If You Build it Together, They Will Come: How Three Different Agencies Learned to Work Together to Supply Adequate Water for Phoenix, Arizona

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Even by Arizona standards, the summer of 1951 was a hot one. It had left the Valley of the Sun, consisting of Phoenix and the neighboring communities within Maricopa County, struggling to provide enough water for the steadily increasing population of the region.[1] There was a real chance that the municipal water lines would soon run dry.

Phoenix typically supplemented its groundwater supply with surface water imported from the nearby Salt and Verde Rivers. The main supplier of such surface water to the city, the Salt River Valley Water Users' Association (SRVWUA), was nevertheless going broke. SRVWUA, a cooperative of farmers that managed the Salt River Project on behalf of the federal Bureau of Reclamation, had been supplying Phoenix with water in accordance with two contracts signed in the late 1940s, just as city leaders began to anticipate the hordes of migrants moving into new subdivisions throughout Central Arizona to take jobs in the newly-booming postwar defense industry.[2] The new inhabitants of the subdivisions were members of SRVWUA because of the location of their houses but did not pay Association dues. These people, in other words, were using SRVWUA's services for free. The water deliveries to these new suburban regions had caused both the water and money supply of SRVWUA to dry up.[3]

The drought and the adverse financial straits of SRVWUA caused the agency to contemplate unprecedented moves. That desperation also became a problem for Phoenix because of the negative impact on the overall water network for the city. On July 10, 1951, SRVWUA managers informed the city that they "would only deliver the 20,193

[1] Appendix, Figure 1.
[2] Douglas E. Kupel. *Horseshoe Dam Spillway Gates From Inception to Construction, 1945-1950* (Unpublished manuscript, April 26, 1990) 157-158.
[3] Ibid, 157.

acre-feet per a 1946 contract, leaving Phoenix with only 10 days of water supply."[4] City leaders were alarmed at hearing this declaration. Something needed to be done, particularly because the city and county had long been the most populous in the state, claiming approximately 50% of Arizonans.[5]

It was neither in the interest of SRVWUA, nor of the city leadership of Phoenix, for the city to run out of water. Association officials claimed that they, in fact, "did not begrudge Phoenix the water, but objected to the city taking it without remuneration."[6] The two sides agreed that a compromise, the third between them dating back to 1946, was in order. The Valley of the Sun was no longer the primarily agricultural area that it had been before World War II, and both Phoenix and SRVWUA were eager to reach a deal that reflected this rapidly-changing structure.

Fortunately for all of the parties, Phoenix did not run out of water in that hot summer of 1951. The subsequent winter made both sides even less desperate in their negotiations over water rights; heavy rains throughout Central Arizona had replenished both the aquifers beneath the Valley and the reservoirs above it. Both sides wanted to make sure that such a crisis would never happen again. Phoenix, which arguably was more desperate for water than SRVWUA was for cash, eagerly agreed to the demands of the Association. SRVWUA, fearful of delivering more water to customers in Phoenix at a loss, wanted the city to pay dues for tracts of Association land that were now being used for non-agricultural purposes. The agency effectively proposed to transfer water to the

[4] Ibid, 158. (One acre-foot of water equals 325,851 gallons.)
[5] United States Bureau of the Census, Population Division. "ARIZONA: Population of Counties by Decennial Census: 1900 to 1990." Washington http://www.census.gov/population/cencounts/az190090.txt
[6] Kupel, 159.

city.[7] The deal between them, which took effect on January 1, 1952, gave Phoenix the right to use Salt River Project water as part of their municipal supply, and it also gave landowners on SRVWUA lands the option for the city to pay membership dues for them.[8] The city had a pressing need for water and therefore had no choice but to accept many of the SRVWUA demands. Phoenix was nevertheless satisfied with the agreement. SRVWUA water was now to be a dedicated part of the Phoenix municipal water supply, allowing the city to use its well water elsewhere.

According to the 1940 Census, 186,000 people lived in all of Maricopa County.[9] By 1970, however, Maricopa County had slightly fewer than one million people, or about 55% of the population of all of Arizona.[10] What distinguished Phoenix from many other cities in the West was that it did not expand into a major metropolitan area as a result of a single "water grab" by one or more of its agencies. Instead of such unilateral action, a unique network of collaboration developed. Between 1945 and 1965, leaders at all levels of city and state government made a series of pacts with the federal Bureau of Reclamation and private agencies, including SRVWUA and the Central Arizona Project Association, to facilitate the transformation of the Valley of the Sun from a primarily agricultural to a primarily urban region. The story of Phoenix was, in essence, an unusual tale of extensive cooperation and compromise.

The 1951 compromise between Phoenix and SRVWUA occurred only because the two sides had previously worked together on many different projects to serve the residents of the Valley of the Sun. The first major postwar agreement among the city,

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[7] Ibid.
[8] Agreement between Salt River Valley Water Users' Association and The City of Phoenix, a Municipal Corporation. City of Phoenix Law Offices. Phoenix, Arizona. Article VI. Signed January 1, 1952.
[9] United States Census, 1940.
[10] Ibid, 1970.

SRVWUA, and the Bureau of Reclamation had been finalized in 1946, when the city gained the right to construct gates above Horseshoe Dam, one of the dams that make up the Salt River Project. In exchange, Phoenix agreed to pay SRVWUA and to collect the extra accumulated water in the SRVWUA reservoir.[11] As part of this deal, the Association also agreed to provide the Bureau of Reclamation a potential delivery point for water coming from the Colorado River, two hundred miles west of Phoenix via the Central Arizona Project (CAP), which the federal agency wanted to construct for the purpose of supporting the primarily agricultural economy of Arizona.[12]

If not for this spirit of compromise among the City of Phoenix, SRVWUA, and the Bureau of Reclamation on the expansion of Horseshoe Dam, CAP would have never been subsequently authorized. Phoenix, SRVWUA, and the Bureau of Reclamation all had different reasons behind their support of the expansion of Horseshoe Dam. Phoenix wanted a reliable water supply from the Salt River Project. By contrast, SRVWUA wanted the city to guarantee it a steady stream of income, and the Association also wanted the federal Bureau of Reclamation to pay for improvements on the Horseshoe Dam. The Bureau of Reclamation wanted to expand Horseshoe Dam in order to construct CAP and thereby increase its influence over water politics in the Valley of the Sun. Each of these three groups nevertheless understood the necessity of the project, which led to its passage.

This alliance was not only unlikely, but it was also self-serving for all of the groups involved. This ad hoc alliance of groups engendered long-term and far-reaching

[11] Contract No. 1830, Contract Between the United States of America, the City of Phoenix, Arizona, and the Salt River Valley Water Users' Association Providing for the Installation of Spillway Gates at Horseshoe Dam. City of Phoenix Law Offices. Phoenix, Arizona. Signed October 7, 1948, Articles 11-12.
[12] Ibid, Article 15B.

ramifications. The same alliance later worked successfully with other agencies to accomplish even larger projects. In the late 1950s and early 1960s, officials from Phoenix, the Bureau of Reclamation, SRVWUA, Arizona's Congressional delegation, and the lobbying groups, most notably the Central Arizona Project Association, lobbied for the authorization of CAP. The water from this canal was primarily to aid the farmers of Maricopa County suffering from depleted aquifer levels as well as to supplement the water supplies of Phoenix and its neighboring cities. When negotiating a common ground on CAP, the city, SRVWUA, and the Bureau of Reclamation applied the lessons of compromise they had learned in the previous decade from their negotiations over the Horseshoe Dam expansion and the 1952 Agreement. The Arizonans in Congress made similar compromises at the federal level with their Californian counterparts in order to get CAP authorized at the federal level. The spirit of compromise was essential in all three instances. By conceding some political positions to opponents of both the Horseshoe Dam expansion and CAP, the supporters of the projects were able to get the water that they wanted and the cities of Central Arizona badly needed.

The story of the development of Phoenix, like that of numerous cities in the West, is largely a story of water. In many instances, such as in Los Angeles and San Francisco, one agency simply took the water it desired unilaterally. The development of Los Angeles typified water grabs in the West. City leaders decided that the only way that Los Angeles would be able to maintain its growing population in the first decade of the twentieth century was through an aqueduct bringing water from the Owens Valley, about 235 miles to the northeast. [13] In the eight years from the authorization of the Los Angeles

[13] David Zetland. "Conflict and Cooperation within an Organization: A Case Study of the Metropolitan Water District of Southern California" (PhD diss. University of California, Davis, 2008), 26.

Aqueduct in 1905 to its completion in 1913, city elites designed and built a water system for Los Angeles without any thought for, nor any collaboration with, the people of the Owens Valley. The Angelenos who funded the aqueduct bought up much of the land within the city and the adjacent San Fernando Valley at about the same time and later sold the land at a profit to farmers and developers clamoring for irrigated land.[14] The personal greed of the heads of the Los Angeles Department of Water and Power directly led to the construction of the Los Angeles Aqueduct.

Another major western city, San Francisco, also grew considerably after it, too, acquired the water it wanted by force. The city elites of San Francisco wanted water from the Tuolumne River as a means of determining and controlling water deliveries. The amount of time and money that these San Franciscans spent to obtain federal approval to construct a dam at Hetch Hetchy Valley, in Yosemite National Park, overwhelmed the efforts of John Muir and other preservationists trying to protect the natural beauty of the area.[15] The completion of O'Shaughnessy Dam and opening of the Hetch Hetchy Aqueduct in 1934, like the construction of the Los Angeles Aqueduct two decades prior, not only allowed San Francisco to grow into a major western city, but it also served to benefit wealthy San Franciscans; they now monopolized water services in the city. Once again, unilateralism was the way that caused the water to flow.

The story of bringing water to Phoenix, by contrast, was unlike that of Los Angeles and San Francisco because competing groups with different interests acted together in a partnership to bring the necessary water into the Valley of the Sun. This partnership was not without flaws, but all of the sides involved learned to make trade-offs

[14] Marc Reisner. *Cadillac Desert*. (New York: Viking Penguin, Inc. 1986), 63-4.
[15] Norris Hundley, Jr. *The Great Thirst: Californians and Water, A History.* (Berkeley: University of California Press.) 2001. Pages 181-7.

with each other for their common goal. In so doing, they developed a sophisticated water system that grew to serve over three million people by the end of the twentieth century.[16]

II. Urban Development in Phoenix:

Central Arizona had been a primarily agricultural area since the mid-1860s, when Arizona was still a territory. With the advent of World War II, the War Department needed a place to train troops rapidly and to build factories to produce industrial goods needed for the war effort in places far enough away from potential Axis bombings.[17] Maricopa County was an ideal place for wartime industry. It was within a day's drive of Los Angeles and San Diego, two major wartime hubs for the Pacific Front, yet "the inland location of Phoenix offered vital war industries that might be vulnerable to attack."[18] Phoenix used its strategic location, combined with its temperate climate and abundant farmland, to construct infrastructure for the war effort and the post-war growth that occurred.

The Valley of the Sun became home to major support systems for the military bases in Southern California and elsewhere. Sky Harbor Airport in Phoenix was converted into a major military training ground, and other airfields, most notably Williams Field in Mesa, twenty miles southeast of Phoenix, were soon constructed for this same purpose.[19] Many GIs passed through Sky Harbor Airport and Williams Field for aviation training, and others came for noncombat jobs.[20] With the increasing number of cars and suburbanization after the war, many Americans took advantage of the postwar economic boom to move to Arizona. In particular, the Valley of the Sun was a prime

[16] United States Census, 2000.
[17] Kupel, 124.
[18] Ibid.
[19] Ibid.
[20] Ibid, 163-4.

destination for many GIs returning home from the battlefields. The robust defense industry provided them well-paying middle class jobs as they started families in the new subdivisions being built throughout Maricopa County.

The leaders at Phoenix City Hall welcomed the opportunity to support the United States during the war, as well as the opportunity to build its own industrial base afterward. The chance to become a major industrial center for all of Arizona, in addition to its current status as an agricultural and political hub, was an attractive one for a city that had only claimed 64,500 people at the 1940 Census.[21]

Members of the government were not alone in harboring optimistic plans for the future. Water interest groups like the Central Arizona Project Association, formed in 1946 to advocate for the authorization of CAP, also saw the urbanization of the Valley as an opportunity to expand their influence. One Central Arizona Project Association pamphlet, published the following year, connected the need to authorize CAP with the rapid population growth of Maricopa County, noting that "people continue to come to Arizona and will continue to come to Arizona, not only for reasons of health, but also because of our opportunities and the mental outlook of young and progressive, forward looking state and civilization."[22] People moving to Phoenix were coming to make the city a great place to live the American Dream. It was therefore imperative that governments help them in whatever way possible, especially by building the water infrastructure needed for them to survive in a desert climate.

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[21] Reisner, 269.

[22] Central Arizona Project Association. "Address of Charles A. Carson, Special Counsel for the State of Arizona on Colorado Matters. Delivered April 23, 1947 in Phoenix, Arizona, before the spring meeting of the American Society of Civil Engineers." Phoenix: Arizona State Library Archives and Public Records. The Arizona Collection, Vertical Files. Central Arizona Project—Brochures, Pamphlets and Publications. April 23, 1947. 5.

At about the same time, interest groups like the Central Arizona Project Association started alerting the cities to the potential shortfall in the water supply. As historian Marc Reisner argues in his best-selling book on water in the West, *Cadillac Desert*, those moving to Arizona postwar were not thinking about the amount of water available to use. Rather, "people were happy to leave temperate climates with cold winters for desert climates with fierce summers…[and did not bother] to ask whether there was enough water before they loaded their belongings and headed west."[23] During the war, the Valley of the Sun had collectively become an industrial hub for the war effort. The importance of the war effort overrode concern for the aquifers that were an aquatic lifeline. In peacetime, by contrast, the looming water shortage was a major issue for the communities of the Valley of the Sun otherwise benefitting from the increase in people and economic productivity.

One of the major differences between prewar and postwar Central Arizona was the way water was used. Groups like the Central Arizona Project Association which advocated for more imported water, especially from the Colorado River via CAP, introduced newcomers to the agricultural history of the region. Until World War II, farming had employed the most people, and had used the most water, in the Valley of the Sun. Indeed, up until 1945, Maricopa County had been classified as a "semi-arid area. It is not a desert," according to Central Arizona Project Association brochures praising the farmers of the Valley in making the area one of the most productive in the state.[24] Indeed, another Central Arizona Project Association brochure reckoned that there were 11,000 farms within Maricopa County in 1946 taking advantage of the warm weather in order to

[23] Reisner, 269.
[24] Central Arizona Project Association. *Presenting the Central Arizona Project to You.* (Phoenix: Central Arizona Project Association, 1947.) 17.

grow conventional and "other unusual crops" year-round.[25] The agricultural output of the Valley of the Sun had been a major part of the economy of the entire state of Arizona. In order to maintain their economic prosperity, these farms had to have a continuous supply of water.

The importance of the war effort distracted the people of Maricopa County from the health of the aquifers beneath their feet. With the end of World War II, agricultural productivity continued to rise in the Valley of the Sun, but industries catering to new arrivals in Phoenix also started to take off. Construction, for instance, was especially strong; 40,000 homes were built throughout metropolitan Phoenix between 1940 and 1946.[26] The building of these houses poured $245 million into the economy of Phoenix, which also tripled in population during that same period, to 176,000 people, not including part-time winter residents known as snowbirds.[27] The advent of cars and suburban growth in the 1940s made Phoenix less of an agricultural water user and more of a domestic one, a trend that accelerated as the city transformed from a land of farms into one of suburban sprawl and highways.

Farmers started selling their land to developers, and the water rights that came along with them, for increasingly higher sums of money. Phoenix soon became one of the fastest growing cities in the nation, but it nevertheless struggled to provide a safe and reliable water supply for its new residents. [28] The city faced two main challenges to providing the water: first, it had to secure the rights to the water it needed, and second, it needed to recognize that "the price consumers pay for water must be low enough to

[25] Central Arizona Project Association. *The Case for Water in Central Arizona.* (Phoenix: Central Arizona Project Association. 1947.) 10-14, 39.
[26] Central Arizona Project Association, *Presenting the Central Arizona Project to You*, 62.
[27] Ibid, 7.
[28] Ibid, 5.

permit and encourage full and efficient utilization of water by all types of users."[29] The rapid growth in Maricopa County came at a time of major drought. The consequently depleted aquifers in the Valley of the Sun and the receded SRVWUA reservoirs forced city leaders to be extra creative in the way they achieved their two main goals.

Arizona's geography presented a major issue for those advocating for the importation of water into Phoenix, either from the Colorado River or via the Salt River Project. Planners needed inexpensive energy to pump water both over the mountains into the Valley of the Sun and out of the ground locally. The depleted aquifers of Maricopa County, furthermore, had made pumping groundwater for farming dangerously expensive in some areas.[30] Some leaders believed that the first step in bringing water into Central Arizona was to make electrical power a chief Arizona export, with the same importance as its specialty crops. In both private letters and public speeches throughout 1941 and 1942, for instance, Governor Sidney Osborn urged Arizona to increase its electrical production, claiming that it was "the equivalent of water, and the price charged [for power]…determines whether farmers will operate at a profit or a loss."[31] The cost of electricity had to be low enough for the farmers of Maricopa County to use cheaply but yet high enough for it to be sold to other states at a profit. He proposed that water and power projects be interlinked. Arizona could not only be an energy producer to meets its internal needs, but power sales to other states could pay for the gargantuan costs of importing water. At first, postwar plans for water imports to Phoenix did not mention power, but, as the plans for CAP came to fruition in the mid-1950s, planners soon

[29] Ibid.
[30] Rich Johnson Papers. (MSS112. Box 1. Folder 1.) Arizona Collection. Arizona State University Libraries, Tempe, Arizona.
[31] Carl T. Hayden Papers. (MSS1. Box 768. Folder 15.) Arizona Collection. Arizona State University Libraries, Tempe, Arizona.

realized that answering Governor Osborn's call for more power would be the only way that Colorado River water would make its way into the Valley of the Sun.

SRVWUA considered the rapid development of metropolitan Phoenix as both a blessing and a curse. SRVWUA, incorporated on February 9, 1903, had formed when the farmers of the Valley of the Sun decided to come together in order to maximize federal aid for water projects as provided under the National Irrigation Act.[32] Although a very powerful organization in Central Arizona water politics in the mid-twentieth century, SRVWUA was structured as a cooperative. Courtland L. Smith, an anthropologist at Oregon State University, noted in his history on the Salt River Project, that as part of joining SRVWUA, "each landowner had one vote for each acre of land up to the 160 acres, a limit specified in the National Irrigation Act of 1902. The power of the electorate had always been with the farmers, because of the large parcels of land necessary for farming."[33] The farmers themselves had delegated their power to an elected board of officials, but they nevertheless maintained the mandate to choose the water policy of the association. The rapid pace that the farmers comprising SRVWUA came together and agreed on the structure of the organization was out of both out of individual interest and for the greater good.

The farmers' desire for water, and perhaps more importantly federal funds in order to construct their first dam on the Salt River, Roosevelt Dam completed in 1911, led the voters of the cooperative to entrust final decision-making to an elected board of governors and an elected council.[34] In turn, Smith claimed that the board of governors

[32] Courtland L. Smith. *The Salt River Project: A Case Study in Cultural Adaptation to an Urbanizing Community.*(Tucson, Arizona: University of Arizona Press, 1972.) 15.
[33] Ibid, 16.
[34] Ibid.

often delegated some decision-making powers back to the people, such as when "the board recognized the revenue potential from the sale of electricity… [and] tangible evidence of this recognition was an August 30, 1910 decision by association members to assess themselves an additional $1,000,000 for the construction of hydroelectric generating facilities."[35] Like Governor Osborn decades later, the farmers of the Valley understood the importance of electricity in their ability to produce crops. This decision was the quintessential example of how policy was passed: the board would propose ideas for the benefit of the farmers, the farmers would vote on them, and the board of governors would carry out their constituents' desires. The decision on electricity generation in the first part of the twentieth century, for instance, would ultimately make SRVWUA one of the most important utilities in the region as the Valley of the Sun urbanized. [36]

World War II was very lucrative for SRVWUA farmers. They took advantage of Central Arizona's good weather and the year-round growing cycle to grow the needed food for the war effort. Because of this astute decision to become an electricity producer in the 1910s, water and power from the Association's Salt River Project was able to cultivate 240,000 acres of land in Maricopa County in the three decades leading to the entry of the United States into World War II.[37] After the war, SRVWUA used the wartime infrastructure to increase its own political power as it helped the City of Phoenix acquire the water it needed to urbanize.

SRVWUA both contributed to its own coffers as well as fulfilled its patriotic duty when it allowed the Phelps-Dodge Corporation, on behalf of the federal government, to

[35] Ibid.
[36] Ibid.
[37] Central Arizona Project Association. *The Case for Water in Central Arizona*. 2.

build a dam on the Verde River. Horseshoe Dam, constructed between 1943 and 1945, would eventually hold back 60,000 acre-feet of water to benefit the copper smelters in Morenci, Arizona, located in the southeastern corner of the state in Greenlee County, needing water for the war effort as well as to provide another source of water for SRVWUA lands.[38] After Horseshoe Dam was constructed and the war concluded, the City of Phoenix approached the Bureau of Reclamation and SRVWUA, the owners and operators of the dam respectively, about using the water previously allocated to the mines for domestic use.

Horseshoe Dam was intended for postwar use; the three different groups, however, had different plans for its water. Phoenix was annexing outlying suburban areas into the city, purchasing the private water companies servicing them, and incorporating both the areas and their water rights into the municipal water supply. The city wanted to use Horseshoe Dam water to reduce its dependence on groundwater, which by 1947 was "about 40% of its total supply…[and] is so rapidly disappearing.[39] By contrast, the Bureau of Reclamation, the government entity that had contracted with Phelps-Dodge to build the dam, and had taken over its control after the war, wanted Horseshoe Dam to be expanded to quadruple its capacity, to 240,000 acre-feet, and to become a part part of the larger CAP system.[40] Lastly, SRVWUA wanted the water behind Horseshoe Dam to boost depleted water supplies. One of the Central Arizona Project Association brochures advocating for CAP noted reported that the reservoirs on the Salt and Verde Rivers had dwindled significantly, from 1.56 million acre-feet of storage at the end of 1941 to only

[38] Kupel, 3.
[39] Ibid.
[40] Ibid, 162.

393,899 acre-feet five years later.[41] Each of these three organizations had different visions of the future of Central Arizona, yet each knew that it had to cooperate with the other two to advance its goals.

III. The Expansion of Horseshoe Dam:

Phoenix leaders welcomed with open arms the hordes of people settling within the city limits. They knew that people moving there were mostly coming for middle-class jobs and their own personal the American Dream. The newcomers stood to boost the economic productivity, tax base and regional status of the city. Phoenix was nevertheless having difficulties supplying them all with water. Both the city and the new residents saw benefits in annexing the subdivisions in unincorporated Maricopa County, and in buying out the companies that had served them with aquifer water. Phoenix obtained the water it needed, and the residents obtained the city services they desired.[42] When a severe drought struck all of Arizona in the late 1940s, the City of Phoenix started seriously investigating the possibility of importing Colorado River water and expanding Horseshoe Dam in order to store it.

The City of Phoenix, SRVWUA, and the Bureau of Reclamation had to overcome their differences on the expansion of Horseshoe Dam and to find a creative solution that was fair to all parties. Each party wanted to use the water from Horseshoe Dam for its own purposes. Arizona water law was based on one simple principle: the first person to file a claim to a water source could use as much water as he or she pleased.[43] Within the Valley of the Sun, however, explained Cynthia Campbell, a water lawyer with the City of Phoenix, all of the parties had claims to water from the Salt and Verde Rivers, but there

[41] Central Arizona Project Association. *The Case for Water in Central Arizona*. 2.
[42] Kupel, 162-3.
[43] Arizona State Constitution, Article XVII, Sections 1-2.

had been no adjudication of the respective merits of these claims because there was no record of which water claims were filed first.[44]

In any case, Phoenix and SRVWUA could not wait in order to find out whose claims to water were legitimate. They had more practical needs and wants. The two sides initially grouped the lands of the Valley into three different categories: SRVWUA member lands within the municipal boundaries of Phoenix; town site lands, which were within the boundaries of Phoenix, but not those of SRVWUA; and member lands outside Phoenix city limits.[45] As farmers sold their lands to developers, new homeowners stopped paying dues to SRVWUA. The organization, nevertheless, was still obligated to provide its members with water, and it was placed in the position of having to deliver water to the new homeowners essentially for free.[46] The water deliveries to these members, who had become part of SRVWUA upon purchasing their newly-constructed house, were causing the Association to lose huge amounts of money, while the City of Phoenix was desperate for more water to use from the Salt River Project. Collaboration was necessary to construct a feasible solution. In late 1946 the City of Phoenix and SRVWUA agreed on the first of three contracts that would give both sides what they wanted. This contract stipulated that SRVWUA would deliver 20,193 acre-feet of water annually from Horseshoe Dam to the City of Phoenix; in accordance with SRVWUA policy, the city would deliver this water only to the subdivisions located on Association member lands.[47]

[44] Cynthia Campbell. In conversation with author. 17 January 2014.
[45] Ibid.
[46] Agreement between Salt River Valley Water Users' Association and The City of Phoenix, a Municipal Corporation. Gates and Appurtenant Facilities in Spillway at Horseshoe Dam. Signed November 22, 1946.
[47] Ibid.

In exchange, Phoenix agreed to assume the membership dues of the people living in the subdivisions receiving SRVWUA water. By 1946, these landowners had owed SRVWUA approximately $100,000 in dues. Phoenix also agreed to bear the costs of all improvements to Horseshoe Dam and to pay an additional 1% on top of the dues owed to SRVWUA for dam maintenance. Another clause of the contract stipulated that Phoenix would keep its proportion of water in Horseshoe Reservoir in times of drought; in the case of a spill from the dam, however, the water losses of the city would be counted first.[48]

This contract solved three important issues between SRVWUA and the City of Phoenix. First, it acknowledged SRVWUA water rights to the Salt and Verde Rivers. Second, the contract ensured that Phoenix would have a constant supply of surface water for its use. Third, the agreement showed to the Bureau of Reclamation that both Phoenix and SRVWUA supported CAP and were willing to support expansion of Horseshoe Dam for that purpose. One of the major conditions of the Bureau of Reclamation had been that, before CAP plans could be approved, both the City of Phoenix and SRVWUA had to agree on the expansion of Horseshoe Dam. Although the City of Phoenix was always enthusiastically in favor of CAP, as it would receive a share of its water, SRVWUA was only grudgingly supportive of the project. This contract was instrumental in obtaining SRVWUA consent because it threw the organization a financial lifeline by providing payments for the use of CAP water in the system. As a result, SRVWUA's approval for Phoenix's gates on top of its dam only came about because their construction would give the Association a major financial lifeline.

[48] Ibid.

By 1947, however, as Phoenix continued its practice of annexing outlying subdivisions, city leaders realized that more and more of the land under many of these newly-annexed subdivisions were SRVWUA member lands.[49] The city, they felt, was therefore entitled to use water from the Salt River Project. Phoenix consequently believed that an expedited expansion of Horseshoe Dam would not only satisfy current demand, but it would allow the city to have enough water to address the needs associated with future population increases. JT Teppe, Phoenix City Manager at the time, wrote a memorandum in November of that year urging expansion of Horseshoe Dam in order to maintain the high quality of living that was bringing people to Arizona. He argued that, of the 30,000 acre-feet of water the city was projected to use that year, 21,500 acre-feet would come from the Verde River and the rest from "salty city wells," as he put it. Teppe furthermore urged that the city "obtain our entire supply from the Verde River which means we must divert 10,000 or 12,000 acre-feet more than we took this year."[50] Teppe warned that reliance on the groundwater of the Valley of the Sun alone would not satisfy the rapidly-growing thirst of the City of Phoenix. He saw the expansion of Horseshoe Dam as the ideal opportunity for Phoenix to assure itself a seemingly endless supply of water into the 1960s and perhaps beyond.[51]

Before expansion of the dam could occur, the City of Phoenix had to coordinate its plans with SRVWUA and the Bureau of Reclamation, and more significantly, to convince them of the urgency and importance of the project. Arizona law required that

[49] Appendix, Figure 2.
[50] JT Teppe. "Subject: Progress of Horse Shoe Dam Hearing November 4, 1947." (Memorandum, City of Phoenix Law Offices, Phoenix, Arizona.) Page 2.
[51] Ibid.

the State Land Commissioner approve any impoundment of river water.[52] During one such hearing with the Commissioner, on November 4, 1947, the City of Phoenix explained its desperate need for water. The construction of gates, they argued, would assist the city in delivering water to 125,000 people, comprising 20% of Arizona's population, who were "getting thoroughly disgusted with the salty water, poor pressures, and poor services they have been getting for the past several years."[53] With the State Land Commissioner's approval, Phoenix wanted to use water that would not only keep future residents in the city, but also would attract new migrants and their tax dollars.[54]

SRVWUA and the Bureau of Reclamation opposed the City of Phoenix's application for various reasons. SRVWUA was opposed to releasing its water for non-member lands; it had always restricted use of its water to member lands of the Association.[55] The 1946 contract between the city and SRVWUA had indeed recognized the right of the cooperative to deliver water only to its member lands.[56] Furthermore, the Secretary of the Interior, J.A. Krug, joined SRVWUA in opposing the construction of the Horseshoe Gates. Although in theory Krug was in favor of expansion of Horseshoe Dam, he and the Bureau of Reclamation feared that construction of gates would impact plans for CAP. The gates, rather than expanding the dam itself, would not allow for sufficient storage of Colorado River water in the reservoir.[57]

In Teppe's words, the hearing on that day for "the City's water application to install gates on the Horse Shoe Dam and appropriate water from the Verde River ended

[52] Ibid. 1.
[53] Ibid, 2.
[54] Ibid.
[55] Agreement between Salt River Valley Water Users' Association and The City of Phoenix, a Municipal Corporation. Signed January 1, 1952.
[56]Agreement between Salt River Valley Water Users' Association and The City of Phoenix, a Municipal Corporation. Gates and Appurtenant Facilities in Spillway at Horseshoe Dam. Signed November 22, 1946.
[57] Kupel, 15.

in a stalemate" between both organizations.[58] The City of Phoenix would not get the gates it needed without the approval of both SRVWUA and the Bureau of Reclamation. The results of the November 1947 meeting with the State Land Commissioner showed the leaders of Phoenix that they would need to involve SRVWUA better in finding a fair agreement for the use of water from Horseshoe Dam. Phoenix city leadership subsequently decided that negotiation with SRVWUA would be the only way that the city would get the water that it needed.

The City of Phoenix, the Bureau of Reclamation, and SRVWUA all acknowledged that the urbanization of the Valley of the Sun was occurring faster than they had previously thought. As a result, they agreed that the 1946 contract was outdated and needed to be renegotiated. By March 1948, the three sides had come to terms. Phoenix would "accept 23,000 acre feet of storage, provided that the Bureau completed expansion of Horseshoe Dam as part of the Central Arizona Project within 25 years."[59] Once Horseshoe Reservoir was expanded and filled, it was to hold 154,000 acre-feet of both SRVWUA and CAP water.[60] In accordance with the desires of the members of SRVWUA to keep their water rights from this newly-expanded Horseshoe Dam, the 1948 contract stipulated that in the event of a spill, water losses would be counted first against Phoenix, then against SRVWUA, and finally against the Bureau of Reclamation.[61] Since the Bureau of Reclamation had now become a direct partner in this agreement, the contract was now a federally-binding document. The rules governing the water arriving

[58] Teppe, 1.
[59] Kupel, 145.
[60] Contract No. 1830, Contract Between the United States of America, the City of Phoenix, Arizona, and the Salt River Valley Water Users' Association Providing for the Installation of Spillway Gates at Horseshoe Dam. Signed October 7, 1948, Article 5.
[61] Ibid, Article 18.

in Phoenix from the Colorado would therefore have to be in accordance of the rules of the Colorado River Compact.[62]

The expanding boundaries of the City of Phoenix, combined with the guaranteed income SRVWUA would receive, forced the Association to accept the expansion of Horseshoe Reservoir and the notion that Phoenix-area deliveries of CAP water would come from the reservoir. On the other hand, as the primary recipient of the water from an expanded Horseshoe Dam, Phoenix conceded that it would pay for the expansion entirely by itself. The city recognized this fact and "obtained $800,000.00 by the issuance of bonds, after submission of the matter…to its electorate for approval thereof, and said agreement was a condition of such approval."[63] Lastly, the Bureau of Reclamation, as owner of Horseshoe Dam and director of plans for CAP, undertook responsibility to make sure that both the people of Phoenix and SRVWUA would have an adequate supply of water for their needs.[64] The 1948 contract among the Bureau of Reclamation, the City of Phoenix, and SRVWUA reflected that each of the three parties had no other choice but to concede some things to the other two groups in order to receive what they wanted most.

The City of Phoenix, SRVWUA, and the Bureau of Reclamation all thought that the 1948 contract would solve their water needs for the immediate future. The Bureau of Reclamation put together plans for CAP, and Phoenix constructed its gates upon Horseshoe Dam. Hopes for a bright water future, however, dried away as drought took

[62] Ibid, Article 16.
[63] Ibid, Article 11.
[64] Ibid.

hold once again in the Valley of the Sun at the turn of the 1950s. The gates on Horseshoe Dam were completed in 1949, yet there was almost no water for them to hold back.[65]

The drought of the early 1950s had caused the reservoirs of the Salt River Project to recede to the point that SRVWUA forced Phoenix to renegotiate once again the terms of water delivery to the city. SRVWUA's July 1951 announcement that it had only enough water and money to deliver Phoenix the 20,193 acre-feet of water called for in the 1946 contract forced both sides to renegotiate the two agreements they had signed within the previous five years. This time, however, the desperate need for water forced Phoenix to accept most of the terms SRVWUA proposed. Indeed, the 1952 contract between them stipulated that Phoenix agreed "to act as agent for the Association or the District, or their respective successors…in the collection of taxes, assessments and other charges on all Project lands."[66] The contract made permanent the provision that the city of Phoenix would pay the Association dues of SRVWUA landowners within city limits, especially the ones living in the newly-built subdivisions.[67] Although the City of Phoenix was obligated to pay dues, individual water-users had the right to pay for their SRVWUA membership themselves. The city nevertheless had to supply them with water.[68] SRVWUA also insisted, just as in the previous two contracts, that only SRVWUA member lands would receive water from the Salt River Project.[69]

This most recent drought had made SRVWUA the more powerful of the two bargainers. The Association no longer wanted to make water deliveries at a loss and

[65] Kupel. 154.
[66] Agreement between Salt River Valley Water Users' Association and The City of Phoenix, a Municipal Corporation. City Hall, City of Phoenix Law Offices. Signed 1 January 1952. Article II.
[67] Ibid. Article VI.
[68] Ibid.
[69] Ibid, Article XXIII.

therefore ensured that Phoenix would pay full price for its water. To discourage reliance on water from the Salt River Project, the terms of the 1952 contract also mandated that Phoenix would have to forego 5.2% of water deliveries from SRVWUA's dam at Granite Reef, as well as 9.3% of water from the 24th Street Water Works plant east of the city.[70] SRVWUA was, first and foremost, an agency that delivered water for farmers, yet the depleted water levels had to serve an additional 40,000 residents within Phoenix city limits, and 145,000 extra people who had moved to all of Maricopa County between 1940 and 1950.[71] SRVWUA recognized that the influx of people would now make it primarily a domestic, instead of agricultural, water supplier. The 1952 agreement cemented SRVWUA's place as a major player in the water issues of the City of Phoenix. The Association recognized that the future of Phoenix entailed more urbanization at the cost of decreased farmland. This agreement with the City of Phoenix gave the Association a means to reinvent itself as a primary domestic water supplier of the Valley of the Sun.

Despite the onerous terms of the 1952 agreement, the City of Phoenix also benefitted from the 1952 contract. Although Phoenix was not entitled to voting privileges, the contract emphasized that "certain lands lying within the boundaries of the city have valid and subsisting rights to water from the Salt and Verde Rivers", effectively making Phoenix a member of SRVWUA.[72] The 1952 agreement made the city responsible for delivering water from the Salt River Project to its customers on SRVWUA lands.[73] These provisions were worth the cost of paying all of the SRVWUA dues within city limits, because the City of Phoenix could now focus on housing the new

[70] Ibid, Article XVI.
[71] United States Census, 1940, 1950.
[72] Agreement between Salt River Valley Water Users' Association and The City of Phoenix, a Municipal Corporation. City Hall, City of Phoenix Law Offices. Signed 1 January 1952. Article VIII.
[73] Ibid, Article XX.

arrivals, who could now pay for this steady stream of potable water with their tax dollars. This new arrangement benefited Phoenix water officials because they now had more leeway to allocate different waters, either from under the ground or from the Horseshoe Dam and the Salt River Project, to different parts of the city.

IV. Internal Agreement on CAP:

The 1952 contract between the City of Phoenix and SRVWUA formed the basis of the Association's water deliveries to the city for the remainder of the decade. SRVWUA delivered its water directly to Phoenix's municipal water supply, which paid dues to the organization on behalf of its residents.[74] This arrangement between the parties worked out well for both sides. The City of Phoenix got another important and reliable source of water, while SRVWUA obtained a major financial lifeline. Moreover, the drought of the early 1950s gave way to rains that replenished the reservoirs on the Salt and Verde Rivers, thereby easing concerns about Phoenix running out of water.[75] Officials at Phoenix City Hall felt like they had succeeded in ensuring safe and reliable water deliveries through the now-elaborate municipal water system.

These officials' reassurances about the water supply and delivery system of their city came at an opportune time. The population of Arizona, and especially metropolitan Phoenix, continued to climb steadily throughout the 1950s, and at a higher rate than ever before. By the 1960 census, 1.3 million people called Arizona home, an increase of 600,000 people in only ten years.[76] Of these new arrivals, the overwhelming majority settled in the Valley of the Sun. The population of Maricopa County doubled between 1950 and 1960, to 664,000 people, and the number of Phoenicians quadrupled, from

[74] Smith, 101.
[75] Kupel, 160.
[76] United States Census, 1950, 1960.

106,000 to 439,000.[77] It soon became obvious to both city leaders and SRVWUA that the existing infrastructure on the Salt River Project, including Horseshoe Dam, could not quench the growing thirst of the Valley of the Sun alone. SRVWUA, although still only serving its member lands, had become a major supplier of both electrical power and potable water not only to Phoenix but also to its neighboring cities.[78]

Both SRVWUA and the City of Phoenix then turned to the federal government to assist them in supplying the ever-growing region with water. The Bureau of Reclamation, which had been advocating the construction of CAP since before World War II, had more or less decided on the route of the project and touted it as one that would decrease Valley farmers' reliance on diminishing groundwater.[79] As such, when the people working at the federal agency heard the call for more water in the 1950s, they decided that it was an opportune moment to push the construction of CAP among the different water agencies within Central Arizona.

The Central Arizona Project, designed to bring in water from the Colorado River on the Arizona-California state line to the farmers of the Valley of the Sun, was a much bigger project than the expansion of Horseshoe Dam. Nevertheless, the same players, the City of Phoenix, SRVWUA, and the Bureau of Reclamation, all had major roles in its authorization. The negotiation skills these entities learned in the late 1940s and early 1950s would help them in the fight for CAP authorization near the end of that decade. Each of the parties involved in the negotiations over the structure of CAP had its own interests, and each sought to defend them in front of the other groups. Unlike in the authorization process of Horseshoe Dam, however, it was the Central Arizona Project

[77] Reisner, 269.
[78] Smith, 95.
[79] Reisner, 262.

Association, an interest group dedicated to accomplishing construction of the canal, and its president, Rich Johnson, who particularly urged and accommodated compromise among the groups. By the time that CAP authorization began to be considered seriously in Congress in the early 1960s, this alliance of cities, regional agencies, and interest groups all felt that CAP would benefit their constituents.

Like the Bureau of Reclamation, the Central Arizona Project Association felt that water from the Colorado River would greatly assist the farmers of the Valley of the Sun. Starting in the late 1940s, the Central Arizona Project Association, the largest of the interest groups advocating for the construction of such a canal, used informational brochures to inform new residents of the importance imported CAP water would have in their daily lives as well as in the agricultural and economic survival of all of Arizona.

One Central Arizona Project Association brochure from 1947, aptly titled *The Case for Water in Central Arizona*, for instance, insisted that despite the drought there was no actual water shortage in the state. Disregarding the depleting aquifer levels within the Valley of the Sun, the brochure asserted that there was plenty of water still for use within the boundaries of Arizona, as "**MILLIONS OF ACRE-FEET OF COLORADO RIVER WATER WASTE ANNUALLY INTO THE PACIFIC OCEAN.**" [80] CAP, they argued, would put this "wasted water" to good use by supporting the agriculture that was the mainstay of the Arizona economy as well as providing water for the hordes of new immigrants to the state. Even as late as the 1950s, Arizona's agricultural sector was the most important part of its economy. The economic dependence on growing non-traditional crops, moreover, meant that the farmers of the entire state, and those in the

[80] Central Arizona Project Association. *The Case for Water in Central Arizona*. 9. (Capitalization and bolding are in original text.)

Valley of the Sun in particular, needed new sources of water for their thirsty fields. The Central Arizona Project Association believed that this surplus Colorado River water could be harnessed to save the economy of all of Arizona.

Even though its main constituents were the farmers of Maricopa County, the Central Arizona Project Association understood during the 1940s that consensus and compromise were necessary to obtain statewide support of CAP. They thus advocated a canal which would serve Maricopa County and other parts of Arizona as well. Indeed, to make CAP attractive for all Arizonans, the Central Arizona Project Association proposed that it serve Maricopa, Pinal, Graham, and Greenlee Counties, home to 400,000 out of Arizona's 750,000 people in 1950.[81] In another brochure, the Central Arizona Project Association boasted that when combined with later plans to deliver CAP water to Pima County, the location of Arizona's second city, Tucson, CAP would serve 75% of Arizonans, 60% of its farms, and 90% of its factories.[82] Delivering Colorado River water to the entire state, directly to Maricopa County and via water exchanges elsewhere, meant that the Central Arizona Project Association could market CAP as not just a project for the farmers of the Valley of the Sun, but a project for for all Arizonans.

The Central Arizona Project Association believed that the farmers of the Valley of the Sun could increase economic output if they had more water. The lobby group's insistence that farmers receive priority for Colorado River water received criticism in light of declining farm acreage and increasing urbanization in Maricopa County. One report produced for the State of California in 1964 noted that "a great deal of urban development has occurred in Arizona in the last decade… nevertheless, the basic purpose

[81] United States Census, 1950.
[82] Central Arizona Project Association, *Presenting the Central Arizona Project to You*. 62.

of the CAP is to provide agricultural water supplies."[83] Indeed, many within Arizona also criticized the proposed CAP, well before the California report, for this precise reason.

To counter this critique, the Central Arizona Project Association sought to make water available for the fields now being used for houses instead of actual crops. The Central Arizona Project Association knew that it needed the support of the Phoenix municipal government, SRVWUA, and the other water agencies in the state in order for CAP to be authorized. Although the City of Phoenix and SRVWUA were in favor of CAP, the reasons justifying the support of CAP among the city and the Association differed. Throughout the 1950s, as president of the Central Arizona Project Association, Johnson preoccupied himself with getting an agreement on the design of CAP among the City of Phoenix, SRVWUA, the Bureau of Reclamation, and the other organizations working on the project.[84] He would have to sell CAP as being suitable for urban use as well as to convince water agencies such as SRVWUA and the City of Phoenix that water from the Colorado River was essential to Arizona's largest city.[85]

For its part, the City of Phoenix, as one of the fastest-growing cities in Arizona, wanted to make sure that it would be able to use CAP water for domestic use. Like the Central Arizona Project Association, officials at Phoenix City Hall thought that Colorado River water was best suited for use within Arizona. Indeed, this mindset was common throughout most of the twentieth century. Prevailing attitudes toward water use were similar to those of ex-President Herbert Hoover, who was quoted in *The Case for Water in Central Arizona* as saying that "every drop of water that runs to the sea, without

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[83] California State Assembly Interim Committee Reports, *Arizona v. California and Pacific Southwest Water Problems: A Report of the Assembly Interim Committee on Water. Volume 26, No. 13.* (Sacramento, California: California State Assembly Interim Committee Reports, 1964.) 66.
[84] Rich Johnson Papers. (MSS112. Box 1. Folder 1.)
[85] Carl T. Hayden Papers. (MSS1. Box 768. Folder 15.)

rendering a commercial return, is a public waste."[86] Although Hoover's quote was uttered before the massive urban growth of the 1950s, it was nevertheless the mantra of the City of Phoenix. The more water the city could acquire from the Colorado River, the better it could accommodate its massive population growth. Although most city officials had always supported CAP, they became more interested in working with Johnson in the late 1950s and early 1960s to make CAP a reality.

Even within the City of Phoenix, however, there had been fears since the late 1940s that the city might not benefit from imported water from the Colorado River. When the three sides sought to expand Horseshoe Dam, some Phoenix water officials warned that mixing low-quality Colorado River water into the current water supply of the city might make the Valley of the Sun an unattractive place for people looking to relocate to the Southwestern United States. One such official, JT Teppe, the same Phoenix City manager who opposed the plans of the Bureau of Reclamation to incorporate Horseshoe Dam into CAP, even claimed in 1947 that Colorado River water was "too thick to pour and too thin to plow."[87] This being said, by the mid-to-late 1950s, Teppe and other similar-thinking officials discarded their opposition to CAP as they watched Los Angeles and San Diego sustain booming populations on Colorado River water. The success of these two California cities convinced the City of Phoenix to become one of the biggest proponents of CAP within Arizona.

Another important issue upon which the sides had to agree was the price of CAP water. The cost of one acre-foot of water from the Colorado River varied depending on the organization supplying the data. The head engineer of the project, W.S. Gookin, for

[86] Central Arizona Project Association, *Presenting the Central Arizona Project to You*, 18.
[87] Teppe, 2.

example, arguably looked at the cost of CAP in terms of both the cost of both electrical power and water deliveries to the consumer. Numbers from diary entries in 1957 reveal that he, on behalf of the Arizona state government, he suggested a "goal of $.38 to $.12 or $125-$40.00 [for] statewide planning of water resources" in order for CAP water to be affordable.[88] At $0.40 per kilowatt of electricity and $125 per acre-foot of water, Gookin concluded that the cost of power and water from CAP would be unaffordable for the people of the Valley of the Sun unless the prices decreased significantly.

Johnson and the Central Arizona Project Association disputed Gookin's numbers, claiming that he and the federal agencies working on the project were unnecessarily inflating the costs of water for their own benefit. Johnson's numbers, written down in his journal in an entry dated November 13, 1961, disputed the $23 per acre-foot difference between his calculated cost and that of the Bureau of Reclamation.[89] Although the main job of the Central Arizona Project Association was to make sure that the various groups on the project worked together to succeed, Johnson nevertheless had his own issues with some of the federal agencies working on the project. His ability to bridge these differences would determine whether or not there was enough unity within the various Arizona agencies to implement plans for CAP.

Although SRVWUA favored importing water, it opposed CAP. Its participation in CAP was important, because it operated Horseshoe Dam, which was to be used for delivering Salt River Project and CAP water to Phoenix. In particular, the Association wished to become the chief power supplier for the project as CAP passed through the Valley. This request caused some tension between SRVWUA and the other groups

[88] W.S. Gookin Papers. (MSS42. Box 4. Folder 3.)
[89] Rich Johnson Papers. (MSS112. Box 1. Folder 1.)

without Arizona working on CAP plans. One notable example of this tension occurred in February 1957, when Gookin dismissed SRVWUA's offer to sell electrical power for CAP, writing in his diary that the notion was "ridiculous."[90] Although there was no apparent reason given for this opposition, evidently there was animosity between SRVWUA and the engineers working for the state government; in 1962, the Association retaliated, opposing the re-election of Representative John Rhodes, a staunch CAP supporter. It instead supported a candidate, Rene Jennings, who, as a freshman lawmaker, would not be able to help advance CAP authorization.[91] Johnson, aghast at both of these moves, had to accommodate SRVWUA in the planning stages of CAP to gain its crucial support.

On the federal level, the Bureau of Reclamation, the organization responsible for the entire project, also encountered conflicts of interest with the various groups involved in planning CAP. Seemingly minor differences led to major conflicts. For example, as chief engineer for the State of Arizona, Gookin was in charge of many of the technical details of CAP. In one diary entry from 1956, he expressed frustration that the surveyors from the United States Geological Service and the Bureau of Land Management were not helping him do his job, calling one surveyor in particular "extremely biased."[92] The Bureau of Reclamation, which was coordinating its plans with the Arizona state government, the Central Arizona Project Association, the Bureau of Land Management, the United States Geological Service, and many other organizations, soon realized that each of these groups wanted CAP to suit its own individual goals. Ironically, the only way that the Bureau of Reclamation would be able to achieve a consensus on the final

[90] W.S. Gookin Papers. (MSS42. Box 4. Folder 2.)
[91] Rich Johnson Papers. (MSS112. Box 1. Folder 2.)
[92] W.S. Gookin Papers. (MSS42. Box 4. Folder 1.)

design of CAP would be by coordinating its own plans with the groups within Arizona. Interestingly, it would be officials from cities like Phoenix and groups like the Central Arizona Project Association that would have to convince the different federal agencies to overcome their differences in order to ensure the political success of CAP.

In turn, the individual groups recognized that, in order to achieve their particular aims, they needed to compromise with each other. As the 1950s drew to a close, the Central Arizona Project Association, the City of Phoenix, SRVWUA, the Bureau of Reclamation and all the other groups involved with CAP began making trade-offs with one another. For example, Johnson wrote in his diary in September 1961 that Phoenix and its suburbs within the Valley of the Sun wanted to divert water directly from CAP instead of drawing it from Horseshoe Dam or some other reservoir.[93] It would be easier for Phoenix to receive its CAP allocation this way, since the city already received water from the Salt River Project in the same manner as per the 1952 agreement. The success of implementing that agreement with Phoenix led SRVWUA to strike similar agreements with nearby suburban communities.[94] In the same spirit of flexibility and compromise, the Central Arizona Project Association agreed to let the other cities in the Valley draw water directly from the canal, and suggested that each of the cities could procure its own contracts with the Bureau of Reclamation.[95] The willingness of the Bureau of Reclamation to accede to this suggestion led Phoenix and its suburbs to support fully the project. The Bureau of Reclamation therefore agreed to negotiate with each city individually when allocating water from CAP, thereby allowing each city within the

[93] Rich Johnson Papers. (MSS112. Box 1. Folder 1.)
[94] Smith, 95.
[95] Rich Johnson Papers. (MSS112. Box 1. Folder 1.)

Valley of the Sun to use the water as it saw fit, and, consequently, setting the price per acre-foot of water at affordable levels for all parties.

V. Interstate Compromise on CAP:

The middle of the Colorado River forms the boundary between Arizona and California. Both states are thus entitled to divert water from it for use within their jurisdictions. Water is essential for life in the arid and hot Southwest. Throughout the twentieth century, politicians in both Phoenix and Sacramento accused the other side of taking too much water out of the river.

Phoenix was not the only Southwestern city that supported a major population increase on Colorado River water during the mid-twentieth century. Los Angeles and San Diego built their own aqueduct, the Colorado River Aqueduct completed in 1941, to bring water west. As the growth of the Valley of the Sun took off during the fifteen years following World War II, California politicians, especially those from Southern California, nevertheless objected to the plans to construct CAP. In response, Arizona, angry at Californian opposition to CAP, successfully sued California in the United States Supreme Court.[96] That decision, however, was not the reason California and the other Colorado River Basin States dropped their opposition to Congressional approval of CAP. Instead, it was the willingness of Arizona to support other California-backed water projects, most notably the pan-Western Pacific Southwest Water Plan, which led the senators from California to cooperate with those from Arizona, and particularly Senator Carl Hayden, in passing the CAP authorization bill through Congress.

The main impediment to any compromise on CAP between Arizona and California was that Southern Californian cities had a seemingly unquenchable thirst. The

[96] *Arizona v. California.* 376 U.S. 340 (1963).

Metropolitan Water District of Southern California (MWD), a regional agency that sold water to Los Angeles and its many suburbs, had constructed the Colorado River Aqueduct as an infrastructure project during the 1930s. Water first flowed west in 1942.[97] On orders of the federal government, the San Diego County Water Authority, which was similar in nature and structure to MWD, merged with its Los Angeles counterpart in 1946 and received its first delivery of Colorado River water in 1947.[98] Colorado River water was the primary, although not sole, postwar water source that Los Angeles, San Diego and their suburbs used to make the state the second-most populous in the nation, with 10.5 million people by 1950, and the most populous in the United States only 12 years later.[99] Not surprisingly, MWD and political leaders throughout Southern California were united in their opposition to CAP. They feared that any use of Colorado River water in Arizona would take away from the supply destined for Los Angeles, San Diego, and nearby cities flowing in their massive canals.

Just as the Central Arizona Project Association had intensely lobbied new Phoenicians about the importance of CAP, MWD spent just as much energy trying to convince the entire nation that CAP was unnecessary. The Colorado River Association, a MWD-sponsored organization which was surprisingly similar to the Central Arizona Project Association in the fact that it advocated more use of Colorado River water within California, also produced brochures and pamphlets highlighting the baselessness of Arizona's claims to authorize CAP. One 1952 pamphlet tried to show the importance of Colorado River water in Los Angeles, saying that "the 1,212,000 acre feet contracted for

[97] Zetland. "Conflict and Cooperation within an Organization: A Case Study of the Metropolitan Water District of Southern California," 13.
[98] Colorado River Association, *California and the Colorado River.* (Los Angeles: Colorado River Association, 1952.) 32.
[99] United States Census, 1960.

by the cities of Southern California will serve the needs of at least 5,000,000 men, women, and children."[100] If this water were to be sent to the Valley of the Sun, many more people, they claimed, would be denied the water they would need to survive in Southern California.

Based on the fact that Southern California was far more populous than Arizona, the Colorado River Association elevated the needs of the citizens of Los Angeles and San Diego for water over those of the citizens of Phoenix. They thus believed that if water from the Colorado was shipped to Arizona, it could be considered "wasted", much in the same way that the Central Arizona Project Association thought that unused water was wasted water. By contrast to the many more people in Southern California who would benefit from 1.2 million additional acre-feet of water per year, in the same pamphlet, the Los Angeles-based organization expressed dismay that "the same amount of water is claimed by Arizona for irrigation purposes, where it would serve not more than 4000 farms with a population of 25,000 or less."[101] The California-based lobbying group branded as absurd the notion that the water needs of famers and special interests within Maricopa County should take precedence over the water needs of two metropolises.

MWD also started lobbying other states to oppose CAP on financial grounds. It accused Arizona of asking for federal funds to pay for the project. The Colorado River Association, in a 1952 pamphlet, wondered aloud about the proposed fairness of federal subsidization of the expansive cost of CAP. When apportioning the cost of CAP to the taxpayers of all forty-eight states, the Association calculated that Arizona "would only pay $7,680,000, or less than 1%, of the $2,075,729,000 interest tax costs" while receiving

[100] Colorado River Association. 22.
[101] Ibid.

100% of water from the project.[102] MWD sought to alert people living in other states of this proposed ostensible waste of their tax dollars. Despite that plans for financing CAP had always called for the sale of power to pay for the project, proponents of CAP in Arizona now faced two different challenges from its larger neighbor: the right to use water from the Colorado River, and the potential backlash from other states about any federal subsidies for the project, real or imaginary.

Arizona's leaders soon tired of what they felt was a California effort, on behalf of MWD, to deny their state its fair share of water from the Colorado River. The state legislature filed a lawsuit in 1953 against its western neighbor in the Supreme Court; the case, known as *Arizona v. California*, was the fifth in a series of cases regarding the states' water rights to the Colorado River.[103] Arizona officials, ranging from Johnson and the Central Arizona Project Association in Phoenix to Senator Carl Hayden and his aides in Washington, hoped that through this lawsuit, California would finally recognize Arizona's right to use all of its annual 2.8 million acre-foot allotment of Colorado River water.[104]

Shortly after Arizona filed the lawsuit against California, Thomas Kuchel and William Knowland, the two senators from California, started lobbying their colleagues from other Colorado River Basin states to oppose CAP as yet another project that would take water away from all of them. California leaders did not need to do much to convince the senators from the Upper Basin states of Colorado and Wyoming. Both states soon joined California in opposing CAP because the project did not include the tributaries that

[102] Ibid.
[103] California State Assembly Interim Committee Reports, 40.
[104] Rich Johnson Papers. (MSS112. Box 1. Folder 1.); Carl T. Hayden Papers. (MSS1. Box 788. Folder 5.)

flowed from Arizona into the Colorado River.[105] In addition to domestic water claims, the United States was also obligated to deliver 1.5 million acre-feet of Colorado River water annually to Mexico as per a 1944 agreement between the two nations.[106] If these tributaries were not included, as Senators Gordon Allott and Peter Dominick of Colorado, and Senator Milward Simpson of Wyoming feared, "the Upper Basin, in almost every year, will have to deliver additional water to satisfy the Mexican treaty."[107] None of Arizona's neighbors opposed the rights of the state to use the tributaries within its boundaries for the farmers and cities of the Valley of the Sun, but they felt that CAP would cause the main stream of the Colorado River to flow lower than ever.

For its part, Arizona also sought to lobby the other states of the Colorado River Basin to support CAP. The state sought to convince the other states that even with CAP, there would be plenty of water available for all of them to use. In fact, Arizona claimed, the only reason that California opposed CAP was because MWD had overdrawn 1.2 million acre-feet more than its legal allotment from the river to send to Los Angeles and San Diego.[108] In 1955, the lobbying of Arizona's political leadership to its neighbors paid off. A memorandum sent from the office of Senator Hayden in Washington claimed that "the states of Wyoming, Utah, Colorado, and New Mexico, together with our state of Arizona, support the project with opposition limited to California and Nevada. Nevada's opposition is not unanimous, and one Nevada senator has supported Arizona."[109] Despite these claims of support, the senators from Wyoming, Utah, Colorado, and New Mexico

[105] Ibid.
[106] California State Assembly Interim Committee Reports, 44.
[107] Ibid.
[108] Ibid, 43.
[109] Carl T. Hayden Papers. (MSS1. Box 768. Folder 9.)

most likely only supported Arizona because they felt that the politicians in Sacramento threatened their water supply more than those in Phoenix.

As both sides presented oral arguments for *Arizona v. California* in the late 1950s and early 1960s, the lawyers representing California had proposed multiple suggested compromises which, in exchange, would have given CAP authorization valuable congressional support. One of these compromises included giving California's allotment of 4.4 million acre-feet of Colorado River water priority over Arizona's share; in times of extreme drought, Arizona would lose its rights to the Colorado before California did. The Central Arizona Project Association rejected the proposal, with Johnson even describing the 1961 offer as a "desperation move on California's part." [110] The politicians in the state capitol building in Phoenix soon followed the Central Arizona Project Association in opposing the proposed compromise. Supporting such a deal was akin to political suicide in Arizona; no politician seeking reelection would want to be portrayed as the one who surrendered Arizona's rights to the Colorado River. Indeed, Arizona's leaders believed that there was no need to compromise with California. They felt that Arizona would win its lawsuit against California and could proceed with constructing CAP reasonably quickly.[111]

Arizona's leadership was also equally incensed with some of the political dealings in Sacramento. In the early 1960s, the California legislature proposed to bring water from Northern California south via two projects. The first, the federally constructed Central Valley Project, would bring water to the farmers of the San Joaquin Valley.[112] The second, known as the State Water Project, would send water to MWD's customers in Los

[110] Rich Johnson Papers. (MSS112. Box 1. Folder 1.)
[111] Ibid.
[112] Reisner, 346.

Angeles and San Diego.[113] In a 1964 speech to the Arizona Newspaper Association, Hayden's top aide, Roy Elson, blasted California's two proposed water plans. He informed his audience that "California's big problem is money…and State politics…not water."[114] Not surprisingly, Arizona's leaders were aghast that California would oppose permitting Phoenix to use Colorado River water via CAP when California planned to use its own sizeable water sources to fuel the massive growth of Los Angeles and San Diego.

The Supreme Court ruled on *Arizona v. California* in 1963. The effects of the decision, which was in Arizona's favor, were immediate and gave a huge boost to proponents of CAP. The Supreme Court ordered MWD to scale back the amount of water it took from the Colorado River from the 5.362 million acre-feet that it had contracted to deliver to Southern California water agencies to the 4.4 million acre-feet allotted to the entire state under the Colorado River Compact.[115] The Supreme Court therefore indirectly approved Arizona's plan to construct CAP. California's opposition to CAP based solely on the withdrawals of water from the Colorado River was eroded.[116]

The various Arizona organizations, along with Senator Hayden, were overjoyed with the ruling of the Supreme Court. They felt that they now could push the CAP authorization bill straight through Congress to the desk of President John F. Kennedy. To succeed, the three congressmen and two senators from Arizona still needed to compromise with the forty-two person congressional delegation from California. The Arizona delegation learned this difficult lesson only after attempting to circumvent

[113]Zetland, "Conflict and Cooperation within an Organization: A Case Study of the Metropolitan Water District of Southern California." 38.
[114] Carl T. Hayden Papers. (MSS1. Box 788. Folder 5.)
[115] *Arizona v. California* 373 U.S. 546 (1963).
[116] Ibid.

California entirely and then ultimately realizing the need to participate in a series of negotiations and compromises with leaders throughout the various Western states.

Initially, Arizona leaders took the view that the Supreme Court decision on *Arizona v. California* gave them absolute freedom with regard to CAP. Indeed, in the immediate months after the Supreme Court ruling, Senator Hayden sought to force discussion of the authorization of CAP in Washington during late 1963 and early 1964. Letters and memoranda sent between his office and the White House suggested that Hayden had expressed concern to both Presidents Kennedy and Johnson that the lack of Colorado River water in the Valley of the Sun would have adverse effects on the people living there.[117] These same pieces of correspondence indicated the Senator's fury towards the Secretary of the Interior, Stewart Udall, himself an Arizonan, for opposing CAP on the grounds that President Johnson, who was seeking re-election in 1964, would lose votes in California were he to support Arizona's project.[118] Since Hayden felt that felt that the Supreme Court had validated his state's claims, he saw there was no need to compromise with California.

As a seasoned politician in Washington, Senator Hayden soon realized that he could not force discussion of CAP solely by himself. To the chagrin of supporters like Johnson and the City of Phoenix, he decided to make the necessary concessions to California in 1964 to pass the CAP authorization bill. Hayden, as one of the most senior senators at the time, nevertheless held considerable political power. As the head of the Senate Interior Committee, he made an alliance with his fellow Democrat, Senator Henry Jackson from Washington state. Working together, Hayden and Jackson blocked all

[117] Carl T. Hayden Papers. (MSS1. Box 788. Folder 5.)
[118] Ibid.

pending bills relating to water until the full Senate authorized CAP and debated another major project, the Pacific Southwest Water Plan. [119]

Hayden decided to make this alliance with Jackson at the same time both he and the Central Arizona Project Association were accusing California of, once again, delaying CAP authorization in 1964. California's senators, desperate for more water for the thirsty Southland, seemed agreeable to compromise. If Arizona supported California in enacting the Pacific Southwest Water Plan, as Udall wrote to Hayden in a 1964 memorandum, "we will thus get essential support from the most populous state in the Nation…and without this support, we are told, the CAP is dead."[120] Hayden knew that without Jackson's backing the Pacific Southwest Water Plan would fail. Hayden used his inside political knowledge to benefit Arizona by appearing to make common cause with California. Since California strongly supported the Pacific Southwest Water Plan, Hayden figured that he and his colleague, Senator Barry Goldwater, only had to vote in favor of the Pacific Southwest Water Plan in order to receive backing from California on CAP authorization.

In the words of a 1966 report, the Pacific Southwest Water Plan proposed the construction of an aqueduct from the Columbia River on the Oregon-Washington state line "crossing mountains and desert" to the Colorado River at approximately Lake Mead.[121] Hayden knew that members of California's congressional delegation, and those from Los Angeles and San Diego in particular, were huge supporters of the project. Hayden also knew that his ally, Senator Jackson, along with his colleagues from the Columbia River Basin states of Washington, Oregon, and Idaho, were adamantly opposed

[119] Carl T. Hayden Papers. (MSS1. Box 741. Folder 1.)
[120] Rich Johnson Papers. (MSS112. Box 1. Folder 2.)
[121] Carl T. Hayden Papers. (MSS1. Box 741. Folder 1.)

to sending water from their states thousands of miles to Arizona and Southern California.[122] Nevertheless, Hayden's need to compromise with the senators from California led him to consider supporting the Pacific Southwest Water Plan if only so that California would finally support CAP authorization.

The Pacific Southwest Water Plan was thereby amended to make CAP a major feature of the project. In 1965, Arizona compromised another major point when the Arizona Interstate Stream Commission conceded that California's 4.4 million acre-foot allocation of Colorado River water would be given priority over Arizona's rights.[123] Arizona also publicly announced that it would "repay the entire cost of the cost of the project itself, through the sale of power."[124] Although the Central Arizona Project Association had always believed Arizona should pay for CAP by itself, this public announcement assuaged critics who thought that the project was too expensive and opposed the use of federal funds to build it.

Prior to these compromises, the senators from Arizona and California had been adversaries with regard to the importation of water from the Colorado River into their respective states. Now they had made common cause to ensure passage of water projects that each of their states strongly desired. This being said, the temporary alliance was one of convenience, in the same spirit of the previous ad hoc alliances which had facilitated construction of the Horseshoe Dam gates and united the water agencies within Arizona on the importance of CAP. Arizona's population was growing at the second-fastest rate in

[122] Ibid.
[123] Carl T. Hayden Papers. (MSS1. Box 788. Folder 6.)
[124] Central Arizona Project Association. *A Brief Synopsis of the CENTRAL ARIZONA PROJECT (Reading time: 5 Minutes),* (Phoenix: Central Arizona Project—Clippings. 1953.)

the nation.[125] The cities of Maricopa County had consumed much of the farmland of the Valley of the Sun, and the defense industries within the municipal boundaries of Phoenix had made the city an economic hub for the Southwest. Hayden, Johnson, and the other backers of CAP decried "the impairment of Arizona's economy which will develop if the project is not built."[126] Since backers of CAP had failed in achieving the results they wanted through litigation, Hayden decided to tie Arizona's desire for water with that of California. This way, Arizona could guarantee a steady stream of water to continue accommodating its rapid growth without opposition from its more populous neighbor.

Hayden's attempts to reach out to his California counterparts made progress in the mid-1960s. For his part, California Governor Pat Brown agreed to drop his opposition to CAP if Arizona supported the Pacific Southwest Water Plan.[127] The two sides continued their negotiations in earnest. The details of the agreement revealed the compromise between the two sides. California formally recognized Arizona's claim to 2.8 million acre-feet of Colorado River, as stated in the Colorado River Compact, the *Arizona v. California* decision, and elsewhere.[128] In exchange, Arizona agreed to limit the capacity of CAP to carry only 1.2 million acre-feet of water per year.[129] The two sides also agreed that excess water deliveries to Arizona could occur only when the waterline of the newly-created Lake Powell rose above an elevation of 3700 feet.[130] Arizona conceded to California priority of using river water and agreed to surrender water to its western

[125] Carl T. Hayden Papers. (MSS1. Box 788. Folder 5.)
[126] Central Arizona Project Association. *A Brief Synopsis of the CENTRAL ARIZONA PROJECT (Reading time: 5 Minutes).*
[127] Carl T. Hayden Papers. (MSS1. Box 741. Folder 1.)
[128] Citizens for a Sane Water Policy. *A Need for the Central Arizona Project?* (Tucson, Arizona: Citizens for a Sane Water Policy, 1971.).
[129] Ibid.
[130] Carl T. Hayden Papers. (MSS1. Box 741. Folder 1.)

neighbor during times of extreme drought.[131] On the basis of these compromises between the two states, Congress passed, and President Johnson signed, the 1968 CAP authorization bill.[132] The first step of bringing Colorado River water to the farmers and residents of the Valley of the Sun was complete.

VI. Comparing the Authorizations of Horseshoe Dam and CAP:

The concessions that the leaders of Arizona and California made to each other in the mid-1960s enabled Arizona to obtain the CAP water it needed to continue the massive growth in and around Phoenix. Arizona realized that it needed to give up previously non-negotiable positions, such as the priority of water rights, in order to make CAP a reality. When it did so, Arizona found that California responded in kind; California acquiesced to Arizona's use of the Colorado River as long as the needs of Los Angeles and San Diego were met as well.

Arizona knew that its personal needs for more water in the 1960s were contingent on the satisfaction of the needs of California. Its smaller population, and its therefore smaller congressional representation, meant that it would have to concede some of its major points to California. Arizona's strategy in the federal CAP negotiations was merely the latest manifestation of coalition and compromise formation. The overall approach was similar to the temporary alliances which SRVWUA had formed in 1946 and 1948, and which the City of Phoenix had undertaken in 1951. In each instance, the participating parties subordinated their parochial interests to achieve larger goals, namely financial stability and a clean, reliable supply of water for a growing population.

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[131] Ibid.
[132] Citizens for a Sane Water Policy. *A Need for the Central Arizona Project?*

In each instance, the alliances were temporary and self-serving. During the 1940s and 1950s, the negotiators representing the City of Phoenix, SRVWUA, and the Bureau of Reclamation agreed on the amount and sources of water destined for the Valley of the Sun only because it was in their self-interest to do so. Later, the Central Arizona Project Association, the City of Phoenix, and SRVWUA all prioritized their needs, as well as those of their respective constituents, in their negotiations. Ultimately, at the federal level, congressional leaders from Arizona and California agreed to divide the waters of the Colorado River to meet their respective objectives. When the California legislature and MWD decided to look for other sources of water to serve the Los Angeles and San Diego areas, such as Northern California and the Columbia River, Arizona's congressional leadership took advantage of this opportunity to advocate for CAP in exchange for dropping opposition to the massive, and, in the case of the Pacific Southwest Water Plan, unrealistic, water projects that its neighbor wanted.

Over the course of twenty years, the people working for SRVWUA, the City of Phoenix, the Bureau of Reclamation, the Central Arizona Project Association, and the other agencies involved in both the expansion of Horseshoe Dam and in the construction of CAP changed. With new employees pushing new agendas, the overall missions of the various organizations altered. For instance, after signing the 1952 agreement with the City of Phoenix, SRVWUA shifted from supplying water and power to residential customers instead of to farmers. The Association, now known as the Salt River Project (SRP), signed a domestic water delivery agreement with the city of Tempe, next-door to Phoenix, in 1964; the terms of that contract were very similar to the agreement signed

between SRVWUA and the City of Phoenix twelve years before.[133] SRP signed subsequent agreements with the cities of Glendale, Scottsdale, Mesa, and other cities within the Valley of the Sun; all of these municipalities had expanded into the surrounding farmlands which were part of the Association.[134] The increasing urban nature of the Valley of the Sun during the 1960s and beyond led SRP to focus on serving the needs of its residential customers and adapting its water delivery infrastructure for this purpose.

As the City of Phoenix waited for water from CAP, groundwater depletion continued throughout the Valley of the Sun. Despite the fact that by the mid-1950s Phoenix and SRVWUA had a system in place that ensured the city a secure and reliable source of surface water, Reisner notes that still, "four out of every five acre-feet of water used in the state came out of the ground."[135] The population of Phoenix continued to increase and the city continued to build more and more on SRVWUA member lands. Throughout the 1960s and into the 1970s, the city and the agency continued to work together in order to transform the water infrastructure of these member lands to accommodate domestic use.[136]

VII. Conclusion:

The construction of Horseshoe Dam was the first of many projects that caused the transformation of the Valley of the Sun into an urban metropolis following World War II. The people who had originally come to Central Arizona for jobs during the war and afterward needed to maximize the limited resources available in order to survive in the

[133] Salt River Project. *Standing for More than a Century: Theodore Roosevelt Dam and SRP* (Phoenix: Salt River Project, 2011) 118.
[134] Ibid, 117.
[135] Reisner, 269.
[136] Smith, 91.

hot and dry climate of the region. Through compromise among SRVWUA, the City of Phoenix, and the Bureau of Reclamation, the expansion of Horseshoe Dam was the first step to making Phoenix the most important city in the Southwestern United States. The success of that collaboration set a precedent which subsequently aided the same three groups in agreeing on a plan for CAP. When Arizona's political leaders realized the importance of compromise with the other states of the Colorado River Basin, and especially California, the CAP authorization bill passed expeditiously and agreeably.

After the authorization of CAP in 1968, groups like the Central Arizona Project Association believed that construction of CAP should start immediately. The temporary nature of the alliances among these different groups, however, became apparent in the decade after CAP was authorized. Because each group had supported CAP for its own reasons, they saw no need to continue working together once the project was federally authorized. This time, opposition to CAP within Arizona came not from the water agencies but primarily from growing concern for the environment and the local Indian tribes.

Opposition to CAP grew considerably within Arizona in the 1970s, coming primarily from increasingly vocal environmentalists concerned about public and Indian lands that would suffer if construction of the canal were to take place. Others, such as the Tucson-based Citizens for a Sane Water Policy, complained that Colorado River water was too expensive to be a worthwhile water source. The quality of CAP water was so low, they claimed, that it would actually increase the cost of water for users within the Valley of the Sun. They feared that "cities with existing salinity problems, such as Tempe…[could face] costs of adequate salts removal [which] could add $20 or more per

acre foot of water."[137] The anticipated unaffordability of CAP water threatened to affect the high quality of life in the Valley. Groups like Citizens for a Sane Water Policy wanted to make sure that any new water from CAP would be affordable and beneficial to the people using it.

Others opposed CAP after its authorization because of its proposed negative environmental effects. Groups like Citizens for a Sane Water Policy decried the plan to construct new dams and to expand existing ones to store CAP water because the resulting flooding would harm the natural environment of Central Arizona. The construction of CAP, they claimed, would also negatively affect the people Maricopa County because the dams would lead to the loss of valuable nearby hunting, fishing, and recreation areas.[138] When the City of Phoenix, SRVWUA, and the Bureau of Reclamation agreed on a system to import and distribute Colorado River water in the early 1960s, they had not anticipated any potential uproar over environmental degradation. In the 1970s, however, environmentalists feared that any damage to the nearby nature would also negatively affect the residents of the Valley of the Sun.

The third main focus of opposition to CAP after its authorization stemmed from concerns of Indian rights. Ironically, Johnson, as the president of the Central Arizona Project Association, believed that Indians could be major customers for CAP water. In a journal entry from 1962, he recommended "spelling out and emphasizing Indian Reservation benefits in the CAP, in order to gain support of East's Indian lovers."[139] By the 1970s, opponents of CAP complained that local Indians would suffer due to their exclusion from the project planning process. Groups like Citizens for a Sane Water

[137] Citizens for a Sane Water Policy. *A Need for the Central Arizona Project?*
[138] Ibid.
[139] Rich Johnson Papers. (MSS112. Box 1. Folder 2.)

Policy feared that the Bureau of Reclamation, intent on getting Colorado River water flowing through CAP as quickly as possible, would seize land to use through eminent domain.[140] These people felt that the Native American tribes, an important part of Arizona for historical and cultural reasons, needed CAP water, but not the negative consequences of its construction. Because the various groups had previously worked together to navigate CAP authorization through Congress were no longer collaborating, these groups could not advocate effectively to address the concerns of Indian tribes resulting from CAP. Groups opposing CAP emphasized the expected negative effects of the project on the local tribes.

The Salt River Project, including Horseshoe Dam, and CAP enabled SRVWUA and the Bureau of Reclamation to become major suppliers of water for Phoenix during the second half of the twentieth century. As a result of this transformation into an urban metropolis, each agency gained considerable influence in determining water policy within the city. As the city grew in the 1970s and 1980s, so did the relationship between the three agencies. By the time that water from CAP arrived in the Valley of the Sun in the mid-1980s, the City of Phoenix, SRP and the Bureau of Reclamation had agreed to install an interconnector between CAP and the Salt River Project. This interconnector was completed and incorporated into the Phoenix municipal supply in 1990.[141] In this instance, as in many others, the cooperation among the Association, the Bureau of Reclamation and the City of Phoenix on water issues continued well into the late twentieth century and benefitted all three agencies.

[140] Ibid.
[141] Salt River Project, 181.

The methods Phoenix used to acquire its water supply were unusual compared to other cities in the West, where unilateral water grabs were commonplace. The contextual evidence behind this story suggests that the city, SRVWUA and the Bureau of Reclamation had no other choice but to compromise in order to obtain the water they needed. The negotiations among the three sides suggested that they all agreed on the principle of expanding the water supply of Maricopa County, but they differed on how to do so. There are many possible explanations for the unusual system that resulted. There are many possible explanations for the unusual system that resulted. The desert location and climate of the Valley of the Sun, combined with the massive postwar growth of the region, created a shortage of water and meant that the negotiators from the City of Phoenix, SRVWUA and the Bureau of Reclamation could not make decisions relating to water unilaterally. The construction of Horseshoe Dam during World War II, moreover, came at a time when national unity was essential for the American war effort. The people debating over the expansion of Horseshoe Dam and the authorization of CAP, which took place not long after the war ended, no doubt understood the need for unity to achieve their goals. Most likely, one specific factor does not explain the larger story.

VIII. Appendix:

Figure 1: A map of Maricopa County, and the communities of the Valley of the Sun, circa 1953. This map shows the vast amount of undeveloped lands between the various cities. The imported water from Horseshoe Dam and the arrival of Colorado River water via CAP led to the urbanization of most of Maricopa County into one megalopolis in the late twentieth century. (Source: *Presenting Your Map for Maricopa County Arizona)*

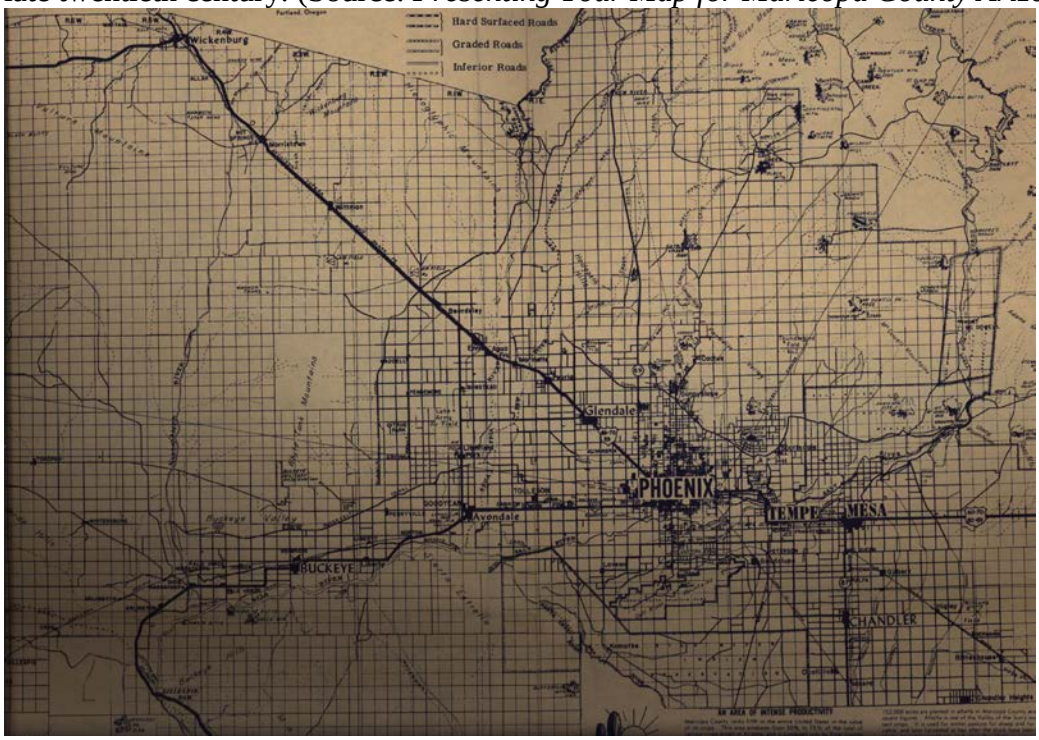
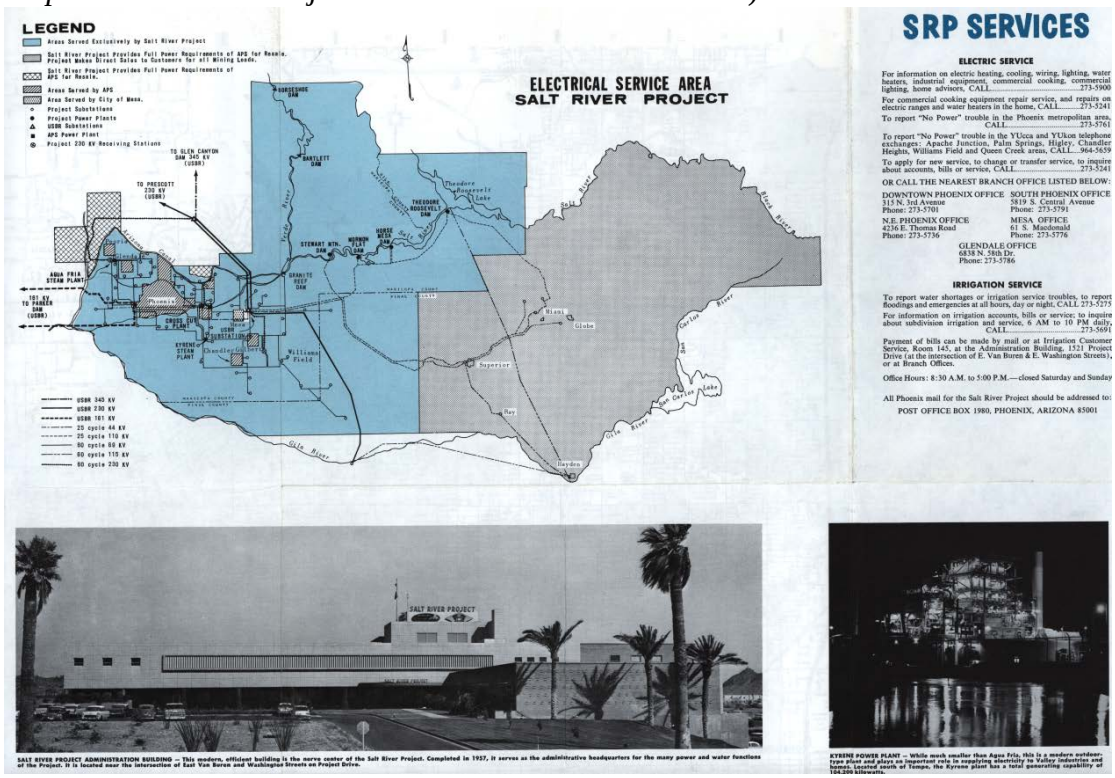


Figure 2: A map of SRVWUA member lands. Although this map shows power service territory, water deliveries were also made within this area. Only member lands of SRVWUA could receive water and power from the Salt River Project. Horseshoe Dam is at the top of the service area, 58 miles northeast from Phoenix. (Source: *Phoenix: Street Map and Salt River Project Electrical Service Boundaries*)



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