

DESERTS, GARDENS, AND CITIES: RETHINKING COLORADO'S ARKANSAS BASIN IN THE 20TH CENTURY

by
Michael Welsh

In 1985, a native son of the Arkansas River valley electrified the disciplines of environmental and western history with his jeremiad against human abuse of the region's most precious resource. Donald Worster's *Rivers of Empire: Water, Aridity, and the Growth of the American West*, unflinchingly critiqued the process of constraining the region's stream-flows that led not to the West's self-identification with freedom and opportunity, but to what Worster called "a land of authority and restraint." Mincing no words, Worster saw "nothing harmonious, nothing picturesque about the western world that has developed beside the irrigation ditch." The labyrinth of canals and pipes across the West had shaped "a culture and society built upon...a sharply alienating, intensely managerial relationship with nature." The West's only hope, said Worster, was to live out the dream of an Easterner, the author Henry David Thoreau, who envisioned not an "instrumentalist" order of nature but a "society of free association, of self-defining and self-managing individuals and communities."¹

Scholarly and journalistic treatments of western water in the 1980s and 1990s echoed this refrain in a hundred ways. Western water promoters like Willard Smythe, or even more-cautious public officials like John Wesley Powell and Elwood Mead, were indicted for their hyperbole in books with titles such as *To Reclaim a Divided West*, *Western Times and Water Wars*, *Cadillac Desert*, *The Great Thirst*, *The Organic Machine*, or *Irrigated Eden*. Time and again, the authors deconstructed the irrigation paradigm to expose the monopoly of agriculture in much of the nineteenth and early twentieth-century West. The U.S. Reclamation Service, and later the U.S. Bureau of Reclamation, drew the bulk of scholarly attention, while urban water uses like flood control, navigation, or municipal supplies proved an arid intellectual landscape (this despite census data as early as 1890 indicating

Michael Welsh is a professor of history at the University of Northern Colorado. He is the author of *U.S. Army Corps of Engineers: Albuquerque District, 1935-1985* and other studies of western water and national park units.

that two-thirds of all westerners lived in towns of 2,500 or more). Only Los Angeles, the leviathan of western urban history, could compete with this academic fetish for rural water usage, with Blake Gumprecht's 2002 study of the life, death, and potential rebirth of the Los Angeles River, one recent example.²

Events in the late-twentieth century West in general, and the Arkansas valley in particular, call into question those assumptions, and suggest that it is time once more to ask whether a previous generation's theories apply to a new time. Drought conditions, the likes of which the West had not seen in a century and more, altered all manner of plans and schemes for control of its water. With the year 2002 considered the driest since record-keeping began in Colorado, and the worst for much of the West since the Dust Bowl, there arose the specter of an Arkansas River with no water. James Sherow, author of the most thorough treatment of the irrigation phenomenon in southern Colorado, wrote in 1990 that "the main problem for irrigators was that their agenda simply did not coexist well with the valley's environment." For Sherow, another native of the Kansas stretch of the Arkansas River, "the more people pursued their conquest of the river, the more nature reacted." What Sherow intimated in his study entitled *Watering the Valley: Development along the High Plains Arkansas River, 1870-1950*, was that the day might come when nature no longer provided the bounty imagined by Smythe, Powell, et al.³

If that day should dawn, then the extremes of floods and drought must be factored into any study of the Arkansas's history as far back as the historical record allows, and as far forward as our own time. Flooding would not concern the few people who made the Arkansas valley their home before the twentieth century, as much because of the river's history of dryness as for its lack of large population centers in need of protection from storm runoff. In its distance of over two hundred miles from Leadville to Holly, the Arkansas had but one community (Pueblo) that sought flood-control facilities prior to the urbanization of World War II and the Sunbelt boom of the 1950s and 1960s. Yet it was flood protection that would bring into the Arkansas valley the U.S. Army Corps of Engineers, an agency known for its massive multipurpose water projects on such larger rivers as the Columbia, the Snake, the Rio Grande, and the like. The Corps' studies of Arkansas valley communities documented a level of poverty that

precluded matching contributions to the design and construction of flood works, and only the dual crises of the Great Depression and Dust Bowl would change the Corps' strategies and make unemployment relief an important factor in the equation of project benefits.

Rather than a "river of empire," more often the Arkansas of the High Plains was a corridor to somewhere else. Starting with the great hunters of the mastodons and other mega-fauna, ancient peoples walked up and down its banks in search of food, clothing, and shelter. When the Spanish arrived in the mid-sixteenth century, they marveled at the juxtaposition of beauty and harshness along its course. A clue to the lessons learned by the Spanish conquerors can be seen in their phrase for the semi-nomadic cultures of the Colorado plains: *Los Indios Bravos*, or the "wild" and "uncontrollable" tribes of Comanches, Apaches, Utes, Navajos, etc. The Spanish would prefer the salubrious climate and Pueblo villages of northern New Mexico, identifying the Arkansas River basin on their maps as *El Cuartelejo*, or the "far quarter." Best left to the hardy buffalo hunters, the valley had little permanent settlement prior to American entry.

Once the United States cast its eye toward the West, other river basins offered more attractions for conquest and dominion. Lieutenant Zebulon Pike's 1806 journey up the Arkansas River revealed a landscape as bleak, in his words, as "the sands of Africa;" this a commentary that predated by more than a decade Lieutenant Stephen Long's "Great American Desert" appellation for Colorado's Plains. Forty years later, Francis Parkman ventured down the Arkansas on his return to Boston, and noted in *The Oregon Trail* (1847) that he would consider the channel a river only "if sand beds deserve the name of a river." In 1925 Charles L. Patterson, a civil engineer in Pueblo, collected oral testimony about the historic stream-flow of the Arkansas in response to the Supreme Court case of *Kansas v. Colorado* (1907). Patterson expressed particular interest in the comments of O.P. Wiggins, who claimed that from 1839 to 1854 there had been "in western Kansas...only four seasons of good running water, and that the river most always went dry in July."⁴

The irony of Arkansas River development in Colorado, as with so much else of the region's nineteenth-century history, was the discovery of gold and silver high in the Rocky Mountains. Vanished would be the mixed world of the fur trade, with Bent's Fort on the Arkansas only a memory when gold-

seekers trekked upstream to Pueblo and beyond. Conflict over control of the valley would occur in November of 1864, when on the aptly named tributary of Sand Creek the Third Colorado Volunteers sought to make the new Territory of Colorado secure from Indian attack by wiping out an encampment of Cheyenne and Arapaho peoples. In the 1870s and 1880s, the need for crop production to feed the thousands of miners in Leadville and Aspen brought farmers and ranchers into the valley. Then in 1898 the Salvation Army carved out a utopian experiment for the poor and destitute of Chicago along the banks of the river. Hoping to mimic the success of Horace Greeley's Union Colony some two hundred miles to the north, the "Amity Colony" by 1910 would be abandoned because of a lack of water rights, poor soil, limited farming skills, and frustration on the part of private donors who had subsidized a social-welfare community far away.⁵

The Amity experiment notwithstanding, settlement in the Arkansas valley surged after 1910, as a wet cycle replaced the misery of drought. Adjudication of the court case of *Kansas v Colorado* (1907) brought to western water law the "Colorado doctrine" of "prior appropriations," a concept driven by the need to maintain an artificial boundary between the two states, even as the river flowed across the line with impunity. Crop production contracts with the U.S. Food and Fuel Administration during World War I tempted farmers to "plant fence to fence for national defense," as the posters proclaimed in post offices and feed and grain stores throughout farm country. The return of drought in the late 1920s, soon followed by the tragedy of the Great Depression, blanketed the Arkansas valley with the same measure of anxiety and despair felt across America.

What puzzled Arkansas valley farmers even more was their inability to attract new sources of capital. The Interior Department's agent of empire, the U.S. Bureau of Reclamation (USBR), refused in the 1920s to subsidize Arkansas valley agriculture. Elwood Mead, the USBR commissioner and a former faculty member at Colorado A & M College, denied a request in 1925 for a water project in southeastern Colorado because the Reclamation Fund lacked the resources to support it. When water officials shifted their emphasis from irrigation to flood control, in response to the Pueblo flood of 1921, another federal water agency, the U.S. Army Corps of Engineers, could find no justification for a structure that protected so few people downstream.⁶

As would happen so often in the twentieth century, events far from the Arkansas valley would realign the thinking of water officials, and bring the unlikely feature of flood control to the high plains of southeastern Colorado. Devastating floods on the Mississippi River in 1927 prompted Congress to call for studies of flood-control facilities throughout the tributaries of the “Father of Waters.” Included in this call was the Arkansas valley, where irrigators saw the chance to construct, at federal expense, a large storage facility at the town of Caddoa, located between La Junta and Lamar. Facing economic decline in the late 1920s because of the return of the dry cycle, and the resultant downturn in the farm economy, Arkansas valley water officials pressed the Army Engineers for Caddoa Dam. At a cost of \$9 million, however, the project met resistance from the penurious budget officers of the Hoover White House. More telling, however, was the opposition of President Franklin D. Roosevelt and his Public Works Administration. PWA director, Harold Ickes, wanted to limit the expansion of irrigation projects as part of the larger New Deal campaign to reduce crop production to stabilize prices and revitalize America’s threatened rural communities.⁷

The persistence of hard times in southern Colorado taxed the resolve of state and local officials as much as it did water users in the Arkansas basin. States surrounding Colorado had accepted with little question the largesse of New Deal public works agencies, and the Army Engineers themselves released a study entitled the “Ferguson Report,” claiming that eight hundred to one thousand unemployed laborers could find work on a multimillion-dollar Caddoa Dam project. Unfortunately, the state constitution prohibited indebtedness for public works, and the federal Natural Resources Board contended that the vast majority of benefits accruing to Caddoa Dam would go to local farmers and townspeople, rendering the project of limited national priority. Then southern Colorado faced in 1936 the triple threat of drought (the worst year for water flows of the Great Depression), state and national elections that served as a plebiscite on the New Deal, and paranoia about Mexican labor taking jobs from needy Coloradans. Congress that year passed a flood-control act that included \$9.7 million for Caddoa Dam, with its benefits keyed to two features of work not considered the domain of the Army Engineers—unemployment relief and irrigation storage.⁸

Once Colorado relented in its opposition to acceptance of New Deal funding for public works, the Army Engineers came to the town of Caddoa and removed its citizens to higher ground. This pattern of displacement of communities for the greater benefit of a region's population mirrored the strategies of the Tennessee Valley Authority, whose vast southern network of hydroelectric power, irrigation and flood control storage, and use of unemployed laborers caught the eye of many state and federal resource managers. A movement had developed in the late 1930s to build what were called the "Seven Little TVAs," of which one was the "Arkansas Valley Authority." While its primary focus was downstream, conservative Colorado legislators saw this as a threat to state's rights. The Arkansas Valley Authority found no sponsors in the halls of the Denver state capitol, and disappeared just as World War II ushered in an antidote to the Depression. Vast increases in farm production, coupled after 1940 with a serendipitous return of the wet cycle, brought new investment, labor, and hope to the Arkansas valley even as the nation and the world struggled with global conflict.⁹

With the war at an end, the Army Engineers would return to the Arkansas valley after 1945 to complete the delayed construction of what came to be called John Martin Dam (named for the Democratic congressman from Pueblo who had championed the project throughout the 1930s). Greater flood flows gathered in the late 1940s behind the dam's concrete walls, leading downstream water users in Kansas to demand a share of this bounty. In 1948 Congress authorized creation of the Arkansas River Compact Commission (ARCC), led by General Hans Kramer, former district commander of the Army Engineers for eastern Colorado. Now retired from active duty, Kramer relied upon his expertise in engineering and leadership to fashion a compromise similar to that of the Supreme Court's ruling in *Kansas v. Colorado*. The compact commission would manage the flow of the river, and would have rights to all stream-flows not committed to flood-control purposes.¹⁰

No sooner had the ink dried on the Arkansas compact than did the natural cycle of drought, so familiar to nineteenth-century travelers, return to plague the valley. Throughout the 1950s, the Arkansas River in Colorado ran dry in midsummer almost eighty percent of the time. Heavy siltation compounded the problems of water storage at John Martin Dam, so that the

Army Engineers worried about the ability of the structure to retain future storm surges like the 1921 Pueblo flood. Then in 1959, a prolonged dry spell led to the death of some two hundred tons of carp and other fish behind the high walls of John Martin Dam. It was not surprising, then, for the Colorado congressional delegation to draft legislation in 1962 to transport water from the west slope of the Rockies. Known as the “Fryingpan-Arkansas Project,” the bill called upon the U.S. Bureau of Reclamation to construct \$169 million worth of facilities to store hundreds of thousands of acre-feet for municipal water users along the Front Range (this in addition to enhanced irrigation storage for Arkansas valley ditch companies).¹¹

While it would be more than a decade before water from the Fryingpan-Arkansas project reached the valley, nature surprised the Front Range amidst the dry cycle of the 1960s. A severe flood in June of 1965 caught metropolitan Denver unprepared, and the city sustained over \$300 million in damages to its South Platte Valley corridor. The Arkansas basin, by comparison, had flood flows collect behind John Martin Dam, which saved more than \$52 million in potential property loss. The 1965 flood season also led water officials in southeastern Colorado to press for study by the Army Engineers of Fountain Lake (later named Pueblo Dam and Reservoir). This would offer the valley’s largest municipality a multipurpose facility for flood control, recreation, and irrigation storage (now that water transfers from the Fryingpan-Arkansas project would join with any flood events through town).¹²

To this point, the story of the Arkansas River basin paralleled Donald Worster’s equation of incipience, florescence, and empire. Yet his narrative of shortsighted water planning failed to examine those events of the 1970s and 1980s that effectively halted design and construction of any new major water facilities in the basin (or much of the arid West, for that matter). Thus readers of the literature on western water might find intriguing two recent tales of the Arkansas basin—the impact of a generation of environmental legislation, and the completion of the long-delayed multipurpose facility in the southwestern reaches of the Arkansas valley (Trinidad Dam and Reservoir). The realities of federal budget reductions during the war in Vietnam, the hyperinflation of the 1970s, followed by the presidential administration of Ronald Reagan in the 1980s, created an unusual alliance of environmentalists and conservative politicians that once again left the

Arkansas valley without new facilities to address the drought conditions of the early twenty-first century.

Better known to students of natural resource policy is the chain of events that began in 1969 with passage of the National Environmental Policy Act (NEPA), followed the next year by creation of the Environmental Protection Agency (EPA). Two years later would come the Federal Water Pollution Act (known also as the "Clean Water Act"), with amendment of the latter in 1974 to require all plans for alteration of the nation's wetlands to be reviewed and approved by the Army Engineers. As the Vietnam War drew to a close, and the energy crises of the 1970s worsened, inflation and a stagnant economy reduced the amount of federal funds available for such activities as massive water projects. Then in 1976 an unfinished Bureau of Reclamation facility on the Snake River of Idaho collapsed, resulting in a substantial loss of life and property. The following year, President Jimmy Carter created what his critics called a "hit list" of water projects (nearly all of them in the West) that he refused to endorse because of their excessive costs and failure to meet environmental protection guidelines.¹³

Buffeted by new criteria that stymied the planning logic of a previous generation, the Army Engineers had to reassess their conclusions about Pueblo Dam. While the latter facility did not appear on the Carter "hit list," its cost overruns drew the ire of the Office of Management and Budget (OMB), as the original structure's \$53.6 million price tag had become in fifteen years a \$73 million burden on the taxpayer. Likewise the Corps of Engineers had to cancel plans included in the 1974 Water Resources Development Act to construct west of the town of La Junta the "Arkansas River Channelization Test Reach." Where Pueblo Dam reflected the old thinking of water officials, the La Junta project would incorporate the latest in environmental science and engineering. The Army Engineers would design and build an outdoor scientific laboratory to study water salvage, fish and wildlife management, and preservation of what the Corps called the "unique environmental elements affected by the channelization." The La Junta facility would be open to the public and would use its research findings in future water projects planned for the arid Southwest. The state of Colorado declined the opportunity to match the Army Engineers' \$4.3 million contribution with \$2.8 million in state funds, and the Arkansas valley lost its chance to experiment with a less-instrumental scheme of water

management.¹⁴

The demise of the La Junta water-resource laboratory left the Arkansas River basin with one last project to mitigate concerns about flood-control and water-resource use—Trinidad dam and Reservoir. The town of Trinidad had grown in the late nineteenth-century as coal mining spread throughout southern Colorado and northern New Mexico, with the town's development emulating the classic frontier tradition of unplanned neighborhood design. The Purgatoire River flowing through the heart of Trinidad was prone to flooding, as its stream gradient fell some eight thousand feet in forty miles. During the wet cycle from the 1860s to about 1890, Trinidad experienced persistent inundation, and in 1904 a flood brought over 45,00 cubic feet per second into the downtown area. Damage estimates that year reached \$500,000, and subsequent floods in 1921 and 1925 aggravated Trinidad's precarious position. Unlike its neighbor to the north (Pueblo), Trinidad had no patron like John D. Rockefeller, nor major employer like the Colorado Fuel and Iron Company, to underwrite a private conservancy district. Not until the depths of the Great Depression (when ninety percent of the miners in Las Animas County had no jobs), did someone step forward to address the community's needs for flood protection.¹⁵

A comprehensive study of the Arkansas basin in 1935 brought the Army Engineers westward to the foothills of the Sangre de Cristo Mountains. Local officials had pleaded for a large dam and reservoir to provide economic relief (much like the Corps had planned for Caddoa and other communities throughout the United States). These entreaties led to inclusion in the 1936 Flood Control Act of a recommendation for a dam west of downtown Trinidad, which would inundate the small, mostly Latino mining community of Sopris. Instead of displacing local residents, the Army Engineers had preferred a less intrusive strategy of levee and channel construction. Then the Corps discovered that the \$1 million channel would spare Trinidad only \$14,000 per year in potential flood damages, even as estimated maintenance costs exceeded four times that figure. Yet Sopris Dam also failed the cost-benefit analysis. The nearly \$4 million project (with local interests paying about half) would protect property valued at less than fifty percent of the cost of construction, and maintenance would add \$200,000 annually to the overall project.¹⁶

The state of Colorado, which in 1933 had rejected New Deal public

works programs for their costs and socialistic character, changed its tune when the Army Engineers rejected all flood-control work in the community of Trinidad. The chief engineer for the Colorado Water Conservation Board believed that the Corps was “too expensive for local residents,” and turned instead to the competing U.S. Bureau of Reclamation. Assuming that the USBR’s emphasis on irrigation facilities would strengthen Trinidad’s case, the state learned to its dismay that farmers’ storage of water could not justify Sopris Dam economically. At that point, the state of Colorado began to emphasize flood-control features for a dam near Trinidad, hoping that federal assumption of costs for protection against natural disasters would ensure construction and maintenance. Again, the Army Engineers declined in 1948 to sponsor such a facility (now called the “Piedmont Bridge Reservoir”). Then the signing of the Arkansas River Compact rekindled interest in storage facilities to deliver water to Kansas users. By 1954 the Army Engineers had dispensed with their design of river channels and levees, replacing them with a call for a \$17 million dam and reservoir.¹⁷

In so doing, the Army engineers could adopt USBR-style repayment schedules to recapture the costs of construction and maintenance. The problem as always was the low level of income for Trinidad-area farmers. Even the generous terms charged by the Bureau (interest-free loans with forty years to repay) could not help local water users, and the Corps had to create a sliding scale calculated on the basis of the availability of water, farm price levels, and annual crop yields. Given this formula, the Army engineers would need seventy-five years to recoup their original investment in irrigation at the proposed Trinidad Dam. Then in 1954 the Eisenhower administration’s Office of Management and Budget found the cost-benefit ratio to be insufficient, and declared the Trinidad Dam “not in accord with the program of the President at this time.”¹⁸

No sooner had the OMB denied the latest Trinidad Dam proposal than nature once more altered the dynamics of water management in the Arkansas valley. Spring storms in 1955 poured ten inches of rain onto a heavy snow pack in the Sangre de Cristos, bringing into town the worst devastation in a half-century. Sixty percent of the \$1.9 million in damages occurred in Trinidad, obliterating what existed of local flood-control structures. State water officials pleaded with the Army Engineers for help, but opposition from Kansas swayed the Corps’ thinking. Worried that a

large storage reservoir far upstream would endanger water-rights claims in their state, Kansas officials convinced the Army Engineers that Trinidad's misfortune was none of their own. Outraged at this turn of events, Trinidad Congressman J. Edgar Chenoweth inserted language in the 1958 flood control act to delete any reference to levee and channel work. This replaced the Corps's plans with a call for a multipurpose reservoir that would cost \$20 million (nearly half of that for land purchases). When President Eisenhower signed the bill later that year, local officials rejoiced that their day of deliverance from the twin evils of depression and flooding was at hand.¹⁹

The next obstacle in the path of construction for Trinidad Dam, oddly enough, arose from the doubts among local water users about their new partner, the Army Engineers. The Purgatoire River Water Conservancy District disliked not only federal authority, but also the cost of collaboration with the Corps, and the opposition of the State of Kansas to plans for release of waters from Trinidad Reservoir. It did not help that the Army Engineers scuttled designs for hydroelectric power generation at the dam, even though the Bureau of Reclamation had used this clever device elsewhere in the arid west to shift the burden of repayment from irrigators to urban electricity consumers. The Corps could not guarantee that the Purgatoire would sustain sufficient flows to run the expensive electric turbines and provide a stable source of energy for utility companies. Instead the entire \$8 million charge for water storage at Trinidad Dam fell upon local users. Representative Chenoweth complained that his constituents could afford neither that charge, nor the \$400,000 needed as a "down payment" to start the design process for the dam. In addition, said the Trinidad Republican, they could not retire their irrigation debt (despite its 75-year life span), nor even contribute significantly to the costs of annual maintenance.²⁰

By 1961 the community of Trinidad faced a situation not seen since the nadir of the Great Depression. Sixteen percent of the town's work force was unemployed, and from its peak in the 1950s the region's coal production had fallen by ninety percent. Absent a flood-control project, insurance companies refused to underwrite policies for homes and businesses, and corporations avoided investment in plant and equipment where they had no assurances against the vagaries of nature. To the rescue came the 1962 flood control act, which authorized the President and the Secretary of the Army to

forego stipulations of local financing if no individual or group received from federally sponsored flood protection what the legislation called “windfall benefits.” Two years later, the wide-ranging social service initiative known as the “War on Poverty” incorporated House Bill 5100, where Representative Chenoweth secured the endorsement of the Army Engineers for Trinidad Dam “without local contribution.” Arkansas valley irrigators would be spared the burden of a \$600,000 charge, and the community of Trinidad could hope for salvation once again from a generous federal treasury.²¹

Issues of national concern kept congress from appropriating construction funds for Trinidad Dam throughout the decade, with resolution not reached until 1968. To add to the burden of flood-control work for Trinidad, the USBR announced at the last minute that it could not justify the storage of 55,000 acre-feet of irrigation water behind the dam. Despite contract terms more generous than the Bureau’s own, local irrigation districts had to accept a storage pool reduced by nearly two-thirds (a mere 20,000 acre-feet). Even so, the federal share of Trinidad Dam had more than doubled in two decades to \$44 million, with local irrigators repaying only fourteen percent.²²

The dedication ceremonies at Trinidad Dam and Reservoir in 1977 took on an unintended historical tone. Unbeknownst to the dignitaries and local residents assembled, the Arkansas valley’s most costly water project, and perhaps its most striking symbol of instrumentalism, also would be its last. For the remainder of the twentieth century, no flood control project from Leadville to Holly could cost more than \$250,000 by law. No new irrigation storage facilities, for that matter, would survive the policies of the presidential administration of Bill Clinton (1993-2001), whose Secretary of the Interior, Bruce Babbitt, called publicly for the destruction of large dams in the West. Thus the words of Donald Worster, whose life took him far from the sandy soil of the Arkansas valley, bear repeating: “The desert West...might be valued as a place of inspiration and training for a different kind of life.” The same could be said for the Arkansas River in the twentieth century, where the story of flood protection reveals a tale of limits, and of a valley haunted by history, and not merely one more example of a river of empire.²³

NOTES

1. Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Pantheon Books, 1985), 5-7. Worster was born in Hutchinson, Kansas, downstream from the Colorado state line.
2. Among the many titles that addressed the excesses of irrigation in the West are John Walton, *Western Times and Water Wars: State, Culture, and Rebellion in California* (Berkeley: University of California Press, 1992); Donald J. Pisani, *To Reclaim a Divided West: Water, Law, and Public Policy, 1848-1902* (Albuquerque: University of New Mexico Press, 1992); Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York: Viking Press, 1986); Mark Fiege, *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (Seattle: University of Washington Press, 1999); Norris Hundley, *The Great Thirst: Californians and Water, 1770s-1990s* (Berkeley: University of California Press, 1992); and Richard White, *The Organic Machine* (New York: Hill and Wang, 1995). The story of Los Angeles and its Metropolitan Water District has had many chroniclers, among them William Kahrl, *Water and Power: The Conflict over Los Angeles's Water Supply in the Owens Valley* (Berkeley: University of California Press, 1982), and Blake Gumprecht, "Who Killed the Los Angeles River?" in William Deverell and Greg Hise, eds., *Land of Sunshine: The Environmental History of Greater Los Angeles* (Pittsburgh: University of Pittsburgh Press, 2004).
3. James L. Sherow, *Watering the Valley: Development along the High Plains Arkansas River, 1870-1950* (Lawrence, KS: University Press of Kansas, 1990), 28-30. Sherow stated that he spent his childhood along the Arkansas River near Wichita, Kansas.
4. Charles L. Patterson, Civil Engineer, Pueblo, Colorado, "Supplement to Sixth Progress Report, September 1925, Data Concerning Early River Conditions as taken from Transcript of Record, Kansas vs. Colorado, 1901-1907," Division of Water Resources, Office of the State Engineer, Pueblo, Colorado; William Wyckoff, *Creating Colorado: The Making of a Western American Landscape, 1860-1940* (New Haven, CT: Yale University Press, 1999), 33.
5. Marie Antalek, "The Amity Colony," unpublished master's thesis, Kansas State Teachers College of Emporia, 1968: 37-76.
6. M.C. Hinderlider, "History of the Caddoa Reservoir Project," Arkansas River 1925-1934 File, Office of the State Engineer, State of Colorado, Denver (hereafter cited as OSE); Elwood Mead, Commissioner, U.S. Bureau of Reclamation, to Hinderlider, April 27, 1926, Arkansas River 1925-1934 File, OSE; Carol Abbott, et al., eds., *Colorado: A History of the Centennial State* (Niwot, CO: University Press of Colorado, 1994, third edition), 172-6.
7. R.J. Tipton, "Arkansas River Water Resources Study," July 1, 1931, John Martin Reservoir File, OSE; interview with Gordon Allott, August 30, 1983, Denver, Colorado; interview with J. Edgar Chenoweth, September 2, 1983, Trinidad, Colorado.
8. "Report on the Caddoa Dam and Reservoir Project," Arkansas Basin Committee, John Martin Dam Files, Albuquerque District Records, U.S. Army Corps of Engineers, Box 173, Record Group (RG) 77, National Archives and Records Administration (NARA), Federal Records Center, Fort Worth, Texas (FRC, FW); *Albuquerque Journal*, January 19, April 22, May 27, June 23, 1935; Hinderlider to Edwin C. Johnson, September 25, 1935, OSE: Flood

Control Act of 22 June 1936, Public Law 74-738, 74th Congress, 2nd session, *Congressional Record*, 1577, 1592.

9. Chenoweth interview; Allott interview; John A. Martin to Colonel Eugene Reybold, Division Engineer, Southwestern Division, U.S. Army Corps of Engineers, June 23, 1939; Reybold to Martin, June 28, 1939, John Martin Dam-Comments file, Albuquerque District Records, Box 181, RG 77, NARA, FRC, FW; *Annual Report of the Chief of Engineers, 1940*, 1000; Arthur C. Gordon to J. Edgar Chenoweth, August 23, 1941, Caddoa Dam File, Box 2, J. Edgar Chenoweth Papers, Western History collection, University of Colorado, Boulder (cited as WHC, UCB); Clifford Stone to Edwin C. Johnson, January 7, 1941; Frank S. Hoag to Chenoweth, February 1, 1941; Gordon to Chenoweth, March 22, 1941, H.R. 1823 Arkansas Valley Authority Act File, Box 3, Chenoweth Papers, WHC, UCB.
10. Interview with Mrs. Hans T. Kramer, San Mateo, California, December 28, 1983; "An Act to grant the consent of the United States to the Arkansas River Compact," May 31, 1949, Public Law 81-82, 81st Congress, 1st session, 145-52.
11. Congressional Record, 89th Congress, 1st session, October 19, 1965, Volume 111, No. 195; T.M. Lynch, Colorado Fish and Game Department, "The Fishery and Recreational Value of a Permanent Conservation Pool for John Martin Reservoir," March 30, 1960, Gordon Allott Papers, WHC, UCB; Ivan C. Rumsey, Lieutenant Colonel, Executive Officer, to the Office of the Chief of Engineers, U.S. Army Corps of Engineers, July 15, 1948, Albuquerque Civil Works FY 50 File, Albuquerque District Records, Box 216, RG 77, NARA, FRC, FW; *Annual Report of the Chief of Engineers, 1974*, 17-5.
12. House Resolution 9522, "A bill to authorize the modification of the John Martin Reservoir project," December 19, 1963, 88th Congress, 1st session; *Pueblo Star-Journal*, February 26, 1964; *Pueblo Chieftain*, September 27, 1963; J.W. Penfold, Conservation Director, Izaak Walton League of America, to G.E. Kinble, Southeastern Colorado Recreational Association, Swink, Colorado, August 29, 1963, Public Works/John Martin File, Allott Papers, WHC, UCB; *Annual Report of the Chief of Engineers, 1966*, U.S. Congress, House, H.Doc. 4, Part 1, 90th Congress, 1st session, 746-47; interview with Russell Smith, Resident Manager, John Martin Dam, Colorado, September 1, 1983.
13. A good overview of these issues in the 1970s that affected water project planning nationwide can be found in Samuel P. Hays, *Beauty, Health, and Permanence Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987). The USBR facility in Idaho that collapsed in 1976 was called Teton Dam.
14. *Annual Report of the Chief of Engineers, 1974*, 17-2 to 17-5; Phillip L. Fradkin, *A River No More: The Colorado River and the West* (New York: Alfred A. Knopf, 1981), 3-13.
15. J. Edgar Chenoweth interview; "Purgatoire Dam Project to Climax 25 Years of Planning Speculation," *Pueblo Chieftain*, April 28, 1963; "Statement of J. Edgar Chenoweth, Member of Congress, Third District, Colorado, Before the House Flood Control Committee, 4 May 1956," Purgatoire Dam (1954-1956) File, Box 45, Chenoweth Papers, WHC, UCB.
16. *Pueblo Chieftain*, April 28, 1963; C.L. Patterson, chief Engineer, to Clifford H. Stone, Director, Colorado Water Conservation Board, "Trinidad Flood Control," January 20, 1941, Purgatoire Dam (1941-48) File, Box 45, Chenoweth Papers, WHC, UCB.
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