May11/51611_NavajoNationWaterRightsCommissionBriefsNavajoNationCouncilontheStatusoftheNortheasternArizonaIndianWaterRightsSettlement.pdf), last accessed 10/12/20.

In the fall of 2012, Kyl and Arizona Senator John McCain traveled to the western Diné community of Tuba City in pursuit of such a settlement. They met with the councils of the Hopi and Navajo nations in order to persuade tribal officials to agree to negotiate claims to the Little Colorado River, a tributary of the Colorado River that runs through both nations (Curley, 2019a). The river originates in the White Mountains, south of the Navajo and Hopi reservations and settled in the 1880s by conservative Mormons. The Mormons made extralegal dams and diversions prior to Arizona's own self-proclaimed jurisdictions over area waters. The 2012 settlement, on the centennial celebration of Arizona statehood, was important to legitimizing upstream diversions.

Federal power provides Arizona representation in Congress. Consequently, the 22 Indigenous nations in the State's water claims must rely on Arizona Senators and Congress people to represent tribal interests in Congress. This political difference skews settlements in the state's favor. The only alternative for tribes is to litigate. But since *Arizona v. San Carlos Apache Tribe* (1983), Indian water cases were moved from the federal courts to the state courts (McGuire et al., 1993, pp. 14-15). Water law attorneys warn tribal officials that the state courts are risky because judges tend to favor the state's claims. To avoid biased arenas, the only other alternative for tribes is to settle.

In the Little Colorado River Water Settlement, Kyl told delegates he would take the agreement to Congress only after the tribes would have to agree to a 25-year extension of the NGS lease between the Navajo Nation and the owners of the power plant that would in effect defer Navajo claims to the Colorado River by another 25 years – until 2044. He also asked the tribes to agree that any future conversion of fee-simple lands that the tribe owns and uses into

“trust” status, a status that converts private property the tribe owns into reservation lands, would require Congressional approval. Moving land claims to the exclusive domain of Congress politically negates any potential executive branch alternative to get landback to tribes.

The inclusion of NGS as a condition of the water settlement became a rallying cry for Diné community members that opposed the settlement. For years, Diné environmental activists recognized the link between coal and water in the Southwest. From 1970 until 2006, the Black Mesa Mine used a water slurry to move coal 273 miles from the Navajo Nation to the Mohave Generating Station in Nevada. The slurry was included in a 1966 lease between the tribe and Southern California Edison. The California utility proposed the use of a water slurry instead of conventional rail in order to save money. The slurry didn’t use river water. It tapped into the Navajo Nation’s N-Aquifer and used hundreds of thousands of gallons of drinkable water a year to move water west – sacrificing water for coal.

In the early 2000s, Diné students at Northern Arizona University founded the Black Mesa Water Coalition (BMWC) to challenge the coal slurry. By this point, the slurry and coal mine were thirty years old and employed hundreds of Diné and Hopi workers. The debate divided families. In 2006, the owners of the Mohave Generating Station closed the power plant to take advantage of carbon credits in California. But the closure left hundreds of Diné workers unemployed (Nies, 2014). Linking coal with water resonated deeply with Diné communities.

The Little Colorado River Settlement Act of 2012 also included language pertaining to future acquisition of land for the Navajo and Hopi nations. In Section 107, a section vaguely called, “After-Acquired Trust Land,” the legislation read:

the Navajo Nation or the Hopi Tribe may only seek to have legal title to additional land in the State...taken into trust by the United States...pursuant to an Act of Congress ... after the date of enactment of this Act.

The semantics are murky but basically mean that tribes can only increase the size of reservations through Congressional legislation. In the first half of the 20<sup>th</sup> century, the Navajo reservation was expanded several times through presidential orders and not through acts of Congress. But state governments opposed this practice. Expanding reservations challenges state jurisdictions. It removes taxable land and converts state land into federal land. Kyl wanted to make sure only Congress could give Indian lands back. Putting authority to give landback exclusively in Congress ossifies tribes into current statuses. It prevents future threats of Indigenous land and water claims. Water settlements are modern colonial tools designed to place clear limitations around Indigenous sovereignty, preserving the state's advantageous position gained over time through colonial beachheads.

The analysis advances the idea of infrastructures as necessary for colonial difference making. To understand colonial effects, over time and in aggregate, it is important to expand the temporal – beyond the periodization of historians or temporal flatness of quantitative assessments. Putting infrastructures into lifecycles exposes the relational difference between colonizer and colonized overtime. In the 100 years since the Colorado Compact, the State of Arizona has outpaced the legal and political powers of the 22 independent Indigenous nations with competing claims over territory and waters. In Arizona's coal-energy-water nexus, the construction of the Navajo Generating Station was a way to offset Diné water rights for a generation and beyond. The difference amounted to new kinds of pressures and very different kinds of concessions than were imagined in the 19<sup>th</sup> century. Although settler-colonialism is



useful in understanding the permanence of colonial structures within colonial countries like the United States and Canada, or even the particulars of the State of Arizona, it is harder to get a read on the nature of coal-water-energy agreements between Indigenous communities and colonial political structures. Outright genocide and ethnic cleansing are replaced with tentative agreements, limited collective rights and recognition and water settlements.

## **Conclusion**

The carving of Arizona out of New Mexico territory was rooted in notions of manifest destiny, colonization, and imperial expansion. Indigenous nations that lived in the Southwest for thousands of years were purposefully excluded from American territorial expansion. Arizona was born in notions of settler displacement and dispossession. The “Navaho Indian reservation,” as it was originally called, was established in order to make way for railroads. Eventually highways replaced rail in the expansion of settler populations across the continent. Water was critical for this expansion. The Colorado River is the most abundant and reliable source of water in the Mountain West. Urbanizing colonial outposts needed regular, reliable, and ever-increasing supplies of water. Arizona water politics were shaped according to a narrative about turning desert landscapes into sites of civilization based on large scale agriculture and scientific innovation (Koch, 2020).

National infrastructures are the engines of colonial dispossession in the United States and Canada. Pipelines required roads, which followed rail routes and wagon trails. They make colonial difference possible, from rail to power plants. In the case of Arizona’s coal-energy-water nexus, its infrastructures have favored settler-colonial communities at the expense of

Indigenous water access and rights. Water laws, compacts, and settlements intended to resolve colonial disputes between tribes and states are forms of enclosure and attacks on the inherent rights and jurisdiction of Indigenous peoples to their lands and waters. They lasso tribes into colonial social-political arrangements. Through participation in infrastructures, we witness the mundane practices of colonial violence.

In this paper, I showed that infrastructures are temporal binds that build on each other and keep past colonial advancements in place. The denial of water infrastructure for Diné communities today required the creation of a coal-energy-water nexus benefiting Phoenix and Tucson fifty years ago. In this way, infrastructures not only build on each other, temporally, to ensure control spatially, but also augment power difference over time. The temporal offsetting of Diné water rights in the colonizing United States is a process more than 100 years in the making. Reserved Winters' Rights for reservations (1907) was deferred in 1922 at the signing of the Colorado Compact, again in 1963 in *Arizona v. California*, again in 1969 with the passage of the land lease for the Navajo Generating Station, and, finally, capped in 2004 to 67,300 acre-fee-a-year in the Arizona Water Settlement Act. The Navajo Nation made Arizona possible in not only the use of coal for the Central Arizona Project, but also in its forfeiture of water rights for CAP to pass Congress in the 1960s. Today, it matters less than it ever did before if Indigenous nations settle water claims with the State of Arizona. The state has already put most of its waters under the Colorado Compact to use. Diné leaders are presented with a choice to take what little Arizona is willing to offer or nothing at all.

The implication of this understanding is to account for the politics and practice of colonialism and development in western North America during the 20<sup>th</sup> century. It focuses on

new kinds of dispossessory mechanisms, water agreements, casino state compacts, leases for extractive industries, etc. that are hard to analyze beyond “elimination” and “replacement” in settler colonial theory. Rather, they speak to the “entanglement” of tribal and colonial politics, or the contradiction of “the politics of recognition” that Indigenous scholars have offered.

Today, federal and state officials tell Indigenous leaders that infrastructures benefit tribes in social and material ways. But when we highlight how these technologies exacerbate social, political, and material difference over time, it calls into question the long-term benefits of these projects for Indigenous nations. Infrastructures are both the physical and political structure of colonialism. Without infrastructure, colonialism is made difficult, if not impossible. Infrastructures are part of the process of colonial entanglement. They compel Indigenous communities into capitalist notions of modernization and development. However, like all aspects of capitalism, the effect and impact of infrastructures is spatially uneven and built on settler-colonial logics. In short, they create the colonialsapes that intensify colonial difference. Treating infrastructure as both an object of analysis and method allows for us to see the colonial difference the lifecycles of infrastructure projects generate – as colonial beachheads.

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