Central Valley Project

Overview

Eric A. Stene
Bureau of Reclamation

Table Of Contents

The Central Valley Project

Throughout his political life, Thomas Jefferson contended the United States was an agriculturally based society. Agriculture may be king, but compared to the queen, Mother Nature, it is a weak monarch. Nature consistently proves to mankind who really controls the realm. The Central Valley of California is a magnificent example of this. The Sacramento River watershed receives two-thirds to three-quarters of northern California's precipitation though it only has one-third to one-quarter of the land. The San Joaquin River watershed occupies two-thirds to three-quarter of northern California's land, but only collects one-third to one-quarter of the precipitation. The Sacramento Valley suffers from floods, and floods and droughts alternately afflict San Joaquin.[1]

Though Mother Nature rules, mankind cannot resist a challenge. As early as the 1870s, ideas appeared planning to transfer excess water from the Sacramento River to the often parched tracts in the San Joaquin Valley. After years of planning and debate about the proposed project led nowhere, California appealed to the Federal government for assistance. The Bureau of Reclamation and the Army Corps of Engineers (COE) vied for the opportunity to construct the facilities on the colossal project, by now called the Central Valley Project.[2]

California's history encompasses several hundred years of habitation by various groups of Native Americans. European settlement of the state began with the Spanish, in the seventeenth century. The Spanish established Roman Catholic missions and other settlements along the California coast, but rarely ventured to the interior of the territory. Citizens of the United States began immigrating into California in the 1840s. Increasing migratory pressure by the settlers, in

1. Robert de Roos, *The Thirsty Land: The Story of the Central Valley Project* (New York: Greenwood Press, 1968), 4-5; *To Quench a Thirst: The California Water Crisis*, produced by the Water Education Foundation, directed by Sue Pearson Atkinson, 55 min., originally aired on San Francisco station KQED, August, 1994, videocassette.
2. de Roos, *The Thirsty Land*, 12.

many north Mexican provinces, and political machinations by the United States; sparked the Mexican-American War in 1846. The United States defeated Mexico in 1848. The treaty of Guadalupe-Hidalgo gave Mexico's northern states, including California, to the United States for $10 million. The acquisition of California alone, brought the United States riches the country did not know existed, and more problems to go along with them.[3]

The discovery of gold at Sutter's Mill in 1849, brought a flood of Americans into the area. California became a state the next year. The first California Legislature in 1850 immediately enacted laws to deal with the state's most precious resource, not gold, but water. The California Legislature adopted English Common Law's riparian water rights. According to that law, owners of land bordering streams or bodies of water had a right to a reasonable amount of that water. Owners, whose land did not border bodies of water, had no rights to any of the water.[4] The laws severely restricted the number of landholders who had access to California's water supply.

The 1850 California Legislature gave the State Surveyor General responsibility for water development. In 1878, the California government created the office of the State Engineer, which then became responsible for state water planning. William Hamilton Hall, the first State Engineer, conducted a broad study of California's water problems, on a $100,000 budget. Hall planned to appropriate more money, and conduct a more detailed study, but for unspecified reasons, the legislature abolished the State Engineer position in 1889.[5]

The California Legislature passed the Wright Act in 1887, forming irrigation districts. One Reclamation official considered the Wright Act a model for irrigation legislation in the

3. *Ibid*., 16.
4. *Ibid*., 16-7.
5. Charles Eugene Coate, "Water, Power, and Politics in the Central Valley Project, 1933-1967" (Ph.D. diss., University of California, Berkeley, 1969), 7-8; Bureau of Reclamation, *Annual Project History, Central Valley Project, to 1936*, Record Group 115, 13. Hereafter Record Group 115 cited as RG 115.

west.[6] Others claimed it was a good idea, but badly implemented. The districts' encountered problems in selling their bonds, filling their reservoirs, and fairly allocating water. Future Reclamation Commissioner, then Wyoming State Engineer, Elwood Mead declared the Wright Act, "a disgrace to any self-governing people."[7] California amended the Wright Act in 1897, stopping the establishment of irrigation districts until the formation of the Irrigation Districts Bond Certification Commission.[8]

The Federal government became interested in California water during the nineteenth century. Lt. Colonel B. S. Alexander studied the Sacramento and San Joaquin Rivers in 1873. In his report to President Ulysses S. Grant, Alexander visualized a system of canals to complete an exchange of water from the Sacramento to the San Joaquin Valley.[9]

A report on the "Sacramento Project" in 1904, first connected the U.S. Reclamation Service to water problems in the Central Valley, but that connection remained limited. California created the State Reclamation Board in 1911, and authorized it to spend $33 million on a flood control project in the Central Valley. The Reclamation Service reported on the possible storage of Sacramento River water at Iron Canyon near Red Bluff. In 1920, Homer J. Gault, a Reclamation engineer, and W.F. McClure, the California State Engineer, wrote another report on Sacramento River storage in Iron Canyon.[10]

In a 1919 letter to California Governor William Stephens, Colonel Robert Bradford Marshall, Chief Geographer for the U.S. Geological Survey (USGS), proposed a plan to build storage reservoirs along the Sacramento River system, and transfer water from the Sacramento

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6. Reclamation, *Project History, CVP, to 1936*, 14.
7. Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York: Viking, 1986), 113-4.
8. Reisner, *Cadillac Desert*, 113-4; Reclamation, *Project History, CVP, to 1936*, 15.
9. Reclamation, *Project History, CVP, to 1936*, 15; de Roos, *The Thirsty Land*, 17.
10. Reclamation, *Project History, CVP, to 1936*, 16-8.

Valley to the San Joaquin Valley via two large canals lying on both sides of the Sacramento River. The plan earned Marshall the nickname, "The Father of the Central Valley Project."[11]

California's government became interested in a comprehensive water plan for the state in 1921. The state legislature directed the State Engineer to come up with such a plan. They wanted it to accomplish conservation, flood control, storage, distribution, and uses for all California water. The legislature directed the State Engineer to estimate total costs for the reservoirs, dams, and any other facilities needed to institute the state water plan. The legislature appropriated $200,000 to investigate this state water plan. The legislature received the report in 1923. Further legislation and appropriations raised the bill to one million dollars. Between 1920 and 1932, approximately fourteen reports detailed water flow, drought conditions, flood control, and irrigation issues in California. State Engineer Edward Hyatt used the reports to create the California State Water Plan.[12]

Salinity control, especially in the Sacramento-San Joaquin River Delta, became a major concern for northern California water users, and a major component of the California State Water Project. The Delta frequently experienced salinity intrusion, which caused problems for Antioch and Pittsburg. Unless water flowed past Antioch at a minimum of 3,300 second-feet, salt water from San Francisco Bay moved into Suisun Bay and the Delta during high tide, making the water unusable for crops and industry. Between 1919 and 1924, the salt water in Suisun Bay allowed sufficient growth of teredo, a woodboring, salt water worm, to destroy $25 million of the bay's wharves and pilings. In 1924, the water reached its lowest recorded stream

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11. Reclamation, *Project History, CVP, to 1936*, 39; Emmett R. Crocker, "The Conception and Growth of the Sacramento Valley Canals," *The Reclamation Era*, November 1954, 82.

12. Reclamation, *Project History, CVP, to 1936*, 40; "Memorandum 'A'," Colorado River Project–Central Valley (California)–Land Acquisition, papers of Harry W. Bashore, box 4, American Heritage Center, University of Wyoming, Laramie, Wyoming, 1; Coate, "Water, Power, and Politics in the Central Valley Project," 9; Water Education Foundation, *Layperson's Guide to the Central Valley Project* (Sacramento: Water Education Foundation, 1994), 6; Emmett R. Crocker, "The Conception and Growth of the Sacramento Valley Canals," 82.

flow. The maximum salt water content at Pittsburg reached 65 percent. In 1926, Pittsburg and Antioch stopped using water from Suisun Bay for crops and industry. Both communities had used the bay water since the middle of the nineteenth century. In 1930, the state water plan called for construction of a 420 foot dam at Kennett to maintain a regular flow to Antioch, keeping salt water out of Suisun Bay. The California Legislature authorized the future Central Valley Project as a state project in 1933. The act authorized the sale of "revenue" bonds not to exceed $170 million.[13]

Even with the authorized revenue bonds, California found itself unable to finance the project. The state could not get the project approved for loans and grants under the National Recovery Act. Harry W. Bashore reported to Reclamation on the upper San Joaquin Relief Project that the State Engineer considered Kennett Reservoir the cornerstone for the entire Central Valley Project. California applied to the Federal Emergency Administration of Public Works (FEA) for grants and loans, and created the Water Project Authority. The Committee on Rivers and Harbors of the House of Representatives recommended $12 million of Federal money for construction of Kennett (Shasta) Dam because of the national benefits to navigation and flood control on the Sacramento River. After reviewing the investigations, the California Joint Federal-State Water Resources Commission, the United States Senate Committee on Irrigation and Reclamation, the Bureau of Reclamation, and the Army Corps of Engineers approved and recommended the plan.[14]

California amended its application to the FEA in 1934, and the Water Project Authority

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13. Emmett R. Crocker, "The Conception and Growth of the Sacramento Valley Canals," 82; Reclamation, *Project History, CVP, to 1936*, 19.

14. "Memorandum 'A'," 2; Reclamation, *Project History, CVP, to 1936*, 20, 40; Harry W. Bashore, "Central California Water Resources Investigative Report on Upper San Joaquin Relief Project, August, 25, 1933," Colorado River Project--Central Valley (California), papers of Harry W. Bashore, box 4, American Heritage Center, University of Wyoming, Laramie, Wyoming, Vol. II, C.

became effective. President Franklin D. Roosevelt issued an executive allocation of $20 million, later reduced to $4.2 million, under the Emergency Relief Appropriation Act, for construction of the Central Valley Project on September 10, 1935. Apparently officials assumed the approval was valid under the Emergency Relief Appropriation Act of 1935. The Supreme Court case of the United States vs. Arizona (295 U.S. 174) threatened the assumption. Before 1935, the government sometimes started irrigation projects using relief funds without conforming to the Reclamation Acts, but the court's decision said the Secretary of the Interior and the Federal Emergency Administrator of Public Works did not have the authority to construct Parker Dam, on the Colorado River, without the consent of Congress. The Supreme Court ruled that such an approach violated reclamation laws.[15]

Authorization of the Central Valley Project could not take place at the time because there were no executive branch findings and approval of feasibility. The technical problems, however, did not stop authorization of the project. Active participation by Reclamation, in matters relating to the Central Valley, started in September 1935, at meetings in Sacramento and Berkeley. Reclamation Commissioner Elwood Mead, Chief Engineer Raymond F. Walter, Construction Engineer Walker R. Young, and State Engineer Edward Hyatt attended the meeting. Secretary of the Interior Harold Ickes sent the feasibility report to the President on November 26, 1935. Roosevelt approved Central Valley Project, including Kennett (Shasta), Friant, and Contra Costa (Delta) Divisions, on December 2, 1935.[16]

The Rivers and Harbors Act of 1937, re-authorized the Central Valley Project, and authorized $12 million for it. The Rivers and Harbors Act listed improvement of navigation, regulation, and flood control of the Sacramento and San Joaquin Rivers as the first priorities of

15. Coate, "Water, Power, and Politics," 49; "Memorandum 'A'," 3-4.
16. "Memorandum 'A'," 3-4; Reclamation, *Project History, CVP, to 1936*, 42.

the Central Valley Project. Reclamation's primary purpose, supplying water for irrigation and domestic use followed these priorities, and power generation ended up the last priority on the list.[17]

Construction of the Central Valley Project started in the late 1930s. By 1939, the CVP apparently gained more attention for Reclamation from Federal officials. Secretary of the Interior Harold Ickes was one of the officials who paid little attention to Reclamation and the CVP early in the 1930s. At one point during the decade, Ickes offered to trade Reclamation to the Department of Agriculture in return for the Forest Service. The trade never went through, but reveals the lack of interest the Interior Secretary had for the agency.[18]

Controversy about the CVP blossomed following World War II. Advocates of small farmers formed the Central Valley Project Conference (CVPC) to counter the influence of the Central Valley Project Association (CVPA). George Sehlmeyer, Master of the California Grange, led the CVPC, which extolled the virtues of acreage limitations and public power. The CVPA viewed the latter two policies as anathema. The California Grange did not always act in a liberal manner. In a disturbing exhibition of racism in 1944, the Grange adopted a resolution opposing the return of Japanese to the west coast and demanding their deportation after World War II. The resolution stated the government demonstrated it had no confidence in the patriotism of the Japanese whether American or foreign born, and the Grange advocated expulsion of Japanese from the United States and all the country's possessions.[19]

One of the CVPC's biggest accomplishments came on September 8, 1945, as 200

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17. Department of the Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws Annotated, Volume I: Through 1942* (Washington: Government Printing Office, 1972), 583-4.
18. Coate, "Water, Power, and Politics," 95, 96.
19. C. E. Coate, "Water, Power, and Politics," 143-4; Hamilton Hintz, "Grange Demands Deportation of All Japanese," *Sacramento Bee* 20 October 1944, *Bureau of Reclamation Project Correspondence File, 1930-1945: Central Valley*, RG 115, file .023, "Clippings: July 1944 Thru," box 99.

delegates gathered to attend the Conference's California Water Conference. The California Water Conference of 1945, with Governor Earl Warren presiding, revealed a large amount of support for the CVP among small, working farmers; according to the year's *Project History*. The *Project History* reported,

> Paid mouthpieces of the vested interests, such as the Pacific Gas and Electric Company, the Irrigation Districts Association, the California Farm Bureau Association, the State Water Project Authority, and others, without exception, opposed the Bureau's program of wide distribution of benefits resulting from the expenditure of public funds.[20]

Several issues arose at the conference, including: state vs. federal operation and control; public vs. private distribution of power; and Army vs. Reclamation construction of multi-purpose projects; and controversy over the 160 acre limitation in the Reclamation Act of 1902. In "Water, Power, and Politics in the Central Valley Project," Charles E. Coate said, "The Army faced a decidedly hostile audience, and the bureau [sic] won the meeting's endorsement."[21]

Not everyone felt the same fondness for the CVP. Robert Franklin Schmeiser, elected president of the Associated Farmers of California, Inc., in 1947; adamantly opposed Reclamation involvement in the Central Valley. Mainly he opposed Secretary of the Interior Harold Ickes, but aimed his wrath at Reclamation. Schmeiser railed against the 160 acre limitation expressed in the Reclamation Act of 1902. He supported COE construction of the Project, believing the Corps would supply irrigation water at a lower rate than the Bureau. Schmeiser did not like Reclamation's "propaganda organization," and argued against "the dictatorial powers they possess over the public."[22] Using the popular vernacular of the time to deal with opposition, Schmeiser called Reclamation officials "Communists" because of the acreage limitations and

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20. C. E. Coate, "Water, Power, and Politics," 143-4; Bureau of Reclamation, *Annual Project History, Central Valley Project, 1945, Part I*, RG 115, 5-6.
21. Reclamation, *Project History, CVP, 1945, Pt. I*, 6; Coate, "Water, Power, and Politics," 145.
22. Bureau of Reclamation, *They Subdued the Desert*, 101-2.

public power policy, always combustible topics in the CVP.[23]

Central Valley Project continued unscathed through the late 1940s and 1950s. The government authorized new divisions of the project, with economic feasibility the only necessary criteria. The project became a conglomeration of various Federal and state government agencies by the end of the 1960s. The Army Corps of Engineers built several dams in California under the Flood Control Act of 1944, several of which became integrated into CVP. Meanwhile, California continued with its State Water Project.

The Corps of Engineers completed Folsom Dam in 1956, turning over operation and maintenance to the Bureau of Reclamation after completion. Congress integrated more COE projects into CVP during the 1960s and 1970s. The Corps of Engineers continued to operate and maintain several dams in the Central Valley. The Corps often found itself holding surplus water at the dams. As a result, Reclamation drew up contracts for releasing the surplus water for irrigation because COE specialized in flood control, not irrigation water supply.

The California State Water Plan published in 1957, proposed immediate construction of a project on the Feather River. The Feather River marked the inauguration of the California State Water Project, strongly supported by California Governor Edmund G. "Pat" Brown who realized the seriousness of California's water situation. Unlike the CVP, which only compelled repayment for its irrigation projects, the State Water Project required water users to pay all project costs for the $1.75 billion in bonds. According to the Water Education Foundation, although a little more than 50 percent complete in 1994, the State Water Project then consisted of twenty-two dams and reservoirs and the North Bay, South Bay, and California Aqueducts. Approximately 30 percent of the water supplied by the State Water Project irrigates the San

23. *Ibid*., 102.

Joaquin Valley, while the other 70 percent supplied water for residential, municipal, and industrial use, most of it in southern California.[24]

The 1960s marked the end of the era of large dam building, and caught the CVP in a political and economic whirlpool with no apparent end. Environmental concerns began cropping up in the 1970s. President Richard M. Nixon signed the Endangered Species Act in 1973. The Act set criteria for listing endangered species and protecting them from harm by federal agencies or private concerns. The Central Valley Project felt the consequences of the Endangered Species Act because of Project features' impacts on migratory salmon.[25]

The population of winter-run Chinook salmon peaked in 1969, numbering about 118,000 at Red Bluff Diversion Dam. After 1969, populations of salmon and Steelhead trout at the dam steadily declined. By 1990, the salmon population dropped to less than 5 percent of their 1969 total. The situation elicited outcries against the Project from environmentalists and commercial fishermen. Reclamation instituted policies to alleviate the impact on the declining salmon population. The population at Red Bluff Diversion Dam gained in 1992 and 1993, but the numbers remained low compared to the population of 1969.[26]

The Reclamation Reform Act of 1982 recognized the large land holdings of many California farmers. Even though two-thirds of California farms consisted of less than 100 acres, 80 percent of the farmland existed in holdings of over 1,000 acres. Furthermore, 75 percent of California's agricultural production came from 10 percent of the farms. The Reform Act increased the limitation to 960 acres and eliminated the residency requirement for farmers, which

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24. Water Education Foundation, *Layperson's Guide to California Water* (Sacramento: Water Education Foundation, 1994), 12.

25. Bureau of Reclamation, *Red Bluff Diversion Dam Fish Passage Program: Factsheet 02--Federal Endangered Species Act*, Bureau of Reclamation, Mid-Pacific Region, July 1994.

26. Bureau of Reclamation, *Red Bluff Diversion Dam Fish Passage Program: An Update of Red Bluff Planning and Public Involvement Activities, Update No. 1*, Bureau of Reclamation, July 1994, 4; Reclamation, *Red Bluff Diversion Dam Fish Passage Program*, 4-5.

Reclamation never really enforced in the Central Valley because most contracts were with water districts, not individual farmers.[27]

The Central Valley Project Improvement Act of 1992 (CVPIA) started the CVP in a new direction. President George Bush signed the bill as part of the Reclamation Projects Authorization and Adjustment Act of 1992, over the objections of California Governor Pete Wilson and Central Valley legislators. Environmentalists considered the act a victory, while California agricultural leaders considered it a disaster. The CVPIA reallocated 800,000 acre-feet of CVP water (600,000 in dry years) from Valley farmers toward the restoration of Central Valley fisheries. CVPIA limited renewed agricultural water contracts to twenty-five years with no long-term renewals. The Central Valley Project Improvement Act opened a new political pandora's box in California.[28]

The internal battle over water in California evolved with the onset of the environmental crises. Early in the twentieth century, battle lines formed between northern California (extending north from the borders of Ventura and Los Angeles Counties) and southern California. By 1990, the opposing forces realigned into agricultural, urban, and environmental interests. Gaining the upper hand came through various alliances between the conflicting groups.[29]

The Central Valley Project is a complex operation of interrelated divisions. Shasta Dam, at one time considered the key to the Central Valley Project, acts as a flood control dam for the Sacramento River. Shasta Lake stores water for controlled releases downstream. The Trinity

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27. Water Education Foundation, *Layperson's Guide to the Central Valley Project*, 18.
28. Water Education Foundation, *Layperson's Guide to the Central Valley Project*, 19; Bureau of Reclamation, *Central Valley Project Improvement Act: Rules and Regulations*, August 1994, Subsection 3404(c), Subsection 3406(b)(2).
29. Discussion with Rita Schmidt Sudman, Executive Director of the Water Education Foundation; Sacramento, California, 30 August 1994.

River Division diverts surplus water from the Trinity River, in the Klamath River Basin, into the Sacramento River. Water from the Trinity River Division enters the Sacramento at Keswick Reservoir in the Shasta Division. Downstream from Shasta Division, the Sacramento River Division supplies Sacramento River water to Tehama, Glenn, Colusa, and Yolo Counties for irrigation. Releases from Shasta Division help control salinity in the Delta Division.

The American River Division provides flood control on the American and the Sacramento Rivers. The division supplies irrigation water along the Folsom South Canal. The American River Division's Sly Park Unit, essentially operates independently from the rest of the Division, irrigating parts of Placer County. The Friant Division impounds or diverts the entire flow of the San Joaquin River, except for flood control and irrigation releases. Friant Dam sends irrigation water south through the Friant-Kern Canal, and north through the Madera Canal. The Army Corps of Engineers built New Melones Dam and Powerplant on the Stanislaus River from 1966 to 1979. The COE turned the dam over to Reclamation in 1979. The dam primarily operates as a flood control and power facility, but Reclamation has contracts to supply water to two water districts in the area.

The Delta Division is the hub around which the Central Valley Project rotates. This Division contains the facilities for transporting water from the Sacramento River to the San Joaquin Valley and to farm land in the Delta Division. The Delta Cross Channel diverts water from the Sacramento River to the Tracy Pumping Plant, the Contra Costa Pumping Plants, and the intakes of the Contra Costa and Delta-Mendota Canals, sending the much needed water south into the San Joaquin Valley.

The San Luis Unit provides storage for the Central Valley Project for dry seasons. The Unit is a joint venture between Reclamation and the California Department of Water Resources.

The William R. Gianelli Pumping-Generating Plant, one of the joint facilities, pumps surplus water from runoff and melting snow from the Delta-Mendota Canal and the California Aqueduct into San Luis Reservoir, the largest offstream storage reservoir in the United States. When water flow through the Delta Division becomes too low, water is released from San Luis into the Delta-Mendota Canal and the California Aqueduct. The San Felipe Division diverts water from San Luis Reservoir into lands west of the Coastal Mountain Range, south of the San Francisco Bay.

Congress authorized the Allen Camp Unit of the Pit River Division on September 28, 1976. The Allen Camp Unit in Lassen and Modoc Counties of northeastern California, was to consist of Allen Camp Dam on the Pit River, Hillside Canal stretching twenty-five miles to the east, and Pilot Canal branching off Hillside to the southeast. The Concluding Report of 1981, determined the Unit was infeasible and the project was canceled.

The Central Valley Project began as the jewel in Reclamation's crown. The Project plans encompassed thirty-five counties in an area about 500 miles long and 60 to 100 miles wide, making it the largest Reclamation project.[30] The CVP contained some of the country's largest dams, Shasta and San Luis among them. Reclamation intended Auburn Dam, on the American River, to be the largest on the Central Valley Project, but political turmoil left the dam incomplete and in limbo. The Central Valley soon became a political and environmental bombshell, and a victim of changing times. California politicians soon avoided dealing with the CVP and the State Water Project, viewing both as machines of political suicide.

In spite of the social, environmental, and political controversy surrounding the Central Valley Project, it remains a impressive accomplishment. The Central Valley contains three-quarters of the irrigated land in California, and one-sixth of the irrigated land in the United

30. Water and Power Resources Service, *Project Data* (Denver: Government Printing Office, 1981), 165.

States. The Central Valley's annual farm production exceeds the total value of all the gold mined in California since 1848. The Central Valley Project ranks first among Reclamation projects in value of flood damage prevented between 1950 and 1991. During that time period the Central Valley Project prevented more than $5 billion dollars in flood damage.[31]

About the Author

Eric A. Stene was born in Denver, Colorado, July 17, 1965. He received his Bachelor of Science in History from Weber State College in Ogden, Utah, in 1988. Stene received his Master of Arts in History from Utah State University in Logan, in 1994, with an emphasis in Western U.S. History. Stene's thesis is entitled *The African American Community of Ogden, Utah: 1910-1950*.

31. Gerald W. Haslam, *The Other California: The Great Central Valley in Life and Letters* (Santa Barbara, California: Capra Press), 15; Bureau of Reclamation, *1991 Summary Statistics*, Bureau of Reclamation, 1991, 13.

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Index