

The Dolores Project

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Dolores Project

The environment defines Colorado and its people. Throughout its history as region, territory, and state, visitors and inhabitants have pointed to the mountains, forests, and wildlife that characterize its natural landscape, serving as both the lure and mainstay. From the first communities of indigenous people, to the Ute, and later, to its Euro-American explorers and settlers, the region's land and animal inhabitants provided sustenance and identity. Anglo settlers envisioned a western landscape filled with promise and as the building block to success. However, people quickly realized that water, above all another natural features, determined their prospects and fate. In 1890, Hubert Howe Bancroft concluded, "For with all its numerous streams...Colorado is a dry country."¹ His comment came at a formative moment, a period bridging the gap between settlers' initial efforts at individual and cooperative irrigation, state control of water, and federal reclamation. Like most residents of the state, the people that called southwest Colorado home relied on natural resources for their livelihood. Utilizing water for human endeavors proved to be a traumatic, frustrating, and constant struggle that would not come to any relatively equitable conclusion until the end of the twentieth century.²

Almost every group of people that passed through or settled in the Dolores River Valley of southwest Colorado used its water resources. The centuries-old practice of using and diverting the rivers and streams of the area culminated in the construction of the Dolores Project beginning in the late-1970s through the mid-1990s. Conflict, negotiation, and accommodation characterized the undertaking as divergent groups of people reconciled different interests and aspirations. The ambitious project serves as an ideal example of the way Federal reclamation

1. Hubert Howe Bancroft, *History of Nevada, Colorado, and Wyoming, 1540-1888*, The Works of Hubert Howe Bancroft, vol. XXV (San Francisco: The History Company, 1890), 329.

2. Although Reclamation completed the Dolores Project in the mid-1990s, its companion project, the Animas-La Plata, has not yet begun.

projects have challenged Americans' views of the past, their vision of the future, and the way water has continuously flowed through the course of westerners' daily lives.

Project Location

The Dolores Project, located in the San Juan and Dolores River basins of the Upper Colorado River Basin in southwestern Colorado, extends through portions of Montezuma and Dolores counties. The Dolores Project includes one dam, a dike, and nearly two hundred miles of canals, tunnels, pipelines, and laterals.

McPhee Dam and the Great Cut Dike, in a saddle on the Dolores-San Juan Divide just west of the town of Dolores, Colorado, form McPhee Reservoir which serves as the primary storage for all river flows. The reservoir covers 4,470 acres and extends approximately ten miles up (north) the Dolores River Valley. Dove Creek Canal extends 39.5 miles from the Dike to Monument Creek Reservoir. The South Canal begins on the Dove Creek Canal and extends 7.6 miles to the southwest. Dolores Tunnel, drilled through the Dolores-San Juan Divide two miles west of Dolores, carries water 1.3 miles. Dolores Canal heads on the outlet of the tunnel and extends 1.3 miles to the southeast. Towaoc Canal begins on the Dolores Canal 1.1 miles below the outlet of Dolores Tunnel and carries water 45.4 miles southward to the Towaoc area. The Towaoc-Cortez Pipeline, built by the state of Colorado, heads just above the terminus of the Dolores Canal and extends 19.5 miles southward to near Towaoc. In addition, 84.7 miles of laterals deliver water to the Dove Creek and Towaoc areas. The McPhee and Towaoc Powerplants, at McPhee Dam and southwest of the Dolores Canal, respectively, generate hydroelectric power. Six pumping plants throughout the project facilitate the flow of water.³

3. United States Department of the Interior (U.S. DOI), Water and Power Resources Service, *Project Data* (Denver, Colorado: U.S. Government Printing Office, 1981), 431-6; U.S. DOI, United States Bureau of Reclamation (USBR), *Project History: Dolores Project, Colorado, 1978*, Records of the Bureau of Reclamation, Record Group 115, National Archives and Records Administration–Rocky Mountain Region (Denver, Colorado), 2-3; U.S. DOI, (continued...)

Historic Setting

Prehistoric Setting

The Dolores area has a history of human habitation stretching back thousands of years. In detailed studies under the Dolores Archaeological Program (DAP), archaeologists intricately outlined indigenous peoples' utilization of the area for seasonal subsistence practices, such as hunting and agriculture, and as long-term settlements. Although some of the pre-history remains hazy, obscured by lack of evidence and the passage of time, archaeological studies have illuminated the history of the Dolores region and challenged previous theories about human habitation in the southwest.

Dividing the pre-history of the Dolores area into a number of phases best demonstrates the cultural practices of inhabitants and the changes over time. Prior to 5000 B.C., Paleo-Indian peoples may have used the Dolores Valley, but scarcity of evidence has prevented archaeologists from convincingly demonstrating use of the area. More persuasive evidence suggests that prehistoric people inhabited the region beginning about 2000 B.C. During the Great Cut Phase (2000 B.C. to A.D. 500) highly mobile, indigenous people practiced hunting and gathering for subsistence on a seasonal basis in the area.⁴ Anasazi groups began to visit the area more frequently after A.D. 1, however, population levels remained low and seasonal or transitory.⁵

3. (...continued)

USBR, *Dolores Project, Colorado Final Supplement to Definite Plan Report* (Denver, Colorado: Government Printing Office, December 1988), S-1--S-2; U.S. DOI, USBR, *Dolores Project, Colorado Final Cost Allocation* (Denver, Colorado: Technical Service Center, 2000), 1-3.

4. DAP archaeologists assigned all phase names. They based the names on time periods defined on the basis of broad similarities in cultural patterns (economic practices, architectural styles, and social organization) among communities. See David A. Breternitz, Christine K. Robinson, and G. Timothy Gross, comps., *Dolores Archaeological Program: Final Synthetic Report*, U.S. DOI, USBR (Denver, Colorado: Bureau of Reclamation Engineering and Research Center, 1986), 359.

5. The Anasazi Tradition extended from approximately A.D. 1 to 1200. The Cougar Springs Phase (A.D. 1 to 600), another archaeologically demarcated time period, suggests similar use and occupation with varying cultural traits. Allen E. Kane, "Prehistory of the Dolores River Valley," in David A. Breternitz, Christine K. Robinson, and G. Timothy Gross, comps., *Dolores Archaeological Program: Final Synthetic Report*, U.S. DOI, USBR (Denver, Colorado: Bureau of Reclamation Engineering and Research Center, 1986), 359. (continued...)

Waves of Anasazi immigrated to the Dolores area in the A.D. 600s and large-scale population growth ensued. In this period known as the Sagehen Phase (A.D. 600 to 840) indigenous farmers began permanent settlements and lived in scattered single-family homesteads. Most settlements included one or two households that functioned independently and people tended to concentrate in areas with good soil for farming. Besides agricultural products, they relied on subsistence hunting of cottontail, jackrabbits, other small mammals, and deer. Between the late-700s and early-800s, population size and density fluctuated as the Anasazi moved in and out of the region, but by the mid-800s, the number of inhabitants began to rise rapidly.⁶

As the population grew and agricultural activity flourished, Anasazi communities built more complex dwellings and elaborated their material belongings. From A.D. 840 to 1000 (McPhee Phase) Anasazi growth culminated in the development of large villages scattered across the Dolores Valley. McPhee Village, the largest, peaked at about 150 to 200 households and included 1,000 to 1,250 people. Fifteen miles to the south, the Anasazi cliff dwellers' stone terraces at Mesa Verde may have been the first irrigation systems in the region. Declines in annual precipitation made the higher elevations of the Dolores Valley attractive in the mid-800s, but an increasingly arid climate eventually led to "sweeping lifestyle changes" in the late-800s. Population abruptly fell in the last twenty years of the ninth and early-tenth centuries. The growth of Anasazi communities and their intensified agricultural began to adversely affect the local environment and deplete wood resources. These factors combined with severe drought and shorter growing seasons led to the abandonment of the area. Even though the Anasazi farming

5. (...continued)

Colorado: Bureau of Reclamation Engineering and Research Center, 1986), 361-2.

6. Kane, 363-5; William D. Lipe, "A View From the Lake: The Dolores Archaeological Program In the McPhee Reservoir Area, SW Colorado," United States Department of the Interior, National Park Service Cultural Resources, *Cultural Resource Management* 23:1, 21-2.

pattern contributed to rapid resource depletion in the area, their community mobility allowed them to easily move on to new and less exploited lands.⁷

After the McPhee Phase, the Anasazi did not completely vanish, but continued to use the area on a seasonal basis for specific subsistence purposes, including hunting and gathering. Nevertheless, between A.D. 1000 and 1200 (Sundial Phase) their use of the Dolores Valley became less intensive and more transitory. Utilization of the area for the next three hundred years remains obscure, but indigenous peoples most likely continued to carry out subsistence practices. Although the Anasazi abandoned the region, the Dolores Valley did not revert to some sort of virginal state, but became part of the homelands of other peoples such as the Ute.⁸

Historic Setting

In the pre-contact period, indigenous people migrated across great tracts of the southwest, frequently visiting the Dolores Valley area for subsistence hunting and gathering. Francisco Atanasio Dominguez and Francisco Silvestre de Escalante, Franciscan priests turned missionary-explorers, reportedly became the first Europeans to visit the region in the mid-1770s.⁹ As they wandered through the area in search of an easy route from Santa Fe, New Mexico to Monterey, California, and probably for gold, they found abundant resources in the Dolores Valley that offered everything needed for prosperous settlement. This was not much of a revelation, except

7. William Lipe comments that the DAP challenged 1970s models of change that “relied on processes operating largely *in situ* with relatively small regions” by considering inter-regional differences. The Anasazi were not merely aimless nomads. Instead, a number of environmental, social, and economic factors – drought, intensified agricultural, and proliferation of material culture – influenced migration in the broader Four Corners area. Kane, 365-7; Lipe, 22; Gregory D. Kendrick, ed., *The River of Sorrows: The History of the Lower Dolores River Valley*, United States Department of the Interior, National Park Service and United States Bureau of Reclamation (Denver, Colorado: Government Printing Office, 1981), 43.

8. Kane, 382, 398-9, 401.

9. It must be noted that archaeologists of the DAP, and historians, have proven that Anglo and Spanish groups were active in the southwest earlier in the 1700s. Whether those Europeans ever traveled through the Dolores area prior to the two priests is not conclusively established. Yet the Ute of the Colorado region had well-developed use of the horse prior to 1776, evidencing, at the least, contact with Plains tribes who had interacted with Europeans.

to Europeans; various Ute Bands had long made frequent use of Dolores Valley resources.¹⁰

Before Europeans arrived in any substantial number, the Ute inhabited 130,000 square miles of the American West from the Uintah Mountains and Yampa River on the north to the San Juan River on the south, and throughout the Middle Park of the Colorado Rockies to the Front Range on the east. The fertile, though often arid, stretches of the mountainous region provided a wide variety of easily-harvested, edible plants, grasses, berries, nuts, and roots. Numerous jackrabbits, cottontails, mountain sheep, mule deer, whitetail deer, elk, antelope, moose, and buffalo – if the Ute hunted far enough to the east – supplied ample amounts of meat. In lean times, the Ute made do with grasshoppers and crickets.¹¹

The fluid membership, high mobility, and changes and inconsistencies in names makes it difficult to pinpoint the exact characteristics of the numerous bands of Ute Indians. However, the Weeminuche band, in general, occupied the territory west of the Continental Divide from the Dolores River in western Colorado through the Blue Mountains, mesas, and plateaus of the canyonlands in eastern Utah. The San Juan River Valley of northwestern New Mexico defined their southern boundary. While the Weeminuche had similar access to the plants and animals of the larger Ute territory, because of their distance from the Plains they had less access to buffalo and subsisted more heavily on plants. Still, their protein intake came from a variety of animals, including deer, rabbits, and rattlesnakes. Waterfowl and fish also played a key role in their diet because of their proximity to the Grand, Green, and Colorado River drainages. Although the Weeminuche were most likely the band concentrated most heavily in the Dolores area, their communities probably contained a variety of members from other bands, and their territory

10. Kane, 398-401; Kendrick, 9-10; William C. Sturtevant, ed., *Handbook of North American Indians*, vol. 11, *Great Basin*, Warren L. d'Azevedo, ed. (Washington, D.C.: Smithsonian Institution, 1986), 500-1.

11. Sturtevant, 336-7.

overlapped with much of the Rocky Mountain West.¹²

In the first half of the nineteenth century, an “ebb and flow” between peace and hostility characterized Ute relations with Plains Indians. The passive or violent nature of the interactions often depended on tribal observance of territorial boundaries and hunting zones. At the same time, an increasing number of Euro-Americans working their way west forced Plains tribes to redefine the limits of their territory. Euro-American migration disrupted the lives of all Indians in the western half of the continent. As Plains groups experienced a continual and growing pressure from the north and east, their relations with the Ute became more hostile. In many respects, the 1860s became the turning point in Indian-white relations for the Ute as they increasingly dealt with the demands of outsiders. In the latter part of the decade, the Weeminuche in the Dolores area met more frequently with whites as they moved up the river valley prospecting for gold. The federal government, purportedly to protect them from further encroachment, established the Confederated Ute Indian Reservation in 1868, encompassing nearly 40 percent of Colorado. This seemingly large tract actually meant a reduction of their traditional range from fifty-six to eighteen million acres.¹³

The safeguard did not last long. The Ute ceded a large portion of the reservation in 1873 for mining, and by 1880, they lost the rest except for the thin strip that became the Southern Ute and Ute Mountain Ute reservations. In the mid-1870s, the government opened the Dolores Valley for homesteading. Lured by a profitable market for agricultural products along the new mining frontier, ranchers became the first whites to permanently settle in the valley. They quickly built homes and ranches along the river bottoms that offered the reliable source of water needed for survival. The isolation of the valley from the rest of the state and its geographical

12. Ibid., 338-42.

13. Sturtevant, 340, 355, 534; Kendrick, 10.

challenges infused settlers with a strong ethic of self-reliance and individualism that tended toward obstinacy. Yet in 1878, community members quickly forged an alliance in the Dolores, Lost Canyon, and Montezuma Ditch Company to dig a mile-long tunnel to divert water from the Dolores to the San Juan Basin. The project proved a bit presumptuous and “died almost on the planning board” when the communities’ financial resources fell well short of supporting the venture.¹⁴

In the late-1870s and early-1880s, additional communities began to sprout up in the Dolores Valley. The small village of Big Bend developed slowly as town members and nearby inhabitants struggled to eke out an existence in the isolated, mountain desert. Ute Indians continuously threatened the town as they traveled through the valley on hunting expeditions. Trouble simmered between the “cowboys” and Indians through the early 1880s. In part, the development of Cortez, situated on a highpoint overlooking the valley south of Big Bend, further exacerbated tensions. In addition, the residents of Durango, the region’s largest town, had grown fed up with Ute excursions outside their reservation. The conflicts boiled over on June 19, 1885, when some “white scoundrels” attacked and killed six Ute Indians at the mouth of Beaver Creek. The Indian agent and the Ute argued that the Indians killed had been a peaceful party. Nonetheless, the Beaver Creek Massacre spurred the revenge killing of a settler and the severe wounding of his wife, threatening to start a full-out war. Colonel P. T. Swaine, commander of nearby Fort Lewis, managed to avert further bloodshed, but the violence had unleashed settlers’ wrath. Durango’s newspapers, and much of its community, vowed death for any “red brute” that committed further depredations. Suffice it to say, differences continued, and damaged the

14. Sturtevant, 534; Kendrick, 10, 23, 43.

region's reputation.¹⁵

In the meantime, the residents of Cortez concentrated on an equally significant issue, water. The state had ignored the region's demand for water in 1879, when the legislature established ten water districts throughout the state. In 1886, the Montezuma Valley Water Supply Company hatched what they saw as a relatively simple plan: to tunnel through the ridge that separated the Dolores River Valley from the Montezuma Valley and unleash the vital resource. James W. Hanna began the company backed by a \$200,000 investment from Boston financiers. In the next two years, the actual digging of the 5,400-foot tunnel proved a much larger task than expected, and by 1888, controlling water had become a contested business. The Dolores Land and Canal Company blasted another cut through the divide in a different location, competing for domination of the project. The conflict threatened to bankrupt both companies and they agreed to merge their efforts as the Colorado Consolidated Lands and Water Company. The various canals and diversions of the project were far from completed when water flowed to ranchers unprepared to manage and control irrigation on their lands. Until the end of the century, mismanagement plagued the water works and control flip-flopped from one troubled company to another.¹⁶

Residents of the Dolores River Valley faced other difficult problems in the late-nineteenth century. Getting supplies to the isolated region proved a constant struggle until the Rio Grande Southern Railroad came to Durango in 1881. Its stopping points spelled the end for the distant, fledgling community at Big Bend that lacked immediate access to transportation. At the same time, the railroad ushered in a new era for much of the Dolores Valley. The town of Dolores, one and a half miles up the river from Big Bend, became the local stop for cattle

15. Kendrick, 10-3.

16. *Ibid.*, 13-4, 43-4.

transport between Four Corners and Denver, and then on to Saint Louis. The area went from a regional backwater to a part of the national market. With this new distinction, livestock and agricultural activity increased, and wheat became the major cash crop. In the 1890s, dryland farming techniques became the foundation for the rising production of pinto beans, potatoes, and wheat, but the prosperous agricultural economy threatened the prospects open to cattle ranchers. The abundant ranges so recently available to cattlemen declined due to overgrazing and the spread of farming. The turn of events forced them to grow forage crops to feed their cattle, and those “who failed to adapt to the changing situation were often forced out of business.”¹⁷

In the face of these difficult transformations, the inhabitants of the Dolores Valley demonstrated nothing if not their stout determination. By the turn of the century, they had learned the harsh lessons of surviving the trials of life in southwestern Colorado. Both farmers and ranchers quickly realized that long-term success depended on diversity of cash and forage crops. They persevered in their fight against aridity and the declining productivity of the land by adopting crop rotation and planting alfalfa that provided both feed for cattle and nutrients for the soil. Yet, declining beef prices in the first decade of the 1900s necessitated further innovation. Sheep raising offered one solution to the instability. High wool prices offset the downward trend in meat prices that continued until World War I, while sheep could survive on the depleted ranges that no longer supported cattle. The changes did not come without contention. A “sheep/cattle conflict” ensued when a former cattleman brought a large herd of sheep to the area in 1910. Ranchers enraged at the encroachment of the new business turned on their former friend and slaughtered fifty of his animals. The hostility among sheepmen and cattlemen continued as sheep became more common in the ensuing years. World War I created a boom for

17. *Ibid.*, 15-6, 27-9.

the Dolores livestock industry, but a severe drought and harsh winter in 1916 nearly ruined the ranchers who had increased the number of their animals in response to demands.¹⁸

Meanwhile, woes continued in irrigation. The Montezuma Water and Land Company learned that the rates it had been charging for water proved inadequate to cover its expenses. Financial difficulties contributed to the companies' neglect of breaks in the ditches and canals, and due to a lack of storage capacity farmers often paid for water they did not receive. The inefficiency of the company motivated farmers to form the Montezuma Valley Irrigation District. After four years of negotiation, the district purchased the company in 1906, and contracted to have the system overhauled and enlarged. Unfortunately, troubles accompanied the transfer of ownership. In 1907, the district built Groundhog Reservoir at the headwaters of the west fork of the Dolores River to resolve some of the water shortages. It washed out soon after construction, while plans for the rebuilding of ditches, flumes, and tunnels proved insufficient to meet the needs of the valley. These burdens, combined with the ever-present dilemma of mismanagement, drove the district into debt from 1913 to 1919.¹⁹

World War I spurred the rise of federal power and brought massive growth in the American economy. As government power became firmly entrenched and strengthened by skirmishes abroad, it secured further control on the homefront, including over the lives of Indians. By 1915, federal officials increasingly viewed tribal affiliation and leadership through the lens of a "government-inspired dichotomy: Utes who farmed, and those who did not." The Southern Ute that lived east of the La Plata Mountains lived off of farming, sheepherding, hunting, and government rations. Those that did not take up the hoe and plow and lived west of the La Platas became known as the Ute Mountain band, surviving by sheepherding, hunting,

18. Kendrick, 29, 32-5.

19. *Ibid.*, 47-8.

gathering, government rations, and trading craft items with the Navajo. Choosing not to farm was an attempt to exercise an autonomy that the government had little tolerance for. The consolidation of control over the tribe went even further when Congress established the Ute Mountain Ute Indian Reservation with a mere 525,000 acres. Confining and controlling the Ute followed the pattern taken with most Indian tribes in the United States. However, the government's attempt to define the character and locale of the Ute would generate some unforeseen, positive results for the tribe during the rest of the century.²⁰

The decade after World War I can be viewed as a brief interlude from the hardship experienced by many residents of the Dolores Valley. The roaring twenties brought sweeping changes and an economic boom to the nation, and a semblance of stability to southwestern Colorado. In 1920, the Montezuma Valley Irrigation Company took firm control of the water works. To resolve the fiscal problems that had so recently plagued the irrigation system, company officials took an enlightened approach to management. Its proposed plan made individuals liable for irrigation debts. Shifting financial responsibility from the company to the water users gave the valley community a true stake in what happened with their water. Each share entitled the owner to one-eightieth of a second-foot of water to irrigate an acre of land and to one vote in company decisions. Having the vote meant that shareholders had a choice about the board of directors. This aspect of control, no matter how small, appealed to peoples' ethic of independence.

Other projects also prospered. In 1924, the New Mexico Lumber Company successfully bid for a contract on four million board feet of timber in the Montezuma National Forest. The operation drew a large number of mill and lumber workers to the Dolores Valley, revitalizing the

20. Sturtevant, 532, 542-3.

local economy. Company officials and employees quickly established the town of McPhee, named after one of the company's owners, a few miles north of Dolores, and near the Rio Grande Southern Railroad and the forest. The business brought new prosperity to the area and the company flourished for much of the decade. Despite these developments in the Dolores Valley, troubled loomed on the horizon.²¹

No one really saw the great crash coming, least of all the Dolores Valley community that remained fairly isolated from national events. Although lumbering operations generated good fortune in the twenties, the stock market crash forced the closing of the mill in 1930, when the owner, John Zalaha, defaulted on his payments. Economic problems continued for various owners in the early-1930s, and contributed significantly to the downfall of McPhee. The lumber company also belatedly realized that the timber resources of the forest proved deceptive, and turned out to be too sparse for profitable cutting. When the owners managed to reopen the mill in 1932, a wave of men left unemployed by the depression flooded the town in the hope of snatching up the few available jobs. The depression decimated national livestock prices and then drought struck the Great Plains, compelling many devastated ranchers to try their luck in the Dolores Valley. The arrival of new homesteaders exacerbated local economic difficulties, and by 1934, the local livestock industry hit rock bottom. The Taylor Grazing Act (1934) intended to resolve the problems of range depletion, curtailed homesteading by removing public lands from settlement and establishing grazing districts; it did little to improve the lot of most Dolores ranchers. Further south, the Ute Mountain Ute had few prospects for economic stability. Between the Dawes Severalty Act (1887) and the Indian Reorganization Act (1934) the tribal

21. Kendrick, 48-9, 17.

land base had been reduced ninety-four percent.²²

There was little new about hardship for valley residents and they continued to struggle forward. A few bright spots shone through the dismal shadow cast by the depression. In 1938, for the first time, the Montezuma Valley Irrigation Company turned to outside assistance. The company reorganized as the Montezuma Valley Public Irrigation District, requested funds from the Public Works Administration, and received a \$135,637 grant and a loan of \$165,779. The district utilized the funds to rebuild Groundhog Reservoir, and in the ensuing years, enlarged, extended, repaired, and maintained the whole irrigation system. In the late-1930s, the timbering operation reorganized as the Montezuma Lumber Company and with the new ownership its business began to stabilize. The arrival of the 1940s seemed to offer further gleams of hope.²³

Despite all the efforts of President Franklin D. Roosevelt and his New Deal, World War II became the key factor in pulling the nation out of its economic woes. Supplying goods for the war effort created an economic boom for much of the country, but in many respects the opportunity for a refashioned and thriving economy proved elusive for the Dolores Valley.

The war revived the demand for meat and produce. The scale of production necessary to meet the requirement spurred astounding growth for many agricultural and livestock outfits. The accelerating shift to agribusiness made even the smallest producer aware of the need for increased output to adequately compete in the national market. Some Dolores ranchers made the move by acquiring larger landholdings, but many remained small-scale or family outfits that consistently struggled to make a living in the valley. Government contracts poured into the

22. On an interesting side note, Colorado Congressman Edward T. Taylor was the sponsor for the Taylor Grazing Act. Kendrick, 18, 35; Sturtevant, 355; Richard Lowitt, *The New Deal and the West* (Bloomington: University of Indiana Press, 1984), 65-71; Donald J. Pisani, "The Many Faces of Conservation: Natural Resources and the American State, 1900-40," in Morton Keller and R. Shep Melnick, eds., *Taking Stock: American Government in the Twentieth Century* (New York: Cambridge University Press, 1999), 150.

23. Kendrick, 49-50, 18.

lumber company, and it, once again, began to prosper. The success promised an even brighter future, but hopes rapidly dwindled when fire devastated the mill in June of 1941. McPhee residents managed to pick themselves up and struggle on in the 1940s, but the death knell came in the early winter of 1948 when another fire ravaged the mill. McPhee was a company town and it followed the course of its industry. Even though McPhee served a vital, and at times prominent, role in lumbering operations in Colorado, it was – like any other small logging community – only one of the many way-stations in a business characterized by boom and bust and a transient workforce. When the company reestablished itself in the town of Dolores, McPhee and its hopes withered like so many other western dreams.²⁴

The post-World War II era can be seen as the watershed for various Dolores Valley communities. In many cases, all it took to survive the vicissitudes of life in the Great American Desert was determination and perseverance – a stubborn will that seemed only natural to the inhabitants of southwest Colorado. In 1909, the Ute had filed a lawsuit for lands taken from them that resulted in a three-million dollar judgement. Unfortunately, the government placed the funds under control of the local Indian agent, and the Ute had little access to the funds until the late-1940s. But this was only one among many prospects that developed. Between 1947 and 1955, the Ute Mountain tribe negotiated large leases for uranium, oil, and gas development on their reservation. Since that time, most Ute Mountain tribal income has come from dividends paid out from the oil and gas leases. This certainly raises a plethora of questions about the ramifications for the environment, tribal customs, and the future uncertainty of relying on a single means of income. Nonetheless, the Ute Mountain Utes took control of their own destiny and have managed to generate an income level for its members above that of many other tribes.

24. *Ibid.*, 38-9, 19-20.

The state finally assigned the Montezuma Valley a water commissioner in the 1940s. In 1962, when the Dolores River Valley received its first commissioner, Wilford Speer, local “ranchers met him with shotguns.” When it came to control, especially of water, outside authorities had to deal with the intense local pride and independence bred by years of struggle. When Federal reclamation arrived in the Dolores River Valley in the 1970s, the situation would be no different.²⁵

Project Authorization

Undoubtedly, the Dolores River Project had its roots in a long and arduous past. Valley residents built the first tunnel in the 1880s. Water district personnel set aside the site for McPhee Dam as early as 1900, and according to some sources, the project was “on again, off again” for the next sixty years. In 1942, Reclamation engineers drilled ten exploratory holes at the proposed site of McPhee Dam and completed the first feasibility study. Congress finally authorized the Dolores Project through the Colorado River Basin Act of September 30, 1968 (Public Law 90-537), as a project under the Colorado River Storage Act of April 11, 1956 (Public Law 84-485). The Colorado River Storage Project (CRSP) includes four main storage projects and twenty-five supplemental projects. The revenues produced by the main units from the generation of hydroelectric power and water sales provide funds for repayment on supplemental projects such as Dolores. In fiscal year 1970, Congress appropriated funds for advanced planning, and the Dolores Project received funding for construction in 1976.²⁶

25. Sturtevant, 550, 554, 580; Kendrick, 44.

26. The revenues in excess of operating needs of the four main (or “mainstem”) projects, including the Flaming Gorge, Wayne N. Aspinall, Navajo, and Glen Canyon units, goes into the Upper Colorado River Basin Fund to repay the costs of the supplemental projects that are deemed beyond the irrigators’ ability to pay. Forty-six percent of the excess revenue is applied to repayment of projects in Colorado. “Dolores Project Started,” *Farmington Daily Times*, October 1, 1978, in *Project History, 1978*, 7, and A-2; *Project History: Dolores Project, Colorado, 1982*, A-2; *Project Data*, 434; Michael Loring, “Apportioned Revenue From the Colorado River Storage Project: Briefing Paper For Romer-Schoettler Process,” Commissioner’s Office, History Program, Bureau of Reclamation (Denver, (continued...))

Construction History

Similar to the Dolores River Valley's difficult history, the Reclamation project planned for the area had an equally conflicted beginning. As water districts planned for Dolores in the early-1960s, they reasoned the cost of storing and diverting the river would cost \$48 million, and by the end of the decade they had revised the figure to \$100 million. In the early-1980s, one Reclamation official remarked that finishing the project would run closer to \$400 million. The rising estimates would come to haunt Dolores. For the first-half of the 1970s, early planning proceeded apace. Reclamation employees dug exploratory holes at, and completed feasibility studies for, the proposed sites of McPhee Dam, Great Cut Dike, and Great Cut Pumping Plant. By mid-October 1976, Reclamation had finished the preconstruction work and designs for the three sites.²⁷

In 1977, as the nation stumbled through the fuel and energy crisis of the 1970s, the West tripped and fell into a drought. To further complicate the situation, President Jimmy Carter issued a "hit-list" of nineteen western water projects, including Dolores. "Howls resounded" throughout the West, and rose to an ardent resentment for the president that lasted the rest of his term. Richard Lamm, governor of Colorado from 1975 to 1987, labeled the hit list a "study in federal ignorance...riddled with antiwestern prejudice." He concluded that Carter's decree "reflected no understanding of western conditions, of western people, of the nature of their lives, or of the relentless, crushing aridity that shapes their land and everything in the West." Yet, there was fundamental truth at the heart of the president's message. Federal reclamation policy towards new projects coupled with "generous federal financing" had fostered a "use or lose

26. (...continued)

Colorado), 1, 3.

27. "'Flip-Flop' In Policy Brightens Project," *Montezuma Valley Journal*, April 2, 1982, in *Project History*, 1982, 19-20; *Project History*, 1982, A-2.

syndrome.” In essence, it seemed that westerners simply wanted projects because the funding existed, and in spite of the low cost-benefit ratios of irrigated agriculture in many regions. Under the guidance of recommendations from Secretary of Interior Cecil D. Andrus, Carter relented to funding for the Dolores Project. President Carter’s desire for economic efficiency and more sound conservation methods conflicted with heavy western congressional demand for development and the real need for water. If anything, his proposal went a bit too far, and it came a bit too soon.²⁸

At the crux of the Carter administration’s decision to go ahead with the Dolores Project lay a much deeper and embroiled issue, Indian water rights. The Ute Mountain Ute, along with other tribal bands, had once occupied a vast area of the inter-mountain West, including much of southwest Colorado and Dolores River area. In 1868 and 1873, the tribe ceded large tracts of land to the Federal Government, and in 1915, took up residence on a 525,000-acre tract of land south of the Dolores River Valley. In *Winters v. United States* (1908), the Supreme Court reserved Indian tribes’ rights to an amount of water sufficient to meet their present and future needs. The court based a tribe’s Winters rights on the date the Federal Government established their reservation. Because of their involvement in a treaty signed with the United States that created the Confederated Ute Indian Reservation encompassing 40 percent of Colorado, and including five bands, the Ute Mountain tribe had a priority date of 1868. In essence, they believed that the Dolores Project and its sister project, the Animas-La Plata offered the only real

28. Charles F. Wilkinson, *Crossing the Next Meridian: Land, Water, and the Future of the West* (Washington, D.C.: Island Press, 1992), 280; Richard Lamm and Michael McCarthy, *The Angry West: A Vulnerable Land and Its Future* (Boston: Houghton Mifflin, 1982), 186-90; Cecil D. Andrus to Jimmy Carter and enclosure, “Water Policy Reform Proposals,” April 13, 1977, and Cecil D. Andrus to U.S. Office of Budget and Management, “Recommendations to the President on the Dolores Project, Colorado,” April 1977, USBR, Commissioner’s Office, History Program, (Denver, Colorado), 1-12.

hope for economic development and guaranteed water on their reservation.²⁹ The project would decrease the actual amount of water reserved for the Ute Mountain Ute in treaty rights.

However, the tribe decided that – due to the long history of insufficient amounts of water – they would accept the project rather than rely on the “future promises” of an amenable Congress. The Ute Mountain Ute would receive approximately 7,500 acre-feet for irrigation and municipal and industrial use in exchange for giving up additional Winters rights claims. The tribe simply did not want to gamble on a system that had traditionally been inconsistent about meeting their needs.³⁰

The Ute Mountain Ute confirmed their support of the project by formal resolution, but the situation remained conflicted. Department of Interior and Reclamation officials had trouble resolving the issue of tribal repayment. The Leavitt Act (1932) and the Water Supply Act (1958) seemed to contradict each other. The Leavitt Act confirmed a deferral of payment for irrigation on Indian-owned lands, but did not offer the same provision for municipal and industrial use. On the other hand, the Water Supply Act provided for deferral of costs for municipal and industrial use “within specified limitations.” At stake was whether the Ute Mountain Tribe would have to pay for water that treaties and laws had ostensibly reserved for them at no cost. Ultimately, the Secretary of the Interior had the authority to eliminate or waive costs for supplying water to the Ute, but doing so could contradict certain clauses of the two acts. Although the decision had far-reaching legal and political ramifications, it also brought to the fore the Federal Governments’ moral obligations to the tribe. In any case, the decision would not be easy and Interior officials

29. Both projects were approved under the same act of September 30, 1968. The Dolores and Animas-La Plata would provide a proposed 20,000 acre-feet per year.

30. To make the situation even more complex, the benefit/cost ratio for the project just did not add up. Yet Secretary Andrus ultimately recommended the project because of its benefit to the Ute. Sturtevant, 355, 532, 534; Lloyd Burton, *American Indian Water Rights and the Limits of the Law* (Lawrence: University of Kansas Press, 1991), 6, 59, 75-6; “Recommendations to the President on the Dolores Project, Colorado,” 1-12.

needed more time to consider the situation.³¹

With the official endorsement, and despite controversy, project planning moved quickly forward. Reclamation completed the environmental impact statement and the definite plan report, and on September 23, 1977, executed the repayment contract with the Dolores Water Conservancy District. The project would supply water to farmers for irrigation not only in the Dolores District in Dolores Country along the Dolores River, but supplemental service to farmers in the Montezuma Valley to the west of the river valley. Prior to construction, an existing gravity distribution system owned by the Montezuma Valley Irrigation Company supplied water to the Montezuma Valley. Dolores Project canals and laterals would replace that system.³² In addition, municipal and industrial supplies for the communities of Cortez and Towaoc, including the Ute Mountain Ute, would be delivered via the Dolores Tunnel and Canal and the Towaoc Canal system. On September 24, 1977, Reclamation and District employees held a groundbreaking ceremony at the site of the Great Cut Dike. The ceremony signaled the start of construction.³³

In 1978, Reclamation made considerable progress on the initial phases of the project. Reclamation crews drilled exploratory holes at the dam, Great Cut Dike, and various channel sites to test the composition of the soils. In March, Reclamation executed agreements with the U.S. Fish and Wildlife Service and U.S. Forest Service to provide for wildlife habitat protection

31. *Project History, 1977*, 7, 10; “Correspondence Concerning the Leavitt Act,” in *Project History, 1977*, Appendix C-2; U.S. DOI, *Federal Reclamation and Related Laws*, vol. 1 (Washington, D.C.: U.S. Government Printing Office, 1972), 504-5; DOI, *Federal Reclamation and Related Laws*, vol. 2 (Washington, D.C.: U.S. Government Printing Office, 1972), 1423-8.

32. The Dolores Water Conservancy District essentially absorbed the areas served by the Montezuma Valley Irrigation Company. The repayment for Dolores is complicated because of the multiple methods involved, including reimbursement by irrigators in the district, deferments for the Ute under the Leavitt Act of July 1, 1934 and the Colorado Ute Indian Water Rights Settlement Act of 1988, and funds allocated through the Upper Colorado River Basin Fund as part of the Colorado River Storage Project. See *Dolores Project, Colorado Final Cost Allocation*, 13-8.

33. *Project History, 1977*, 4; *Project History, 1982*, A-2; *Final Supplement to Definite Plan Report*, S-1.

and the design of recreational facilities. In May, work began on the construction access roads and crews completed phase one by November. More significantly, Reclamation awarded the University of Colorado a renewable one-year, \$500,000 contract for the Dolores Archaeological Program (DAP) expected to take seven years to complete. The DAP, the largest archaeological project ever undertaken in the United States, promised to provide the most information ever obtained about pre-historic and historic populations from one site. Reclamation's commitment to the DAP exemplified its commitment to knowledge of America's past and preserving the historical heritage of the southwest. Even though the Dolores Project would bring water to the arid region, the DAP, in many respects, best symbolized tax dollars at work and a commitment to something besides economics.³⁴

In 1979, the project wavered between progress and problems. Reclamation completed a number of studies analyzing the geological, seismic hazard, and ground-water conditions at various sites in preparation for construction. Reclamation finished the second phase of the preconstruction drilling program for design data in the late fall, and by December, finalized geologic design for the Dolores Tunnel. In February, Reclamation awarded the contract for constructing the field station, and in July, for the Dolores District Headquarters. In the midst of this work, the final result of President Carter's water project reform became known. All in all, his modifications were modest, involved minor budgetary changes, and had only a short-term impact on the Dolores Project. In 1979, Congress had only appropriated \$14.1 million, but increased the amount to \$16.9 million for 1980.³⁵ At the same time, Interior officials' stance on the "Indian problem" fluctuated. Assistant Solicitor Ernest London remained adamant about Ute

34. *Project, History*, 1978, 6, 25, A-2; *Project History*, 1982, A-3.

35. Initially, \$17.057 million was proposed, but under Carter's recommendation Congress changed the figure to \$16.977 million. For all the hysteria, the hit-list had little affect on the Dolores, except the ideological disagreement.

obligations for municipal and industrial water supplies, but provided an ambiguous solution to repayment. He stated that once the Ute Mountain tribe committed themselves to repay the costs, Interior Secretary Andrus could then simply write-off the obligations. In large part, the controversy revolved around little more than a few language and legal technicalities. Resolving water plans for the Ute Mountain Ute would linger until the end of the project, and beyond.³⁶

McPhee Dam, Dolores Tunnel and Canal, and the Great Cut Dike

Plans for, and the construction of, parts of the Dolores project intensified in 1980. Reclamation awarded the U.S. Forest Service three substantial contracts to remove marketable timber located within the McPhee Reservoir area. In June, bidding opened for McPhee Dam, Reclamation granted the contract to Guy F. Atkinson Construction Company in July, and the company began work on the dam one month later. In September, Atkinson began rechanneling the Dolores River from the settling ponds 1,800 feet downstream through the dam foundation and to the upstream portal. The construction company finished the rechanneling in October, and in the ensuing six months built its aggregate processing plant, using materials from the Barlow Creek Quarry established for the project, to construct the dam.³⁷

Unfortunately, 1981 seemed to promise a new round of problems. In February, President Ronald Reagan proposed a \$41 billion budget reduction that included water projects. Regardless of political party, it seemed that presidential administrations targeted western water projects.

36. *Project History, 1982*, A-3-A4; Colorado Water Conservation Board and the U.S. Bureau of Reclamation, *Western Colorado Projects Review, Durango, Colorado, May 1982* (Denver, Colorado: Bureau of Reclamation, 1982), 8; “Water Projects To Be Funded?,” *Grand Junction Daily Sentinel*, January 23, 1979, and “\$16.9 Million Recommended for Project By President,” *Cortez Journal*, January 24, 1979, in *Project History, 1979*, 8-9; *Project History, 1979*, 15, 18-9.

37. The period from October to May 1980 involved other minor work, but winter weather postponed most major construction. Every winter until completion, severe weather and cold temperatures would essentially shut down construction on the dam for a period of a few months. *Project History, 1982*, A-5; United States Department of the Interior, United States Bureau of Reclamation, *L-29 Construction Progress Report, Dolores Project, July 1980*, Records of the Bureau of Reclamation, RG 115, National Archives and Records Administration–Rocky Mountain Region (Denver, Colorado), 1, hereafter all L-29s referred to only by date; *L-29, September 1980*, 3; *L-29, October 1980*, 3; *L-29, May 1981*, 1.

Yet, once again, the Dolores escaped relatively unscathed when project officials received word of a \$43.6 million budget for 1982, only \$3 million less than proposed. As long as the administration did not make further cuts, Dolores would survive. Meanwhile, work forged ahead.³⁸

By August of 1981, Atkinson had begun hauling riprap for the dam from the Barlow Creek Quarry. In that month alone, the company hauled 15,875 tons of riprap at an average of 740 tons per day. Unfortunately, the rapid pace had consequences. On August 6, a “freak accident” occurred when a large boulder fell from a truck hauling riprap and crushed a Denver man inside his car. The next month, Atkinson began processing the riprap bedding material for the construction of the dam. The Continental Drilling Company, subcontractor, began drilling and grouting at the Great Cut Dike. By the Christmas holidays, the construction of McPhee Dam passed its midpoint at a cost of nearly \$44 million.³⁹

In the first half of 1982, Reclamation officials and contractors on the Dolores Project simultaneously prospered and suffered from unforeseen factors. President Reagan’s announcement of a \$45.714 million budget proposal for the project in 1983 eliminated fears about underfunding. Reclamation officials hailed the “complete turnaround” since Jimmy Carter left office, complimenting the Reagan administration for “opening up its heart to western water resources development.” Unfortunately, “poor procedures” by Atkinson Construction contributed to inadequate finishing to grade specifications on portions of the dam spillway, and Reclamation officials required the company to completely redo the work. In April, contractors

38. In October, the administration increased the cut to \$4.9 million, exacerbating fears about project delays. Congressman Ray Kogovsek called the move “penny-wise and pound-foolish.” “\$43.6 Million Proposed For Project,” *Montezuma Valley Journal*, February 20, 1981, and “Protests Raised to \$4.9 Million Budget Cut for Dolores Dam Project,” *Dolores Star*, October 20, 1981 in *Project History, 1981*, 98 and 18.

39. In 1981, fifty-nine accidents occurred of varying severity, of which two involved Reclamation employees and fifty-seven involved contractors. *Project History, 1981*, 32; *L-29, August 1981*, 3; *L-29, September 1981*, 3; *L-29, December 1981*, 3.

met with a serious obstacle that would afflict construction for the rest of the project, spring runoff. Snowmelt swelled Beaver Creek, the Dolores River, and its tributaries to flood proportions, tearing out a dike constructed a few days earlier to divert the river. One local journalist declared that nature got “revenge on the men and machinery trying to out-do the beavers by building the huge McPhee Dam.” The high runoff required Atkinson to breach their haul road in order to let the water through. Although the delays hampered major construction efforts, the water soon subsided enough for the men to rebuild the dike.⁴⁰

Workers responded with renewed diligence after the destruction wrought by the spring melt. Atkinson quickly rebounded by building a permanent cofferdam to an elevation of 6,700 feet. In the meantime, Reclamation officials moved ahead on contracting work for the project. The Cortez Projects Construction Office, the regional Reclamation center for Dolores, received twenty bids on the Dolores Tunnel and Canal, and awarded the contract in January of 1982 to the low bidder, Ohbayashi-Gumi of San Francisco. In May, Engineering Construction International of Denver, a subcontractor, started clearing and excavating the tunnel, and within two months, had progressed sixty-one feet in from the outlet portal. The company soon completed excavation of the intake channel and the embankment for the intake channel dike.⁴¹

Ohbayashi-Gumi finished the jobsite work on Dolores Tunnel in July of 1984. The Dolores Canal passed its final inspection in September, and Reclamation deemed it “substantially complete” at a cost of \$12.013 million. After the company finished some minor adjustments and submitted final drawings and specifications on August 9, 1985, the Dolores

40. “Budget 1983: Dolores River Project Tabbed for \$45.714 Million,” *Montezuma Valley Journal*, February 20, 1982, “‘Flip-Flop’ In Policy Brightens Project,” *Montezuma Valley Journal*, April 2, 1982, and “Rampaging River Delays Construction,” *Dolores Star*, April 16, 1982, in *Project History, 1982*, 18-20, 84; *L-29, February 1982*, 3; *L-29, April 1982*, 1, 3.

41. *L-29, January 82*, 1; *L-29, April 1982*, 1; *L-29, May 1982*, 4; *L-29, July 1982*, 1; *L-29, August 1982*, 1; *L-29, September 1982*, 1.

Tunnel went into operation in September as water flowed through the tunnel and canal into existing lateral canals.⁴²

By the fall of 1982, workers had hauled 85,000 tons of riprap for dam construction and placed concrete in both the upper and lower sections of the spillway chute and at the canal outlet works at the Great Cut Dike. The close of the year brought both accomplishment and tragedy. In a surprisingly short span of two years, and on schedule, Atkinson completed three-quarters of the work on McPhee Dam. Regrettably, in July and August of 1982, less than a year after the first death associated with the Dolores Project, two more came in rapid succession. A worker driving a small pickup truck in the reservoir area drove into the path of a giant dump truck laden with rock and other material. The heavy dump truck required several hundred feet to stop and was simply not designed for maneuverability. It crushed the tiny pickup like a soda can. A short ten days later, calamity struck again. A fuel truck stopped to fill a crane near the edge of a deep pit. As the driver fueled the crane, the truck began to roll and careened over the edge, killing one and injuring three others working on scaffolding at the bottom of the pit. Work at the Barlow Creek riprap source precipitated another difficulty. Extensive removal of material from a slope at the site triggered a sixty-foot landslide that buried the haul road and shut down operations for several months.⁴³

In many respects, the turning point for the Dolores Project came in 1983. From then on it was all business and contractors experienced few problems or mishaps. Although, as usual, winter weather and spring runoff delayed work on McPhee, Atkinson Construction made its first

42. L-29, June 1984, A-4; L-29, July 1984, A-4; L-29, September 1984, A-5; L-29, September 1985, A-2, A-5.

43. Project History, 1982, A-10; L-29, August 1982, 3; L-29, September 1982, 1-A, 4; "Worker Killed In Accident," *Montezuma Valley Journal*, July 2, 1982, and "Falling Truck Kills Project Worker," *Cortez Sentinel*, July 12, 1982, in *Project History*, 1982, 97-8.

concrete placement by the end of April.⁴⁴ One year later, the company finished the electrical power installation, the operating system (hydraulic and electrical) for the high pressure gates on the river outlet works, turned on the power, and closed the gates to begin filling the reservoir area. The contractor finished McPhee Dam and the Great Cut Dike in July of 1984, at a cost of \$99.516 million. In the summer of 1986, after testing the facilities, Reclamation awarded a contract to Delta Contractors to make some modifications to the spillway.⁴⁵

Reclamation awarded the contract for clearing the McPhee Reservoir of vegetation and other debris to Ulibarri Construction in April of 1983, and the contractor began work at the lower end of Lost Canyon. Ulibarri subcontracted the clearing of Beaver Creek, Plateau Creek, and Dry Canyon to Kell Oil Field Service of Farmington, New Mexico. With sixty-four percent of clearing work completed, Ulibarri informed Reclamation of its intention to discontinue its contract and moved all its equipment off the jobsite. Despite the slight bump in the road, Reclamation awarded the remaining contract to six separate companies and they completed the clearing of McPhee Reservoir area in December of 1984.⁴⁶

McPhee Dam, is a rolled earth, sand, gravel, and rockfill structure with a reservoir capacity of approximately 381,000 acre-feet. The capacity includes 229,000 acre-feet of active capacity, 152,000 acre-feet of inactive capacity, and 100 acre-feet of dead storage. The crest of the dam is 270 feet above the streambed, 1,370 feet in length, and thirty feet wide. A gated spillway, located in the right abutment includes a concrete chute leading to a stilling basin. The river outlet works, located in the left abutment of the dam, has two separate intake structures and

44. According to the spring 1983 progress reports, the runoff “plagued” the contractor and inundated the construction yard, but the delay only lasted a couple of weeks.

45. *L-29, April 1983, A-1; L-29, May 1983, A-1; L-29, March 1984, A-1, A-5; L-29, July 1984, A-4; L-29, January 1986, A-6; L-29, May 1986, A-8; L-29, September 1986, A-7.*

46. *L-29, April 1983, A-1; L-29, October 1983, A-2; L-29, March 1984, A-9; L-29, September 1984, A-9--A-10; L-29, December 1984, A-2.*

a total capacity of 5,000 cubic feet per second. The water surface area of McPhee Reservoir totals 4,470 acres at an elevation of 6,924 feet. The Great Cut Dike is a rolled earthfill structure with a crest length of 1,900 feet, a height of sixty-four feet above the original ground surface, and a width of thirty feet. The 1.3 mile long Dolores Tunnel has a maximum capacity of 520 cfs.⁴⁷

Pumping Plants and Powerplants

Reclamation's work on pumping facilities began with designs for the Great Cut Pumping Plant at the Great Cut Dike in the winter of 1980-1981. In May of 1983, Reclamation awarded the contract for construction to KNC, Inc., of Albuquerque, New Mexico, and the company finished the project in January of 1987 at a cost of \$6.2 million. The Great Cut Pumping Plant consists of ten vertical mixed-flow pumping units. Eight multistage pumps lift water from McPhee Reservoir through a discharge line and into the Dove Creek Canal. The other two pumps lift reservoir water through a discharge line into the "U" Lateral when the reservoir water surface is too low to meet the required demand for gravity releases.⁴⁸

Five pumping plants, including three along the Dove Creek Canal and two along the South Canal, provide water to pipe laterals for sprinkler irrigation. Reclamation awarded the contract for the Fairview Pumping Plant with six pumping units and a capacity of 100 cfs to KNC, Inc., at a bid of \$7,575,464. The company finished construction in June 1988 at an actual cost \$7,763,000. KNC, Inc., also built the Cahone Pumping Plant with six units and a capacity of 76 cfs, finishing it the same month at a cost of \$6.224 million. Reclamation officials later determined that the elevation of the land served by Cahone required an additional booster, the

47. *Final Supplement to Definite Plan Report*, S-1--S-3.

48. *Project History*, 1982, A-6; L-29, May 1983, A-2; L-29, January 1987, A-5; U.S. DOI, USBR, *Dolores Project, Colorado Definite Plan Report* (Denver, Colorado: United States Government Printing Office, April 1977), 35.

Delivery 23 Pumping Plant. Although no historical sources were available on the construction of Delivery 23, reports indicated that the plant added 2.4 cfs of capacity. In August of 1988, Reclamation awarded the contract for the five-unit, 44 cfs capacity, Pleasant View Pumping Plant and the six-unit, 62 cfs capacity, Ruin Canyon Pumping Plant to C. R. Fedrick, Inc. The company completed the plants in June of 1991 at a cost of \$12 million. The Monument Creek Pumping Plant, proposed in the initial report northwest of Dove Creek, was never built. Reclamation determined that the Dove Creek Pumping Plant, originally called Cross Canyon, served the purpose for both sites (Monument and Dove Creeks). Monument Creek Reservoir was deleted from the project at the same time. C.R. Fedrick also built the four-unit Dove Creek Pumping Plant. The contractor started the plant in June of 1990 and completed the one-and-a-half year project on schedule in December of 1991 with a price tag of \$5.2 million. All of the pumping plants are motor-driven, vertical shaft, deep-well, turbine units.⁴⁹

The Dolores Project includes two power plants not originally in the project plan. In a supplement to the Definite Plan Report (1981), Reclamation decided to utilize the Dolores Project for electrical power as well as irrigation. In October of 1990, Reclamation awarded the contract for Towaoc Canal Powerplant, located on the Towaoc Canal a few miles southwest of Dolores Canal, to Nielsons, Inc., of Cortez, Colorado. The company completed the project in early-1993 at a cost of nearly \$15 million. Soon thereafter, C-E/Neyrpic, Inc., of Shelton, Connecticut, completed the \$6 million contract for the installation of the turbine, governor, and generator for Towaoc Powerplant. C. R. Fedrick successfully bid for the McPhee Powerplant in May 1990 and completed construction in the spring of 1993 at a cost of \$3 million. The two

49. L-29, April 1985, A-6; L-29, May 1985, A-4; L-29, August 1988, A-4; L-29 August 1988, A-5; L-29, June 1991, A-8; L-29, July 1990, A-6; L-29, January 1992, A-2, A-6; *Definite Plan Report*. 36; *Final Supplement to Definite Plan Report*, S-3, 17, 31.

powerplants generate power that enters the Colorado River Storage Project power transmission system. The McPhee Powerplant uses the combination of a 50-cfs and a 25-cfs turbine and has a capacity of 1,282 kilowatts. The Towaoc uses a 375-cfs turbine and has a capacity of 11,494 kilowatts.⁵⁰

Canals, Laterals, and Bridges

The Dolores Project has over 170 miles of canals and laterals with an approximate maximum capacity of 2400-cfs. Three different contractors built Dove Creek Canal from initial construction of phase one in February of 1984 to completion of phase three in June of 1992. The canal heads at the end of the pump discharge line at Great Cut Dike and extends northwest approximately thirty-nine miles to the Monument Creek area (west of the town of Dove Creek). About four miles of the canal is concrete lined and the remaining portion is earth lined. The South Canal, built between March of 1986 and January of 1988, heads on Dove Creek Canal near Pleasant View, Colorado (approximately eleven miles west of McPhee Dam) and extends 7.5 miles to the southwest. The canal is earth lined for six miles and concrete lined in the remaining portion. The Dolores Canal, built at the time of the Dolores Tunnel, heads at the outlet of the tunnel and extends 1.3 miles to the southwest and is concrete lined. Contractors built the Towaoc Canal in three phases, beginning with reach one in November of 1989 and ending with the completion of reach three in the spring of 1993. Towaoc heads on the Dolores Canal and extends forty-five miles to the south and west to the Towaoc area, and primarily provides water to the Ute Mountain Ute. Towaoc Canal uses earth, concrete, and membrane lining based on geological considerations. The canals have capacities ranging from 150 cfs in

50. L-29, April 1989, A-2; L-29, June 1990, A-3; L-29, October 1990, A-8; L-29, December 1992, A-6, A-11; U.S. DOI, USBR, *Dolores Project, Colorado Supplement to Definite Plan Report* (Denver, Colorado: Government Printing Office, November 1981), 1, 3; *Final Supplement to Definite Plan Report*, S-2, 17-8, 32; *Final Cost Allocation*, 7.

the South Canal to 520 cfs in the Dolores Canal.⁵¹

The Dolores Project contains over eighty-two miles of laterals with capacities ranging from ninety to 162 cfs. The extensive lateral system proved quite costly. The Rocky Ford Pipe Laterals, for example, cost close to \$9.5 million. Reclamation modified existing laterals and designed the new lateral system to control and reduce salinity loading into the Colorado River system by approximately 24,500 tons annually. With that goal in mind coupled with the objective of providing water on a cost-effective basis, Reclamation made some major system improvements for irrigation in the Dolores Project area. The salinity control features included lining portions of the existing Lone Pine and Upper Hermana laterals, abandoning the Lower Herman Lateral and the Highline and Rocky Ford ditches, and installing pipe laterals from the Towaoc Canal. Two of the largest segments of the lateral system, the Rocky Ford Pipe laterals and the Lone Pine Laterals, are seven and nine miles long respectively.⁵²

Although often neglected in discussions about Reclamation, the building and relocation of bridges played an important role in the Dolores Project. The relocation of Bradfield Bridge, west of the town of Dolores, was one of the first tasks undertaken on the project. Constructed between August of 1980 and February of 1981, the bridge was also the first part completed. The creation of McPhee Reservoir, and the resulting redistribution of water, also required the building of Calf Creek and Plateau Bridges. Unfortunately, like some other features of the project, construction on the two bridges had its share of problems. Reclamation awarded the

51. Towaoc has 4.6 miles of concrete lining in two areas having steep slopes with significant rock excavation. Significant changes – such as the substitution of reaches of the canal for the initially proposed Towaoc-Cortez pipeline – were made to water delivery systems for the Towaoc area. The minor modifications are many and sometimes intricate. For a delineation, see the *Definite Plan Report* and all supplements. The Dolores Canal was originally planned as earth lined, but was later modified to concrete lined for salinity control purposes. *Final Supplement to Definite Plan Report*, S-3, 23-4; *Definite Plan Report*, 37-9; L-29, February 1984, A-2; L-29, June 1992, A-7; L-29, March 1986, A-2; L-29, January 1988, A-5; L-29, October 1989, A-7; L-29, July 1990, A-3; L-29, December 1992, A-10–A11; *Final Cost Allocation*, 3.

52. *Final Supplement to the Definite Plan Report*, S-1–S-5, 1-2, 11-3, 19-24.

contract to Groneman Construction of Provo, Utah in May of 1982, but after the initial phase of construction, the contractor failed to show up at the jobsite for over a month. In July of 1983, Groneman defaulted and Reclamation contracted the work to a local company that finished the bridges within four months. Perhaps the low cost of bridges, compared to other project features, determines their relegation to the back pages of plan reports (if they are there at all). However, without them, traveling through the area would be much more difficult.⁵³

Recreation Areas and the Anasazi Heritage Center

Early in the project, community tensions mounted over the location of a recreation area at the Sagehen site on the southwest side of McPhee reservoir and west of the town of Dolores, or the House Creek site on the northeast side of the reservoir and two miles north of Dolores. Local citizens adamantly supported House Creek for its proximity to the town of Dolores and the possible income generated by tourism. They argued that if Reclamation officials did not choose the northern site, visitors' first view of Dolores would be the big mud flat south of town. State and local wildlife officials disagreed, contending that a recreation area at House Creek would displace herds of big game that wintered in the area. The Colorado Division of Wildlife believed the Sagehen site promised less impact on wildlife, but the town's citizens insisted that without House Creek there was little positive recreation potential in the Dolores Project.⁵⁴

Reclamation and the U.S. Forest Service executed an interagency agreement for the planning and development of recreation areas on March 31, 1978, and revised the agreement on April 27, 1981. In response to public demand, the U.S. Forest Service chose the House Creek Site over Sagehen. Agency officials concluded that closing the recreation area from December

53. Bridges were not discussed in the definite plan reports, but only in construction progress reports. *L-29, August 1980*, 4; *L-29, February 1981*, *L-29, May 1982*, 1; *L-29, November 1982*, 2; *L-29, July 1983*, A-2; *L-29, November 1983*, A-3.

54. "State Officials Talk Dolores Impact," *Dolores Star*, June 20, 1980, and "Recreation Site Focus of Fuss," *Dolores Star*, October 17, 1980 in *Project History, 1980*, 8-9, 13.

to late-March would minimize the impact on wildlife that wintered in the area. The Forest Service awarded the contract to the Mountain Gravel and Construction Company for the low bid of \$1,442,000. The contractor finished the project in October of 1987 at an actual cost of \$1.545 million. Another site, the McPhee Recreation Area, at McPhee Reservoir raised little controversy. The Forest Service prepared the drawings in June of 1981, formulated the management development plan the following winter, and contracted the construction of the recreation area to Stratton Brothers Construction Company of Hurricane, Utah, in the fall of 1983. Stratton Brothers finished McPhee Recreation Area in the spring of 1986 at a cost of \$4.019 million and the Forest Service held a ribbon-cutting ceremony on May 24.⁵⁵

Dolores not only promised to displace some animals from the recreation areas, but people in the path of the project as well. Building McPhee Dam and filling the reservoir meant the loss of forty-five Dolores homes and the resettlement of 120 residents. On August 8, 1980, a newspaper notice announced the relocation of seventy-three bodies interred at McPhee and Johnson cemeteries. Government officials began the process of contacting relatives in order to respect their wishes in regards to the removal. The reservoir would also cover 933 of 1,626 Anasazi sites located by the Dolores Archaeological Program. One local paper lamented the loss, protesting that McPhee Cemetery and the Anasazi sites had been “buried [by] the dusts of time,” and would soon be “inundated by McPhee Reservoir.” Considering the immense size and benefits of the project, however, the relocations were minimal. The sentimental comments of the local newspaper highlighted the deep history of the Dolores area – from indigenous peoples to white settlers – and the various peoples’ attachment to the landscape. The water project offered

55. “House Creek Site Chosen For Rec Site,” *Dolores Star*, June 26, 1981, in *Project History, 1981*, 146-7; *Project History, 1982*, A-3, A-7--A-10; L-29, September 1983, 3; L-29, August 1985, A-7; L-29, May 1986, A-8; L-29, October 1987, A-5.

a different and more stable future, but very little about the community's strong historical relationship with the environment had changed.⁵⁶

Despite the comments of the local journalist, Reclamation did not forget the indigenous inhabitants of the valley. The U.S. Bureau of Land Management and Reclamation had spent considerable time discussing the Anasazi Heritage Center, and in 1982, Reclamation's Engineering and Research Center in Denver finished the design data. Reclamation awarded the contract to J. A. Walker Construction. The company substantially completed the Anasazi Heritage Center in November of 1986 and the managing entity, the Bureau of Land Management, began moving in artifacts gathered during the Dolores Archaeological Project. For several years, Reclamation continued to pay maintenance fees for the structure because the BLM refused to accept the building as complete based on a disagreement over a few minor punch-list items.⁵⁷

Contested Waters and Project Completion

A history of the Dolores Water Project would be incomplete without an analysis of some additional disputes and the affect on the time-frame for completion. Three major issues hampered project development and construction: funding, environmental concerns, and Indian water rights. In many ways, the three overlap. Although the issues created delays, they indicate how the process of reclamation in the West has changed over time and in response to American's changing values. In the *Dolores Project, Colorado Definite Plan Report*, Reclamation officials projected a nine-year development program for construction. They immediately isolated a key

56. Reclamation provided for replacement homes and farmsteads under the provisions of federal laws enacted to reimburse people in such situations. Markey Construction, of Raleigh, North Carolina, disinterred the remains and sent them to the designated cemeteries. *Definite Plan Report*, 30-2; *Project History*, 1982, A-5, A-10; *Dolores Archaeological Program: Final Synthetic Report*, 27-8; "Notice," and "Cemetery Move, Rising Waters To Wipe Out McPhee Memories," in *Project History*, 1980, 68, 84; L-29, May 1982, 4.

57. *Project History*, 1982, A-8, A-11–A-12; L-29, May 1984, A-11; L-29, November 1986, A-4.

concern – making substantial progress and carrying out the project would depend on Congressional appropriations. In the late-twentieth century, Reclamation increasingly came under fire as Americans, Congress, and presidential administrations became more concerned with ballooning federal expenditures and the national debt. In many ways, the consternation was not new; a long tradition of Congressional, and especially eastern, antipathy existed toward western water development. Reclamation rode a wave of criticism throughout the 1970s and 1980s that adversely affected funding for Dolores, created debate over its benefits, and hampered progress on its completion.⁵⁸

In 1987, the wave of conflict crested as the valley community debated the Dolores Project's ultimate prospects. The disputes not only reflected local rivalries and animosity, but solidarity. Some dryland farmers wanted to be released from their petitions to get project water. Outraged by the rising cost of irrigation water and delays in the project, they filed a suit against the Dolores Water Conservancy District. The adverse publicity significantly impacted Congressional support for the Dolores Project, influencing the Federal Government to make cuts in funding for fiscal years 1987 and 1988. The decreases prompted a large number of farmers, calling themselves the "silent majority," to begin a publicity campaign for the project. Some farmers accused others of being "land hogs," buying up land, that once irrigated, would bring in untold fortunes. The disputes highlighted more alarming problems in the West. Not only did the dry climate make agriculture difficult, but the small farmer increasingly faced economic adversity as larger competitors forced them to the periphery of the market. One Cortez farm woman appealed, "My father waited all his life for water to come to our family farm. He dreamed and talked of the forthcoming water for years...[but he] passed away [and] did not get to

58. For more information on the Carter and Reagan administrations' impact on the Dolores Project see pages 16-7, 20-1. *Definite Plan Report*, 54-9.

see the water come to his farm.... Please do everything in your power to continue this water on to Dove Creek and the Ute Indians.” One farmer put it more bluntly to Reclamation officials, “So gentlemen get on the ball – and help the people save the project.” For many, getting water would make the difference between survival and ruin.⁵⁹

Several recurring environmental concerns slowed project construction and exacerbated conflict. The project’s impact on large game and other wildlife played a key role in project design. Reclamation officials realized early on that recreational facilities and other features would affect wildlife habitat and migration patterns. In light of those concerns, Reclamation strove to balance and accommodate the goals of using water for irrigation and recreation, community development, and wildlife protection.⁶⁰ On several occasions, a variety of environmental organizations and state agencies raised questions about the impact of the Dolores Project. In 1978, some conservation organizations argued that the rapid development of vast Reclamation projects in the West required more serious study of native species, and at least necessitated an environmental impact statement analyzing the entire Colorado River Basin.⁶¹

Since at least the 1960s, the effect of human endeavors and industrial enterprise on wildlife, fish, vegetation, and other natural resources had become a significant focus for

59. The fiscal year appropriation for 1988 was decreased from \$22 to \$11 million. Byron McKelvie, “It’s Working Well, Drylanders Say of Project Sprinkling,” *Cortez Sentinel*, October 26, 1987, and “Commissioners Urge Dolores Completion,” *Montezuma Valley Journal*, October 28, 1987, in USBR, Commissioner’s Office, History Program (Denver, Colorado). Jack and Erma Acree [?], Cahone, Colorado to Donald Hodel, Secretary of the Interior, October 26, 1987; Maxine Johnson, Cahone, Colorado to C. Dale Duvall, Commissioner of Reclamation, October 24, 1987; Billy F. Smart, Mayor of Cortez, Colorado, to Congressman Ben Nighthorse Campbell, October 22, 1987; Renay Neely, Cahone, Colorado to C. Dale Duvall, October 20, 1987; Dona Oja, Cahone, Colorado to C. Dale Duvall, October 19, 1987; and, M. Murray, Dove Creek, Colorado to C. Dale Duvall, October 25, 1987, in USBR, Commissioner’s Office, History Program (Denver, Colorado).

60. See page 31-2 for discussion of wildlife and recreation areas.

61. For more detailed information on the environmental studies made for the Dolores Project see U.S. DOI, USBR, *Dolores Project, Colorado Final Environmental Statement* (Washington, D.C.: U.S. Government Printing Office, 1977), and U.S. DOI, USBR, *Dolores Project, Colorado Final Supplement to the Final Environmental Statement* (Washington, D.C.: U.S. Government Printing Office, 1989). “Project Funds Ok’d,” *Midweek Montezuma Valley Journal*, October 18 1978, in *Project History*, 1978, 8-9.

academic study. One study contended that the Dolores River had “little importance” because it did not support endangered fish, and was “far from its natural state due to irrigation uses and its record of rather severe pollution.” That was exactly environmental advocates’ point. On the other hand, the study also indicated that the importance of the Dolores River lies in its relationship to the larger Colorado River Basin, and maintaining adequate flows that supported a “natural large river environment.” In 1982, the National Wildlife Federation filed a suit under section 402 of the Clean Water Act arguing that Reclamation and other water officials needed to study the impact of dams as point sources of pollution. Needless to say, the Dolores Project forced Reclamation to face some serious questions. Understanding the reciprocal and consistent effect of humans on the environment, and vice versa, must continue to be a fundamental aspect of Reclamation’s goal to improve peoples’ lives by supplying water.⁶²

Providing water to the Ute Mountain Ute s also played a significant role in the Dolores Project. In his recommendation for the project, Secretary of the Interior Cecil Andrus bluntly concluded that the tribe had “been the victims of a long series of broken promises and failed expectations in their water development plans and were entitled to prompt water delivery from the project.” Despite Reclamation’s strong commitment, a number of problems beset the plan to deliver water to the tribe. In 1987, the tribe’s engineering consultants ran into problems designing an irrigation system that adequately served the new acreage to be brought under production. Investigations also found that a large number of scattered “archaeological finds” existed throughout the land certified for irrigation. However, these were only minor troubles overcome with a little time and revised planning. Another significant issue remained. Together,

62. Paul B. Holden, “Distribution of Fishes In the Dolores and Yampa River Systems of the Upper Colorado Basin,” *The Southwestern Naturalist* 19:4, 403-12; “Flip-Flop In Policy Brightens Project,” in *Project History, 1982*, 19-20.

the Dolores and Animas-La Plata Projects promised to provide irrigation for 20,000 acres of Indian Land, with 7,500 acres watered by Dolores. Project features for the Ute Mountain Ute were among the last completed. Even worse, plans for Animas-La Plata that would provide the majority of water to the tribe, bogged down in messy conflicts over funding, environmental concerns, bureaucratic power-plays (both Federal and state), local community disputes, and a number of other issues. Despite these problems, the Colorado Ute Indian Water Rights Settlement Act of 1988 (Public Law 100-585) sponsored by Colorado Congressman Ben Nighthorse Campbell, finally resolved the disputes over tribal payment for water in the area. In essence, the act required the Interior Secretary to defer all construction costs and authorized federal appropriations for annual operation, maintenance, and replacements costs on both the Dolores and Animas-La Plata Projects.⁶³

Post-Construction History

Although contractors had completed the vast majority of project features and the distribution systems for Dolores in the early-1990s, Reclamation did not declare the project “substantially complete” until 1995 and affirm “final completion” until September of 1998. Several issues delayed the declarations. From 1993 to 1998, work primarily focused on correcting minor design and construction deficiencies such as corrosion in the Fairview and Cahone laterals, and stressing caused by corrosion of the concrete piping in Towaoc Canal section.⁶⁴

63. The Settlement Act was a huge victory for the Ute. However, it would be more than presumptuous to say that it fully solved Ute tribal claims for water. Until the Animas-La Plata Project is completed the fate of their water rights remains undetermined. Cecil D. Andrus to U.S. Office of Budget and Management, “Recommendations to the President on the Dolores Project, Colorado”; “Ute Mountain Ute Indian Lands–Dolores Project, Colorado,” December 1, 1987, USBR, Commissioner’s Office, History Program (Denver, Colorado); “Colorado Ute Indian Water Rights Settlement Act of 1988,” (P.L. 100-585), *United States Statutes At Large*, 102 Stat. 2973.

64. *Final Cost Allocation*, Appendix C, 21; Charles A. Calhoun, Regional Director for the Upper Colorado Region of the Bureau of Reclamation, to Lawrence H. Deremo, President of the Dolores Water Conservancy

(continued...)

Post-construction work also centered on the conservation of habitat for fish and wildlife. Between 1984 and 1990, Reclamation operated McPhee Reservoir according to release criteria that would establish and maintain a trout fishery downstream of McPhee Dam managed by the Colorado Division of Wildlife (CDOW). In 1990, Reclamation reduced downstream releases due to low precipitation and the need to maintain water storage, resulting in a “significant decline in the number of fish.” In response, Reclamation and CDOW formally agreed on an interim operating agreement to provide 30,100 acre-feet of water per year to ensure the survival of trout. In the ensuing years, Reclamation worked with representatives from Trout Unlimited, CDOW, and the U.S. Fish and Wildlife Service to establish an operating agreement of McPhee Reservoir to maintain an adequate supply of water for the fishery. Between 1995 and 2000, Reclamation also worked on creating wetlands in the Dolores Project area and supplying water for their maintenance. The project included the creation of eighty acres of wetlands south of McPhee Reservoir supplied with approximately 800 acre-feet of water via the Dolores Tunnel.⁶⁵

The Dolores Project experienced some water problems at the turn of the twenty-first century. In 1991, Reclamation began pumping extremely saline water from the Dolores River to prevent salt-loading in the Colorado River Drainage Basin. The saltwater treatment project, located in the Paradox Valley near the town of Bedrock in western Colorado, used high pressure systems to pump water deep into the earth, but at the same time, lubricated fissures and fault lines. In the spring of 2000, the desalination system caused earthquakes in the Dolores River

64. (...continued)

District, June 30, 1995; David W. Harris, Manager of the Materials Engineering and Research Laboratory for the Bureau Of Reclamation (Denver, Colorado), to the Dolores Project Construction Engineer, May 22, 1995.

65. U.S. DOI, USBR, Upper Colorado Region, “Biological Assessment: Modify Operation of McPhee Reservoir and Acquire Additional Water for Fish and Wildlife Purposes,” November 1994 (Durango, Colorado), 2-6; U.S. DOI, USBR, Upper Colorado Region, Western Colorado Area Office, “Memorandum of Agreement Between Western Area Power Administration and Bureau of Reclamation, Dolores Project, Colorado For Wetlands Mitigation,” December 1999 (Grand Junction, Colorado).

area that registered at over a 4.3 magnitude. As a result, Reclamation decided to stop the deep-well injection system for a period of twenty days twice a year. Still other water-quality issues caused problems for the Dolores Project. In July of 2000, the Environmental Protection Agency (EPA) released a report that fall-out from coal-fired powerplants in the Four Corners area had contributed to a toxic buildup of mercury in fish populations in the McPhee Reservoir. Although not directly related to any actions on the Reclamation project, the tainted fish promised to hamper recreation activity at the reservoir. EPA officials stated that the danger was limited, but if a person consistently consumed the mercury-laden fish they could experience brain damage, tremors, convulsions, and even death. The shaky problems with water on the Dolores Project offered a reminder of the continuing challenges that Americans face in reclaiming the West.⁶⁶

Settlement of the Project/Uses of Project Water

Managed by the Dolores Water Conservancy District, the Dolores Project utilizes water from the Dolores River for irrigation, municipal and industrial use, recreation, fish and wildlife enhancement, and production of hydroelectric power. It also provides salinity control in the project area and for the larger Colorado River Storage Project. The project furnishes water for the Dove Creek area, central Montezuma Valley, and to the Towaoc area in and near the Ute Mountain Ute Indian Reservation. Project water is available for 61,660 acres of agricultural land, serves almost 1,200 farms, and is principally used for the production of alfalfa, oats, pasture land, and corn silage for livestock feed. The annual municipal and industrial supply of 8,700 acre-feet for the communities of Cortez and Towaoc enhances community stability and the possibility of moderate future growth. According to the 2000 Census, Dolores and Montezuma

66. Nancy Lofholm, "Feds Give State the Quakes: Saltwater Pumped Deep Underground in West Colorado Is Lubricating Fault Line," *Denver Post*, June 6, 2000, A-1; Lofholm, "Solution With A Grain of Salt: Decreasing Earthquakes Means Saltier Water in Colorado River Basin," *Denver Post*, June 8, 2000, B-1; "Quake Rattles Western Colorado," *Denver Post*, May 29, 2000, B-7; Todd Hartman, "EPA Study Links Tainted Reservoir Fish, Coal-Fired Power Plants in State," *Rocky Mountain News*, July 9, 2001.

counties had a population of 25,674. The project area was largely settled prior to any plans for or construction of the project.

Water released from the McPhee Reservoir revived and created a downstream fishery accessible via public land acquired for the project. Releases of reservoir water is also managed to benefit white-water rafters. The project reservoirs and recreation areas, managed by the Forest Service, created a wide variety of new opportunities for camping, fishing, picnicking, and boating open to the general public.⁶⁷ The Dolores Project and all its features ultimately had a price tag of close to \$565 million with an annual cost of \$2.8 million for operation, maintenance, and repairs.⁶⁸

Conclusion

The Dolores Project reflects the many beneficial and contested facets of Federal reclamation. The recent time-frame of the project only heightened controversy. Undoubtedly, understanding the project's complex history helps us to recognize how life in the American West has changed over time. When Anglo settlers heeded the call to "go west young man," they were not venturing into unoccupied territory. Not only did native peoples have a deep past in the inter-mountain West and what became the Four Corners region, but a plethora of wildlife had long roamed the valleys and water ways of the Colorado River Basin. The interaction among these groups – Anglos, Indians, and animals – and their relationship with the landscape and river courses is a complicated, and often conflicted, story. Attempting to understand the intricacies of those relations may be a formidable task, but it is a vital undertaking. More than ever, a

67. Another reservoir and recreation area, Dawson Draw, proposed and planned primarily for wildlife protection was deleted from the project when it became economically infeasible.

68. *Final Supplement to Definite Plan Report*, S-1--S-6, 6, 34-6; U.S. DOI, USBR, *Final Cost Allocation*, 1-6; U.S. Census Bureau, "Dolores County, Colorado" and "Montezuma County, Colorado," <http://www.census.gov>, accessed June 18, 2001; U.S. DOI, USBR, *1992 Summary Statistics: Water, Land, and Related Data* (Denver, Colorado: Government Printing Office, 1992), 224-5.

comprehension of the wide range of historical impacts and changes that Reclamation has brought to the West is necessary for Americans to envision their future there.

About the Author

Garrit Voggesser was born and raised in Colorado. He has spent much of his time outdoors, hiking, camping, and with a fishing rod and a box of flies along the many rivers of the Rocky Mountain West. He received a BA in history from Colorado College in 1996, an MA in history from Utah State University in 2000, and is currently working on a Ph.D. in environmental and Native American history with a focus on the American West at the University of Oklahoma.

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