Cycles of Profit and Progress: An Examination of the Central Valley Project with Emphasis on the Delta-Mendota Canal

By
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Drought has cycled through California for centuries, making water an even more important resource than gold. Where there is water, there is profit – so it follows that controlling water and using it more efficiently only leads to greater profits. If California as a state had only one legacy, it might be the search for domination over rivers, lakes, and streams. When efforts to secure and move water come up in conversation, thoughts turn first to the California Aqueduct and the Municipal Water District's tireless consumption. Yet these conversations neglect to consider the state as a whole; ignoring the San Joaquin Valley and the agricultural use of water specifically. The San Joaquin Valley has changed the courses of ancient rivers and lowered the height of the land as part of a search for water, and the Central Valley Project was a momentous step on the road to control of nature itself. This search for control, along with the influence of elite growers, was the force that drove water legislation and project creation.

Constructing the Central Valley Project

The Central Valley Project was a momentous piece of legislature for the state of California. Once it was completed, the Project controlled both the largest and third-largest rivers in California through dams, reservoirs, and canals.[1] In 1933, the state passed the Central Valley Project Act – due to heavy lobbying from growers who had deep pockets, thousands of acres of farmland, and a need for cheap water.

[1] Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York, N.Y., U.S.A.: Penguin Books, 1993.)

Though the Act passed through state legislature, there was no way to sell the necessary bonds to pay for it in 1933; the Great Depression put a halt on the public's ability to pay for large scale infrastructure projects. In order to finance the Central Valley Project, the state of California turned to the federal government. The state had initially wanted to avoid federal control of the project, as it would then be required to follow an acreage ownership mandate found in the Reclamation Act of 1902. Under the Reclamation Act, farmers who would have received water through the Central Valley Project needed to own less than 160 acres in order to acquire government-subsidized water. Many owned far more than 160 acres and would in theory need to sell excess land within 10 years in order to utilize water from the Project. In practice, it was a very different story. Growers created companies and trusts in order to maintain hundreds of thousands of acres and gain access to water for far less than market value.

The Bureau of Reclamation was more interested in digging canals, building dams, and completing water projects than it was in enforcing the law. The acreage limit, put in place to break up corporate farms and promote family land ownership, was rarely enforced. One of the projects the Bureau was eager to complete was the Central Valley Project, and one of the canals within that project was the Delta-Mendota Canal.

Construction of the Delta-Mendota Canal

On July 26th, 1945, the Bureau of Reclamation announced a formal request to the War Production Board. Their request was not out of the ordinary for the time in California, where the Central Valley Project labored on even as World War Two came to a close. The Bureau planned to begin construction on the Delta cross channel and river pumping plant, a piece of the Central Valley Project necessary to deliver water from the Sacramento River to the start of the Delta-

Mendota Canal.[2] The Canal would wind through five counties (San Joaquin County, Modesto County, Merced County, Madera County, and Fresno County) before it reached its end. Once completed in August of 1951, the Delta-Mendota Canal stretched from the pumping plant to its conclusion 117 miles away from its starting point. The Canal replaced water taken from the San Joaquin River; water which had been held upstream by the newly-constructed Friant Dam.[3] The Delta-Mendota Canal provided irrigation water to the west side of the San Joaquin Valley and terminate at Mendota Pool, the small reservoir 40 miles downstream of Friant Dam. Construction on the Canal was a federal project, as the Bureau of Reclamation had taken over the Central Valley Project in 1933 due to California's inability to finance it.[4]

Paying for the Central Valley Project

In 1948, construction on the Canal and several other large waterworks under the umbrella of the Central Valley Project had not yet begun. Despite the Project's beginning 11 years prior, a resolution adopted by the State Water Project Authority claimed that "several necessary and major features [were] not completed or [had] not been commenced[5]." Among these major features was the Delta-Mendota Canal. On February 25th, 1941, State Water Project Authority requested Congressional appropriations of $55,607,000 for Central Valley Project construction during the following fiscal year – a move at least partially supported by the Truman administration, as the proposed budget asked for $41,500,000 for the same purpose.[6] Named among Central Valley Project requests for Friant Dam ($579,000) and the Friant Kern Canal

[2] "Delta Channel Appeal Made," *Madera Daily Tribune,* July 26, 1945.

[3] "Big Turnout Expected Tonight at Friant CVP Water Celebration," *Madera Daily News-Tribune,* August 7, 1951.

[4] Reisner, *Cadillac Desert: The American West and Its Disappearing Water*

[5] "Huge Fund for CVP is Sought," *Madera Daily Tribune,* February 25, 1948.

[6] "Huge Fund for CVP is Sought," *Madera Daily Tribune,* February 25, 1948.

($18,000,000) was the Delta-Mendota Canal, requesting $20,000,000 for the 1949 fiscal year.[7] These requests were factored into the ultimate amount desired by the State Water Project Authority in a proposal that met with a success that is a testament to the power of California water lobbyists in Washington at the time – by November 4th, 1949, the Central Valley Project was awarded a further $64,500,627 to be spent during that same fiscal year.[8]

The 1949 additions to the budget of the Central Valley Project were spent through the Bureau of Reclamation, which continued to gain a poor reputation due to autocratic designs and a refusal to listen to any engineering advice but their own.[9] Despite the words of its detractors, the Bureau put the money to use in the autumn of 1949, continuing multiple works including 45 miles of the Delta-Mendota Canal that were under construction already at that point, along with a start on the last 51 miles of the canal.[10]

Total cost of the Central Valley Project was estimated at $512,569,000 in 1949, as the State Water Project Authority recommended that Congress spend $69,000,000 on it during the 1951 fiscal year. $440,069,000 for construction costs and $72,500,000 for irrigation systems were the numbers cited by State Engineer Ed Hyatt. With this backdrop, the State Water Project Authority asked for their $69,000,000, with $22,000,000 earmarked for the Delta-Mendota Canal[11]. The construction of the canal was a necessary solution to a problem caused by Friant Dam, which was an earlier part of the Central Valley Project. Friant Dam had halted the journey of too much water in the San Joaquin River; farmers who had once depended on the river for water found their water blocked up and shipped to different areas. The Delta-Mendota Canal

[7] "Huge Fund for CVP is Sought," *Madera Daily Tribune,* February 25, 1948.
[8] "$64,500,627 Set Aside for CVP," *Madera Daily News-Tribune,* November 4, 1949.
[9] "Engineering Errors in CVP Are Charged," *Madera Daily News,* August 31, 1948.
[10] "$64,500,627 Set Aside for CVP," *Madera Daily News-Tribune,* November 4, 1949.
[11] "69 Millions Eyed For CVP," *Madera Daily News-Tribune,* December 13, 1949.

spends a large part of its 117 miles running parallel to the California Aqueduct, with a very different purpose and destination. While the people of Los Angeles drank from the Aqueduct, the Canal would be used to irrigate farms and grow crops. In other words, it would generate profit.

On August 6th, 1951, townspeople and farmers in the Los Banos, Gustine, and Firebaugh areas saw the results of years of construction and lobbying – as they celebrated and listened to speeches by politicians and growers, water flowed down the 117-mile track to the Mendota Pool.[12] It was a testament to government's ability to control nature, and growers ability to influence government.

Conflict with the Bureau of Reclamation

The accomplishments of the Central Valley Project should not be minimized or dismissed; completion of the project changed the economic and geographic landscape of the San Joaquin Valley and the larger California. This fact does not mean that there were no problems over the course of the Project's completion. The Bureau of Reclamation in the 1940s was eager to construct great waterworks and was absolutely against any oversight from California state officials or agencies. On August 31st, 1948, State Representative Alfred Elliot of Tulare argued that the Bureau's methods of constructing the Friant-Kern and Delta-Mendota canals would cost $32,000,000 more than predicted, as pumping would be required to deliver water to irrigators.[13] The California District Securities Commission lacked the money to make its own investigations into the claim and turned to the State Water Project Authority for answers. Yet State Engineer Edward Hyatt, the authority's executive officer, said that because 100 miles of the Friant-Kern canal had already been completed investigation into the construction would be a waste of time.[14]

[12]"Big Turnout Expected Tonight at Friant CVP Water Celebration," *Madera Daily News-Tribune,* August 7, 1951.

[13] "Engineering Errors in CVP Are Charged," *Madera Daily News,* August 31, 1948.

[14] "Engineering Errors in CVP Are Charged," *Madera Daily News,* August 31, 1948.

The Authority agreed to sit in with the Bureau on future projects, but the lack of response to the charges raised by Rep. Elliot reveals more than just a lack of response in this one instance. It gives insight to the attitudes of both the State Water Project Authority and the Bureau of Reclamation, though the agencies would loathe being put in the same category. What this response shows is the absolute confidence these agencies had in the completion of the Central Valley Project. The agencies expected the elaborate system of canals and dams would come to fruition despite any issues faced in the course of its construction. For example, going over-budget was not important enough to be a great cause for concern, nor was the reality that Straus and Boke, the engineers in charge of the Central Valley project, were not actually trained engineers.[15] These things were stumbling blocks and minor hiccups in California's search for more control, use, and manipulation of water both within and outside of the state.

The Bureau's views on its own history, of course, differ greatly from the views of their numerous critics. In 1963, the Bureau of Reclamation celebrated its 20th anniversary; of course, this came with a listing of achievements. By 1950, Shasta Dam and Powerplant, Keswick Dam, and Contra Costa and Madera Canals were finished. The next year added the Tracy Pumping Plant, Delta Cross Channel, Delta-Mendota Canal, and Friant-Kern Canal.[16] The Bureau's interest in constructing dams, canals, and other large waterworks was always the driving force of the agency. Making sure these projects were well designed and considering the long-term implications of them was not the Bureau's best quality.

Consequences of Groundwater Pumping

[15] Ray Coppock, "Straus Promises Early Water Pact With Chowchilla," *Madera Daily News-Tribune,* November 18, 1949.

[16] "Reclamation Bureau Reviews Its History," *Madera Daily Tribune,* September 20, 1963.

Water in California is power, both in the sense that hydroelectric dams generate electricity and in the sense that it is a driving economic and political force. This fact is not limited to water above ground-level. Groundwater is an integral part of the California water system, sometimes referred to as "California's great underwater lake,"[17] though the metaphor is not entirely accurate, and groundwater levels have been a growing concern for decades.

Groundwater pumping was included in the Central Valley Project, which is logical considering that 60% of all water pumped in California goes to the western side of the San Joaquin Valley for agricultural use. The Delta-Mendota Canal, an endeavor that exemplifies the Central Valley Project's manipulation of water and river systems, begins at a groundwater pumping plant. And by 1946, five years before the completion of the Delta-Mendota Canal, groundwater levels were declining as the postwar boom in agricultural irrigation increased pumping.[18] In 1950, groundwater levels in critical areas of the San Joaquin Valley were low and continuing to drop as farmers pumped more and more groundwater in an effort to stay one step ahead of drought. Even deliveries of Central Valley Project water were not expected to alleviate the situation or reduce the rate of pumping.[19] At the 1950 rate, the groundwater that had once seemed limitless would last for only a few decades more, and the rate of pumping did not remained the same. It has increased and led to a problem faced by much of the San Joaquin Valley, particularly in the Mendota area, for years: ground subsidence.

As groundwater is pumped, the loose silt and clay it is pumped out of becomes compact and hard, causing the height of the ground to lower. Thinking of it as a sponge is a very useful

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[17] J J French, H D Wilson, *The Story of Ground Water in the San Joaquin Valley, California,* (United States Department of the Interior, 1964.)

[18] French, Wilson, *The Story of Ground Water in the San Joaquin Valley, California.*

[19] "Valley Water Supply Is Dark," *Madera Daily News-Tribune,* April 28, 1950.

analogy – as it dries, the sponge hardens and shrinks. Now, a sponge can be run under water again after it has dried and can expand to absorb more water. The problem with much of the San Joaquin Valley is that the clay layer in the soil cannot reabsorb water. Even with unprecedented rains and a complete halt in groundwater pumping, the land would not rise again to its previous height. Instead, water sits on top of the ground, causing floods because it is unable to percolate back into the water table. Southwest of the city of Mendota, the ground suffered 29 feet of subsidence from 1925 to 1977.[20] By 1964, the Department of the Interior released a study on California groundwater that called attention to subsidence and overdrafting. The report called for a reduction of pumping and an investigation into ways to get water back into the water table.[21] Instead of that outcome, California has continued to pull water from the ground. In drought years, groundwater is pumped even more. This use of resources emerged from the view of water held in California: water is a resource to be employed to its maximum potential, no matter the cost.

Political Response and Public Opinion of the Central Valley Project

The falling groundwater levels and frequent droughts of the 1940s and 1950s made the Central Valley Plan even more important to the Californian dream of natural control; a vision in which no water went unused and growers' profits continued to increase. On November 18th, 1949 – still two years before the completion of the Delta-Mendota Canal and over twenty years before the conclusion of the Central Valley Project – the city of Chowchilla made irrigation history by creating its own independent operating district. These districts controlled water use and allocations in areas of various sizes; they operated at city and county levels. The creation of

[20] Claudia C. Faunt, Michelle Sneed, Jon Traum, Justin T. Brandt, "Water availability and land subsidence in the Central Valley, California, USA." *Hydrology Journal*, November 2015.
[21] French, Wilson, *The Story of Ground Water in the San Joaquin Valley, California.*

this city district was significant not in its structure, but in the brief amount of time it took. The Chowchilla district was created, start to finish, in two years.[22] The speed of this organization showed how little doubt there was that the Project would succeed, and how much pressure there was for its continuation. Congressman Cecil White attended a celebration of the district's completion along with 3,000 residents of Chowchilla and promised them a water contract "in accordance with law and basic Bureau of Reclamation philosophy" in record time.[23] At this same celebration, Congressman White charged others with obstructing the Central Valley Project's progress; everyone from senators to private power companies were accused of looking out for their own interests instead of trying to get water to the people. Even the Kings River Water Association was mentioned, as the group disapproved of Bureau plans for the Kings River[24] – but Congressman White's assertion of absolute confidence in the Central Valley Project was reflected across California. There was an arrogance to the Central Valley Project, and the view held that it would not fail and California's legacy would be one of dominance over nature itself. The Congressman did not criticize growers, in fact he brushed aside calls for enforcement of the acreage limit that threatened their hold on California land and water.

Viewing water as a vehicle for profit was an ideological cornerstone for the Central Valley Project because the increase in irrigation farms led to a boom in agricultural possibility in the San Joaquin Valley. This drive for profit made growers into millionaires with tens of thousands of acres of land and the political power to shape the Valley. If the 160-acre limit on subsidized water had been enforced, the Central Valley Project could have been the first functional land redistribution device in the United States, breaking down vast mega-farms into

[22] Coppock, "Straus Promises Early Water Pact With Chowchilla."
[23] Coppock, "Straus Promises Early Water Pact With Chowchilla."
[24] Coppock, "Straus Promises Early Water Pact With Chowchilla."

family farms on a subsistence model. Instead, enforcement of the Reclamation Act was inconsistent at best, and the process was arduous and prone to corruption. The legal department of the Department of the Interior got caught up in court for years in a number of cases, where lawyers for growers dragged proceedings out for as long as possible while their clients continued to obtain subsidized water. Growers had enough money to make large donations to candidates across the political spectrum in order to further their goal of cheap water – the Interior's legal department would work on cases for months at a time before a special exemption would be provided by the Department and the case would be dropped.[25] Growers had power and weren't afraid to spread their money around, whether it was to get the best lawyers possible or to donate to both sides of an election. Progress and profit went hand in hand for growers, who knew the enforcement of the acre limit was nothing to be feared. The real worry was that something would change water rights, which were already a complicated legal mess, that would take rights away from large-scale growers. The fear of losing water wasn't confined to millionaires alone, either. On the morning of November 1st, 1950, assurance of Madera Irrigation District water rights was front page news – a fact that wouldn't seem out of the ordinary, except for the fact that the headline of the day was that President Truman had survived an assassination attempt. Right below the picture of the president, on the center of the front page, was the speculation on Madera's water rights under a contract made in 1939.[26] This shows the attention water rights could draw, and how highly they were valued in the San Joaquin Valley.

Conclusion

[25] Reisner, *Cadillac Desert: The American West and Its Disappearing Water*

[26] "For a Few Months At Least: MID Given Assurance Of Its Water Rights," *Madera Daily News-Tribune*, November 1, 1950.

The Central Valley Project changed water in the San Joaquin Valley forever. Gone were the days of letting nature dictate growing seasons and suitable crops – water was something to be used and controlled by man. This control sometimes led to issues, like the lack of water in the San Joaquin River after the construction of Friant Dam, but these problems were solved by more manipulation. To replace water for downstream farmers, the Delta-Mendota Canal wound 117 miles through the San Joaquin Valley to place water pumped from the groundwater of Tracy into the Mendota Pool before it flowed onward. The overuse of groundwater pumping is a problem that still plagues California today, as ground subsidence becomes more prevalent, but times of drought only motivate more pumping to keep the profits coming. Powerful corporations that first emerged to duck the 160-acre limit continue to control vast swathes of California land and have an unquenchable desire for more water. It remains a source of economic and political power, still present on the agendas of politicians and millionaires – and still necessary for life as we know it in the Valley to continue.

Bibliography

"$64,500,627 Set Aside for CVP," *Madera Daily News-Tribune,* November 4, 1949.

"69 Millions Eyed For CVP," *Madera Daily News-Tribune,* December 13, 1949.

"Big Turnout Expected Tonight at Friant CVP Water Celebration," *Madera Daily News-Tribune,* August 7, 1951.

Claudia C. Faunt, Michelle Sneed, Jon Traum, Justin T. Brandt, "Water availability and land subsidence in the Central Valley, California, USA." *Hydrology Journal,* November, 2015.

"Delta Channel Appeal Made," *Madera Daily Tribune,* July 26, 1945.

"Engineering Errors in CVP Are Charged," *Madera Daily News,* August 31, 1948.

"For a Few Months At Least: MID Given Assurance Of Its Water Rights," *Madera Daily News-Tribune,* November 1, 1950.

"Huge Fund for CVP is Sought," *Madera Daily Tribune,* February 25, 1948.

J J French, H D Wilson, *The Story of Ground Water in the San Joaquin Valley, California,* (United States Department of the Interior, 1964.)

Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York, N.Y., U.S.A.: Penguin Books, 1993.)

Ray Coppock, "Straus Promises Early Water Pact With Chowchilla," *Madera Daily News-Tribune,* November 18, 1949.

"Reclamation Bureau Reviews Its History," *Madera Daily Tribune,* September 20, 1963.

"Valley Water Supply Is Dark," *Madera Daily News-Tribune,* April 28, 1950.