The Narrows Unit
Pick-Sloan Missouri Basin Program

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The history of the Bureau of Reclamation is generally framed around the remarkable construction of dams in the West and their impact on society and the environment. Less acknowledged are those dams and projects that were authorized by Congress but for one reason or another were never built. The Narrows Unit was one such unit. Authorized in 1944 as a participating project of the Pick-Sloan Missouri Basin Program, the Narrows Unit was later reauthorized in 1970 as part of a massive program to reshape the Missouri River basin. Like a few other Pick-Sloan projects such as the Garrison and Oahe Units, the Narrows was the center of debates for decades by varying interests who for one reason or another supported or opposed the project. Ultimately, the dam, slated to be the largest earthfill dam in the world, died after a long and drawn out controversy over economics, water supply and quality, flood protection, safety, and the social impact of the project.

The South Platte River Valley

Colorado is famous for its majestic mountain range, a spine that runs north to south and cuts the state in two. The high mountains give the state and its capitol city a particular alpine identity; Denver at the base of the Eastern Slope is known as Mile High City, a distance of forty miles from some of the state's highest peaks, many of which rise in elevation more than 14,000 feet. Less appreciated are the flat plains reaching eastward from the mountain range—an expanse of low-lying, parched grasslands that resembles in character and feature America's midsection.

The first Euro Americans to lay eyes on and settle the region generally made special note of the dry conditions and lack of trees and woody plants. The plains came to be known as a vast, dry, sterile, treeless expanse; Stephen Long's 1823 map of the region referred to it as the "Great Desert," and the accompanying report opined that the area was "almost wholly unfit for cultivation, and of course, uninhabitable by a people depending upon agriculture for their subsistence." Not until after the Civil War did perceptions of the plains begin to shift, partly because a burgeoning nation needed western land to expand and partly because of concerted booster campaigns by railroads, speculators, and community builders who looked to make a profit selling land. Some spoke of the rain following the plow and of the virtues and possibility of irrigation in America's dry mid-section.[1]

Both motifs—the plains as desert and the plains as garden—combine fact and fiction. True, the western plains receive less than twenty inches of rain per year (thirteen inches at the Narrows Dam site) and cannot support agriculture without irrigation. Yet major water arteries, like the Platte River, are the lifeblood on the plains. Life clings to the river; it supports rich riparian habitat, woody plants for fuel, and good soil for farming. The challenge of harnessing that water for human consumption lies not merely in scarcity but in distribution. In the late spring the mild Platte (a French word meaning broad, flat, or shallow) becomes a raging, sometimes violent rush of water and soil. The plains are representative of the arid West where soils remain parched most of the year from lack of rain fall, but its streams receive seasonal bursts as water flows downstream from snow-capped peaks. Two-thirds of the Colorado's annual runoff rushes down the

[1] Howard R. Lamar, ed., *The New Encyclopedia of the American West* (New Haven, Connecticut: Yale University Press, 1998), 447-48.

river channels in the late spring and early summer; the three winter months account for only three percent of annual flows.

From the beginning people have recognized the life-giving qualities of the Platte River. For westbound explorers and emigrants in the nineteenth century, the river became a major transportation corridor. John C. Frémont in the published report of his expeditions referred to the route west as "the Great Platte River Road." Gold seekers heading to California or Mormons seeking refuge in the Great Basin followed the north fork of the Platte into eastern Nebraska and Wyoming. After 1858 gold seekers used the south fork of the Platte to get to Denver and the gold mines in the Colorado mountains. The firm of Jones, Russell and Company established an overland express and passenger service and built stage stations and ranches along the Platte. The river offered travelers a perennial source of water, pasture for livestock, and woody plants for fuel.[2]

The men who moved into Colorado after 1858 brought and at times abandoned cattle on the plains, and the rush for gold created a demand for irrigated agriculture to supply mining camps. Some moving to Colorado in the days of the gold rush settled on the plains to grow crops and make a profit selling food to miners. These first white settlers in the South Platte River Valley were squatters on land belonging to the Cheyenne and Arapaho by the Treaty of Fort Laramie in 1851. A decade later, however, the Fort Wise Treaty returned the territory to the United States. On the dry plains the farmers dug ditches, diverted water from streams, and irrigated fields of primarily wheat, oats, and barley. In time they organized into water associations and drafted laws to govern water use in the state. Eventually, Colorado developed a set of laws that became

[2] Lamar, ed., *Encyclopedia*, 891-92; U.S. Department of the Interior, Bureau of Reclamation, *Final Environmental Statement, Narrows Unit, Pick-Sloan Missouri Basin Program, Colorado*, 1976, III-85.

the basis for establishing water rights in most arid western states. The heart of the new water system was the doctrine of prior appropriation.[3]

Prior appropriation—commonly referred to as "first in time, first in right"—derived from competition over water resources in a water-scarce region. No sooner had farmers captured and diverted the water's course than they understood the impact of diversion on the river's volume. Fearing that they might lose what water they had to cities and fields upstream, Colorado water users drafted a set of laws that favored the claims of the earliest water users and of agriculture over manufacturing. The notion of "Priority of appropriation shall give the better right as between those using the water for the same purpose" was later written into the state's constitution.[4]

Irrigation in the Weldon Valley dates to 1870 but flourished in the 1880s. The Weldon Valley Ditch Company gained priority rights and began construction of a canal in 1881; by 1883 that canal had been completed and used by settlers in the area. Agricultural companies in the general vicinity also organized and developed water systems in the late nineteenth century. In 1882 the Platte and Beaver Improvement Company organized; in 1884 the Kiowa and Bijou Irrigation and Land Company (later Bijou Irrigation Company) reorganized into the Lower and Upper Platte and Beaver Canal companies. The Fort Morgan Reservoir and Irrigation Company owned water rights and operated a canal that initially irrigated about 2,000 acres of crops.[5]

All of these nascent water companies relied on water from the Platte River or its tributaries. Over time, demand for the river's water intensified as farmers expanded their

[3] Robert G. Dunbar, "The Significance of the Colorado Agricultural Frontier," *Agricultural History* 34, No. 3 (July 1960): 119-25.
[4] Quoted in Robert G. Dunbar, "Water Conflicts and Controls in Colorado," *Agricultural History* 22, No. 3 (July 1948), 183.
[5] Reclamation, *Final Environmental Statement,* II-6, II-12.

operations and built larger irrigation systems. Competition for water resources intensified through the twentieth century as rural and urban interests and states debated who received water and how much. In 1923 representatives from Colorado and Nebraska signed the South Platte River Compact which governed interstate use of the river. During the peak irrigation season, Colorado agreed to deliver no less than 120 cubic feet of water per second to its neighboring state. The rest could be used in Colorado, and water users and state politicians set out to ensure that none of its water was "wasted."[6]

The Missouri River Basin Program

The idea for a dam at the Narrows dates back to 1908, forty years after the first settlement of Weldon Valley, but the idea was always part of a larger design to increase farmers' useable water supply. In the 1930s, water interests on the plains pushed through a solution to water shortages—a massive transmountain diversion project channeling water from the Colorado River basin on the west side of the Continental Divide to the Big Thompson River, a tributary of the South Platte. The water would then be used for irrigation downstream. The Bureau of Reclamation started construction on the Colorado-Big Thompson Project in 1938 and completed it nearly two decades later. Farmers in Weldon Valley were among those on the state's eastern plains to use water diverted from the Colorado River basin to water their crops. The transmountain diversion project, however, did not completely satisfy the need for additional water supplies; local water users began to push for a large-scale storage dam and reservoir on the South Platte.[7]

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[6] For the text of the South Platte River Compact, see http://ssl.csg.org/compactlaws/southplatteriver.html.
[7] Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York: Penguin Books, Revised and Updated Ed., 1993), 411-12; U.S. House of Representatives, *Narrows Unit, Colorado: Letter from the Assistant Secretary of the Interior*, H.doc. 320, 90th Cong., 2nd sess. (Washington, D.C.: Government Printing Office, 1968), 3-4; U.S. House of Representatives, Committee on Interior and Insular Affairs, Subcommittee on Irrigation and Reclamation , *Narrows Unit, Colorado, Missouri River Basin*

The answer was a dam at the Narrows in Morgan County, authorized in conjunction with three hundred other projects as the Missouri River Basin Program (later known as Pick-Sloan Missouri Basin Program, in honor of Colonel Lewis A. Pick from the Corps of Engineers and Reclamation's W. Glenn Sloan, assistant director of Region 6 in Billings, Montana, who pushed the plan through Congress). The program took its immediate origins from the devastating floods on the Mississippi River in 1927. The War Department initiated studies in the Missouri River Basin, not simply for flood control and navigation but irrigation and power development as well. Indeed, its irrigation plan was ambitious—eighty projects and a total irrigable area of 2,843,826 acres in the Missouri River Basin.[8] In 1938 Reclamation conducted studies of its own that ultimately led to a reconnaissance report for the Missouri River and its tributaries laying out a comprehensive plan of development for the river basin. Melding the Corps' and Reclamation's comprehensive plans, Congress passed the Missouri River Basin Project as part of the Flood Control Act of December 22, 1944 (58 Stat. 887).[9] The Missouri River Basin Program authorized hundreds of water projects, including the Narrows Unit on the South Platte River.

The federal government moved forward quickly on many of the projects introduced in the legislation. At Narrows, Congress released funds for initial construction in 1947 and 1949-1951, even while the precise site for the dam had still not

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Program, Hearings on H.R. 17566, 90th Cong., 2nd sess., November 25, 1968 (Washington, D.C.: Government Printing Office, 1969), 5.

[8] U.S. House of Representatives, *Missouri River: Letter from the Secretary of War Transmitting a Report, Together with Accompanying Papers and Illustrations, Containing a General Plan for the Improvement of Missouri River*, H.doc. 238, 73rd Cong., 2nd sess. (Washington, D.C.: Government Printing Office, 1935), 40.

[9] U.S. Senate, *Missouri River Basin: Conservation, Control, and Use of Water Resources of the Missouri River Basin in Montana, Wyoming, Colorado, North Dakota, South Dakota, Nebraska, Kansas, Iowa, and Missouri*, S.doc. 191, 78th Cong., 2nd sess. (Washington, D.C.: Government Printing Office, 1944).

been determined. With appropriated construction funds, the Bureau of Reclamation began to examine the Narrows site more thoroughly. Historically, the Narrows was a station on the Union Pacific Railroad, located about eight miles northwest from Fort Morgan.[10] The project area had also been settled by farmers and ranchers. Although Reclamation had already built sixteen houses, an office, a warehouse, and garages in Fort Morgan as the first step of construction, local landowners who stood to lose their lands to the proposed dam and reservoir vocally opposed the project and forced construction activities to stop.

As a result of local opposition, Reclamation returned to the drawing board. It compared the Narrows Dam site to several alternative sites: one closer to Fort Morgan at a location that had been carefully studied in the preconstruction studies, and another at a location in Weld County.[11] Meanwhile, the Colorado Water Conservation Board held a series of public hearings in Colorado to formulate the state's position on the matter (except for the last hearing planned to be held in Denver, which was cancelled because of the untimely death of the judge presiding at the hearings). In 1952, partly because the state of Colorado had not staked a position and partly because of issues related to water exchanges and local support of the project, Reclamation dropped its request for more money and moved out of the area.[12]

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[10] Denver Public Library - Colorado Place Names, http://history.denverlibrary.org/research/place_names/place_names_morgan.pdf.
[11] Felix Sparks to Members of the Colorado Water Conservation Board and Colorado Water Investigation Commission, memo, September 4, 1964, 1-3, in Wayne N. Aspinall Papers, Box 179, folder L-11b(3)A, Department of Special Collections and Archives, Penrose Library, University of Denver, Denver, Colorado; hereafter cited as Aspinall Papers.
[12] Felix Sparks to Aspinall, May 7, 1965, in Aspinall Papers, Box 179, folder L-11b(3)A; Statement of George A. Epperson and Earl W. Haffke in Opposition to S. 3547 Against Proposing Reauthorization of the Narrows Unit, South Platte Division at the Narrows Site in Morgan County, Colorado, June 3, 1970, in Senator Peter H. Dominick Papers, Series 5, Part 2, Box 140, folder 2, Department of Special Collections and Archives, Penrose Library, University of Denver, Denver, Colorado; hereafter cited Dominick Papers.

The hearings on the location of the proposed project revealed a serious fissure in the local support for the project: water users upstream of the Narrows site generally opposed the project; those below the dam supported it. The division makes sense given that the dam would provide gravity irrigation benefits to farmers and locals residing below the structure. Perhaps for this reason, while in the original reconnaissance reports the site at Fort Morgan had been seriously considered, the subsequent controversy over the dam site centered on a site further upstream near Hardin in Weld County. Unlike the Narrows site, the Weld County dam site had not been extensively irrigated or settled. Moreover, it would hold more water than the Narrows site. Reclamation considered the Narrows site superior primarily because it was less expensive and provided better flood control benefits since it was situated further downstream.[13]

If local opposition derailed construction at the Narrows site, other local and state water interests in support of the original plan worked to put it back on track. The Colorado Water Conservation Board led the way by approaching the Bureau of Reclamation to study the project anew. In studies Reclamation cast a broad net, looking also at a possible dam at the Two Forks site on the South Platte River above Denver and an off-site reservoir to store Denver's sewage disposal plant effluent. The studies substantiated earlier findings that the Narrows site was superior. Eventually, the Bureau spent about $1.5 million and the state of Colorado about $200,000 on planning and design and initial construction, making it, according to Governor John A. Love, the state's most extensive and thoroughly studied project.[14]

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[13] "Study Favors Narrows Site Over One in Weld County," *Greeley Daily Tribune*, February 22, 1963.
[14] *Colorado Water Congress Newsletter,* Vol. 4, No. 1, January 23, 1961; *Colorado Water Congress Newsletter,* Vol. 6, No. 1, January 28, 1963; *Narrows Unit, Colorado, Missouri River Basin Program*, 22-23.

Yet opposition to the Narrows Dam did not abate. When local water users tried to create a conservancy district in anticipation of the Narrows Unit, a counter petition circulated apparently with enough signatures to prevent the measure. The Lower South Platte Water Conservancy District eventually organized in 1964, but not without determined opposition. The Colorado Water Congress remarked matter-of-factly in the newsletter, "Proponents of the Weld County damsite are conceding nothing to Narrows site proponents."[15]

On September 12, 1964, the board determined that the Narrows site was superior to any other site under consideration. The major reason for rejecting the Weld County site was the higher cost—about $23 million higher—although opponents of the Narrows site questioned "the credibility of the engineering and criteria used by the Bureau of Reclamation" to calculate the higher costs.[16] Reclamation tried to accommodate the concerns of people opposing the Narrows Dam by revising the feasibility studies to determine a way also to service the Riverside and Bijou areas. Studies found that shifting water to these areas reduced water available to the Sterling area. Reclamation amended the plan to include a pump to lift water directly from the South Platte. Another change came when people from the Julesburg area decided they did not want to open up new irrigated acreage in their area, as planned. When the Colorado Water Conservation Board proposed the Narrows project service area the only one with a supplemental water supply, farmers in the Julesburg area reportedly rescinded any opposition they had to the

[15] *Colorado Water Congress Newsletter*, Vol. 7, No. 1 (January 27, 1964), 5-6; *Narrows Unit, Colorado, Missouri River Basin Program*, 25.
[16] Epperson and Haffke in Dominick Papers, Series 5, Part 2, Box 140, folder 2; see also N. B. Bennett to Dominick, October 1964, in Dominick Papers, Series 5, Part 2, Box 50, folder 25; *Narrows Unit, Colorado, Missouri River Basin Program*, 22-23.

project. In this way, proponents of the Narrows attempted to iron out concerns and objections to the project.[17]

Reauthorizing the Narrows

Contestation over the Narrows Unit was not necessarily unusual among Pick-Sloan projects. Projects in the Missouri River basin met resistance over issues ranging from economic feasibility and site selection to water availability and environmental impact. In 1964 Congress recognized that many of these projects had serious problems and cancelled the blanket authorization for all units of the program not already under construction; any new construction required reauthorization by Congress. As a result some of the largest Pick-Sloan projects like the Narrows Unit went through new feasibility studies, hearings, and long and contentious debates.

In mid-1965 the debate over Narrows experienced a sudden and jolting shift. On the night of June 16 and through the 17th rains fell hard on the eastern plains, and the South Platte swelled to unprecedented levels. Authorities evacuated Fort Morgan. The force of the flood crested on two small river tributaries that emerged from the dry plains directly at the site of the proposed dam and reservoir: Kiowa Creek and Bijou Creek. Reportedly, Bijou Creek crested at 170,000 cubic feet of water per second, and some reports placed the flow higher than that. Agate Dam on East Bijou failed; helicopters evacuated some people stranded by the flood to safety.[18]

For three harrowing days, floods wreaked havoc along the South Platte. In the Denver area, water escaped the river's course and ravaged the low lands. By the third day the entire flood plain of the Arkansas River had been evacuated. Houses, trailers,

[17] Felix Sparks to Aspinall, May 7, 1965, in Aspinall Papers, Box 179, folder L-11b(3)A.
[18] For first hand accounts of the flood and the devastation is left behind, see materials in Dominick Papers, Series 3, Part 2, Box 73, folder 10.

and debris lay strewn out along the valley's floor. A couple of months after the floods the estimated total in damages was $250 million. Governor Love called it "the greatest disaster in Colorado's history."[19]

Not surprisingly, Colorado's congressional delegation pushed for relief and repair efforts along with new emphasis on proposing and building new structures for flood protection. Colorado Senator Peter H. Dominick promised to move plans forward for Narrows Dam, Chatfield Dam, dams on Two Forks, and even "possible new methods to control the floods along the tributaries."[20]

In Congress the project had a valuable ally in Colorado Congressman Wayne Aspinall, chair of the powerful House Committee on Interior and Insular Affairs. Despite his influential position in Congress, Aspinall told local proponents of the Narrows Dam that there was only so much he could do from his end. Congress faced a backlog of projects that needed authorization, increased opposition to water projects generally, and a budget shortfall for domestic projects. The push for the project, he said, would have to come from local water users. "To be frank," he told a crowd of locals only a month after the floods, "the project will not get off the ground unless there is an open display of public responsibility and desire." As one who battled regularly with a growing contingent of anti-dam congressmen, like John Saylor of Pennsylvania, he recognized the challenge of pushing large water projects through Congress. "It is the largest remaining irrigation project in the Missouri River Basin," Aspinall declared, "and it is in your

[19] Civil Defense Bulletin Received 1:10p.m., June 18, 1965, folder 10, box 73; Barbara Gigone, "First Came the Floods …" *Colorado Municipalities*, September 1965, in folder 11, box 73, Dominick Papers.
[20] Dominick to Thomas Heaton, August 27, 1965, Dominick Papers, Series 3, Part 2, Box 73,folder 10.

hands." Then he spoke of the recent catastrophe: "Don't forget the disaster of 1965 as you forgot the disaster of 1935. It is up to you."[21]

The devastation of the flood probably swung some people in Morgan County to favor the project as proposed. As one local wrote Congressman Aspinall, "Since the recent flood, I understand that this opposition has changed considerably and except for a few die-hards, there is almost complete support for this project."[22] The overwhelming support for a water project on the Narrows is seen by the barrage of petitions to Colorado's congressional delegation. A petition circulating in the wake of the flood urged the Bureau of Reclamation to complete the feasibility study "post haste" and "prompt" congressional action on the dam. Drawn up by Eric Wendt and Reuben Peif of the Lower South Platte Conservancy District, the same petition was signed by water districts and companies, county and city governments, and businesses in several counties in the state.[23]

While the floods brought increased resolution to move the Narrows Project forward, it also opened up a new issue centered on a relatively minor tributary of the South Platte. Nowhere was flooding more severe than at Bijou Creek; one local said it did "more damage then the South Platte River in twelve hours, then the river alone has done in the past five decades." The flood in June 1965 may have been an anomaly, but

[21] Cited in "Push for Dam Says Aspinall," *Post*, July 18, 1965, in Aspinall Papers, Box 73, folder D-39c(2)a.
[22] Baxter W. Arnold to Aspinall, July 21, 1965, in Aspinall Papers, Box 166, folder D-39c(2)a.
[23] The following is a partial list of the entities that signed the petition: Lower South Platte Conservancy District; Carlson Ditch; South Reservoir Ditch Company of Sedgick County, CO.; The Farmers' Pawnee Canal Co. of Sterling, Co; High Plains Cooperative Ass'n of Sterling, Co; The Low Line Ditch Co. of Sterling; Davis Brothers Ditch Company of Atwood, Co; Springdale Ditch Co. of Sterling, Co; Iliff & Platte Valley Ditch Co.; City Council of City of Fort Morgan, Co; Board of Trustees of Log Lane Village; The Upper Platte and Beaver Canal Company of Brush, Co; City Council of Sterling, Co; Bravo Ditch Company of Logan County; Board of County Commissioners of Morgan Co; The North Sterling Irrigation District; South Platte Ditch Co; The Logan Irrigation District; Town of Merino; and Iliff Irrigation District.

since Bijou Creek lies downstream of the Narrows Dam, something in addition to a main stem dam would be required to prevent a reprise. In fact, back in 1950 Congress had originally approved flood control on Bijou Creek in conjunction with the Narrows Dam. Now, people urged Reclamation to dust off old studies for flood control and include some type of flood protection at Bijou.[24]

In fact, the Army Corps, in 1966, initiated a feasibility study for flood protection on the Bijou Creek. Apparently, the Army Corps involvement came at the request of Colorado's senators who contemplated additional flood control structures to go along with the Narrows Dam. While the Corps explored the possibility of a flood control dam in the upper Bijou Valley, locals in the area requested federal aid to repair the damage caused by the flood. They appealed to the Bureau of Reclamation for aid to stabilize the creek's banks damaged by erosion, but the Bureau could offer no aid. The Agricultural Stabilization and Conservation Service and the Soil Conservation Service said assistance might be given to individuals faced with severe erosion, but required farmers to pay a 30 percent cost share. For many the hope of a permanent solution lay with the Corps and its flood control dam in the upper Bijou valley.[25]

On the basis of the Corps report, Reclamation decided to abandon its original flood control plan to divert water from Bijou Creek into the Narrows Reservoir. The downside of the diversion plan was that it only protected the lower Bijou Creek area.

[24] The quote is from Francis Lefforge, Orchard, Colorado, to Dominick, July 13, 1965, in Dominick Papers, Series 3, Part 2, Box 73, folder 20; see also other material in Box 73, Folder 20 and 22.
[25] Dominick to Thomas H. Bradbury, Byers, Colorado, June 2, 1966; Dominick to Robert Johnson, Greeley, Colorado, July 21, 1965, in Dominick Papers, Series 3, Part 2, Box 73, folder 20; N. B. Bennett to Dominick, September 1967; "Farmers Have 3 Alternatives to Erosion of Bijou Creek," in Dominick Papers, Series 3, Part 2, Box 109, folder 17.

Nevertheless, the acting commissioner of Reclamation promised that the diversion plan could be reopened if a flood control structure was ultimately rejected on Bijou Creek.[26]

In the meantime, the Narrows Unit reauthorization had to wait until Reclamation completed the feasibility report. Then, the report still needed the approval of the secretary of the interior and reviewed by the Bureau of Budget before Congress could vote on its reauthorization. Aspinall wrote in March 1966, "I was hoping this could be done during this session, but it is too late now. I see no reason why it should not be accomplished either in 1967 or 1968. Then congressional authorization should take place soon after receipt of the report."[27]

In 1967 Reclamation completed the feasibility report and announced that the project met the minimum engineering and economic standards and had a benefit to cost ratio of 1.62 to 1. At an estimated cost of $61,820,000, the project had been planned to provide supplemental water to 166,370 acres of land along the lower South Platte River, flood control, recreation, and fish and wildlife enhancement. A controversial portion of the report included an "alternative" plan that showed the benefits to recreation and fish and wildlife by maintaining 25 cubic feet per second in the South Platte River from the Narrows Dam to the confluence of the North Platte River. The "alternative" plan was similar to the proposal of the Colorado Game, Fish & Parks Commission, which recommended the United States acquire land to mitigate losses derived from the reservoir, ensure a minimum reservoir level for the benefit of wildlife, and create at the reservoir a wildlife refuge.[28]

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[26] N. B. Bennett to Dominick, September 1967, in Dominick Papers, Series 3, Part 2, Box 109, folder 17.
[27] Aspinall to Ned Dermody, March 22, 1966, in Aspinall Papers, Box 213, folder L-11b(3)a.
[28] U.S. Department of the Interior, Press release, "Interior Approves Development of Proposed Narrows Unit, Colorado," September 28, 1967, in Aspinall Papers, Box 254, folder L-11b(3)A; Research Division of

The Colorado Water Conservation Board rejected this plan outright. Although it would ostensibly yield annual benefits to recreation and fish and wildlife of $220,200, the board argued that the plan would reduce project benefits and "waste" water unused flowing eastward to Nebraska. The issue was a constitutional and legal one: Colorado state law at that time did not recognize recreation or fish and wildlife as beneficial uses of its water resources. If the plan to allocate a portion of project water for these purposes passed muster, Colorado would have to amend its laws or somehow reach an agreement to permit the arrangement and to provide funding for the appropriate facilities.[29]

Still, the wait in Congress continued. In April 1968 Aspinall complained to Eric Wendt of the Lower South Platte Water Conservancy District that he could not move on the Narrows Project legislation until the Bureau of the Budget completed the final planning report. He promised to use his influence "to see if we can't hasten" the report's release.[30]

As if in a last gasp, opponents of the Narrows spoke openly of their resistance to the project. Some continued to defend the Weld County dam site with the resolution that had marked the debate since the beginning. As one long-time critic of the Narrows site wrote, "It is going to be difficult to write this letter and not be too definitive or too antagonistic, but I have been in this thing for over 25 years and I know that the Narrows is wrong and should not be supported." Many critics believed the Weld County site was superior because it could provide clean, reliable water to the growing municipalities and industries of the Front Range. They claimed urban interests with more money than

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Colorado Game, Fish and Parks Commission, Job Completion Report, n.d., in Aspinall Papers, Box 179, folder L-11b(3)A.

[29] Dominy to Aspinall, August 1967, in Aspinall Papers, Box 254, folder L-11b(3)A; Felix Sparks to Floyd Dominy, December 29, 1967, in Aspinall Papers , Box 289, folder L-11b(3)A.

[30] Aspinall to Wendt, April 26, 1968, in Aspinall Papers, Box 289, folder L-11b(3)A.

agricultural interests could raise the capital needed to build the project, without the help of the United States taxpayer and the Bureau of Reclamation. Moreover, urban use of the water, they argued, was a better year-round use of water than seasonal uses by irrigation. Essentially, it was a matter of the "greatest good for the greatest number of people." Building the Narrows Dam "will inhibit and stifle the growth of population and industry for an incalculable number of years and be as a millstone around the necks of generations of people who desire to live and grow in the Colorado environment."[31]

All this was to no avail. The Narrows Project moved forward, backed by the engineering reports of the Bureau of Reclamation and by well organized local water users who had managed to bring Colorado's governor, senators, and Wayne Aspinall on their side. The case for the Narrows Project received a boost when the court granted a "conditional water right" for the Narrows reservoir. According to the decree, the Narrows reservoir water rights predated the proposed reservoir in Weld County.[32] Locals holding land and property in the Narrows site continued to oppose the project, but at least a few, like Morgan County Commissioner Conrad Schaefer, owner of a 2,300-acre ranch that would be mostly inundated by the reservoir, "unselfishly" testified before Congress in favor of the project in the spirit of the greater good.[33]

The legislation was finally hammered through in the 91st Congress on August 28, 1970. The bill that passed the House and the Senate called for construction of facilities to

[31] George A. Epperson to Dominick, June 2, 1970; Statement of George A. Epperson and Earl W. Haffke in Opposition to S. 3547 Against Proposing Reauthorization of the Narrows Unit, South Platte Division at the Narrows Site in Morgan County, Colorado, June 3, 1970, in Dominick Papers, Series 5, Part 2, Box 140, folder 2,.
[32] Eric P. Wendt to Dominick, July 17, 1970; for more information on the court battles over water rights, see letters from George A. Epperson to Dominick, June 26, 1970, in Dominick Papers, Series 5, Part 2, Box 140, folder 2.
[33] "Schaefer Praised, Termed 'Very Important Witness' On Narrows," in Dominick Papers, Series 5, Part 2, Box 140, folder 2.

service 166,000 acres with water for irrigation and provide ancillary flood control, fish and wildlife conservation and development, public outdoor recreation, and potentially future municipal and industrial supplies. The Army Corps removed the Bijou flood control aspects of the project from the Narrows legislation. An operating entity would ensure water from the project met water quality standards pursuant to the Water Quality Act of 1965. The legislation also waived excess acreage requirements, just as the requirement had been waived on the Colorado-Big Thompson Project.[34]

Preparing for a Dam

Aspinall had predicted several years before the reauthorization that construction would not begin for at least a decade, since any modest federal funds available for water projects would likely be used on Colorado's other water projects awaiting appropriations.[35]

The project waited on completion of the final environmental statement (FES), which was filed with the Council on Environmental Quality in May 1976. The FES gave the scope and dimensions of the project. The existing Jackson Reservoir north of the proposed reservoir would be acquired and developed for recreation, fish, and wildlife purposes. The dam would be four miles long but only 147 feet tall with capacity storage of 636,000 acre feet at the maximum storage level. The environmental impact of such a massive dam and reservoir would be enormous. The reservoir would inundate the Union Pacific Railroad line, State Highway 44 and county roads, utility lines, oil and gas wells,

[34] U.S. Department of the Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws Annotated*, Volume IV, 1967-1982, Louis D. Mauro and Richard K. Pelx, editors (Denver: Government Printing Office, 1989), 2532-34; Epperson and Haffke in Opposition to S. 3547, 3, in Dominick Papers, Series 5, Part 2, Box 140, folder 2.
[35] "Narrows Dam 10 Years Away, Aspinall Claims," *Sterling Journal-Advocate*, September 15, 1967, in Aspinall Papers, Box 289, folder L-11b(3)A.

and a portion of a golf course, not to mention approximately 825 homes and barns of valley residents. Indeed, a large area reaching upstream from the dam site about 15.5 miles and encompassing 15,000 acres would be inundated. Critics derisively referred to the proposed reservoir as "the Shallows" since the water would often be drawn down.[36]

With release of the environmental statement, the project began to move quickly. In June 1976 Reclamation released an addendum to the definite plan report. In July the government signed repayment contracts with the Lower South Platte Water Conservancy District and the Central Colorado Water Conservancy District. The next month the state of Colorado agreed to pay its share of construction costs.

Those busy summer months also featured an unlikely, devastating event that reverberated bureau-wide and began to call into question dam safety. On June 5, Reclamation's new earthen dam on the Teton River in southeastern Idaho failed, killing eleven people and causing an estimated $2 billion in damages. The causes of failure are still debated, but evidence points to fissures and permeable loess soil in the foundation. The failure damaged Reclamation's confidence and reputation and forced it to consider carefully the safety of its dams. The Teton episode probably contributed to misgivings about the safety of the Narrows Dam.[37]

In the original feasibility studies, Reclamation prepared geological reports for various dam sites under consideration in the South Platte River Basin. Engineers in the Denver office concluded in one report, dated October 1949, that the Pierre shale formation "possesses ample shear strength for stability under the design load." Their one

[36] Reclamation , *Final Environmental Statement*, II-6, II-12 – II-16.
[37] Thomas J. Aiken, *Oral History Interview*, transcript of tape-recorded Bureau of Reclamation Oral History Interviews conducted by Brit Allan Story, senior historian, Bureau of Reclamation, from 1995 to 2004, in Folsom and Auburn, California, 15-16.

concern was that the material swells when saturated with water.[38] In 1974 Reclamation took new core samples from the foundation area and tested them in the Denver laboratories. The scientists conducting the tests found that water might be lost "into the highly permeable sand deposits" at the site, creating concerns that seepage under and around the dam might threaten its stability. In 1976 a USGS investigation concluded that "there would be no net loss of water from the proposed reservoir to the aquifer."[39]

That same summer land owners in the area who opposed the project organized the Regional Landowners Group, Inc., and filed suit against construction. Members of this group consisted of many of the original opponents of the dam from its early years. They had staged a determined fight to block authorization of the project, and now they mounted a last ditch effort to prevent the government from acquiring their lands for the project.

Disposition of lands is a difficult reality confronting many of the projects built by Reclamation. Often water projects sit on top of privately owned and sometimes occupied lands which necessitated either government purchase the land or initiate condemnation proceedings. The hard reality is that good sites for dams and reservoirs are very often prime locations for settlement and land use—the low lying lands adjacent to a water source. At the Narrows the problem of dispossession was a major problem, since ninety-five farms, twenty-eight businesses, two churches, an elementary school, and some of the most productive farmland in the state would be inundated by the new reservoir.

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[38] See U.S. Department of the Interior, Bureau of Reclamation, *Laboratory Tests on Foundation Materials—Narrows Damsite—Narrows Unit—MRBP, Colorado*, Earth Materials Laboratory Report No. EM-217, Denver Colorado, Research and Geology Division, October 6, 1949, 3, in Record Group 115, Records of the Bureau of Reclamation, Federal Records Center (FRC), Accession 115-03-0061, Box 15, folder 185257-0, National Archives and Records Administration, Denver, Colorado; hereafter cited as RG 115.

[39] U.S. Department of the Interior, Bureau of Reclamation, *Feasibility Design Summary, Narrows Dam, PSMBP, Narrows Unit, Colorado*, January 1983, 4-5, 6-8, in RG 115, Accession 115-99-0062, Box 8.

In *Cadillac Desert*, Marc Reisner depicted the relocations at the Narrows site as the work of cold, unfeeling bureaucrats.

> They sniffed through the community, smelling out its most avaricious members, those most susceptible to an offer. They spread rumors; they spread lies. They offered extravagant settlements to the first few who bit, then grew less and less spendthrift with the holdouts, both to punish them and to balance the initial extravagance. They played on the social conscience of communities, accusing them of selfishness, of denying the greatest good to the greatest number. And in the final resort—judiciously at first, then more threateningly, then like a defensive line blitzing a quarterback—they invoked the prospect of eminent domain.[40]

Cousin George Kyncl, at the time an employee of the Colorado Department of Social Services, witnessed Reclamation's attempts to relocate Weldon Valley citizens. He later stated that he thought Reclamation employees had been unnecessarily insensitive throughout the process.[41]

Dislocation by nature is a cold, callous process. The social cost to individuals, families, and communities that accompanied federal water projects has cast a dark shadow over the Bureau of Reclamation. Early criticism leveled at Reclamation was that its engineers were first rate in planning and constructing water works but not worth their salt in calculating the social needs associated with irrigation. The charge against the Bureau's practice of dispossessing settlers who had owned and settled the land in some cases for several generations follows the same thread. Nevertheless, the process of acquiring property, however seemingly unfeeling, was a job that had to be done. The bureaucrats charged with that task had to follow the guidelines established in the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" for the "fair and equitable treatment of persons displaced." Under these guidelines, federal

[40] Reisner, *Cadillac Desert*, 412, 425.
[41] Schuyler T Wallace, *Tin Lizard Tales: Reflections from a Train* (Denver, Colorado: Outskirts Press, Inc., 2007), 40.

agencies were to move people into decent, safe, and sanitary homes and to ensure that no one suffered "disproportionate injuries as a result of programs designed for the benefit of the public as a whole."[42]

According to Reisner's account, nothing could move the leading state politicians from the idea of a dam at Narrows. To renege on a project that had been authorized—twice—and promoted doggedly by local water interests for decades was not something that politicians were eager to pursue. Narrows Dam was probably the last chance to get a main-stem dam in the South Platte Valley. The 1970 authorization of Narrows Dam came at the twilight of congressional approval for water projects and had been shepherded through committee and Congress by Wayne Aspinall, who was defeated in the democratic primary in 1972 by an electorate that decided he no longer represented the views of the region. To get a third authorization of the project at an alternative site, even if superior in many ways, probably stood little chance due to expense and a twice-as-high interest rate. The option was to move doggedly ahead on a dam at the Narrows site or to scrap the dam altogether.[43]

Studying the Narrows

Within a month of taking office, Jimmy Carter took a red pen to President Gerald Ford's budget for fiscal 1978—starting with expensive and possibly outdated and environmentally suspect water programs. On February 19, 1977, Carter declared his intention to begin an official review of nineteen Reclamation, Corps of Engineers, and Tennessee Valley Authority projects and eliminate funding for those found uneconomical. The Narrows Unit was one of five Reclamation projects on the list. In the

[42] Public Law 91-646 is found in Reclamation, *Final Environmental Statement*, Appendix D.
[43] Reisner, *Cadillac Desert*, 424-25.

report that followed the announcement, the secretary of the interior spelled out the considerations that led to the decision to axe Narrows. The secretary recommended reinstating the Narrows only after further studies into alternative projects like groundwater recharge and after a resolution of the major issues that beset the project like environmental impact, water seepage, dam safety, and water quality.[44]

Carter's earnest attempt to slash the federal budget by eliminating water projects in the West launched a firestorm of western anger over the heavy-handed indifference of the government. A correspondent of the *Washington Post* dubbed the projects slated for review the "Hit List," giving the review a pejorative connotation. Even the Interior Department's bureau responsible for construction of Narrows Unit probably met the announcement with some dismay, since up until this point it had been an unwavering advocate for the project. Nevertheless, Reclamation could do nothing more than comply with the administration's request and initiate a new round of studies at the Narrows.

The Bureau of Reclamation hired three independent contractors—George F. Sowers, Thomas M. Leps, and H. A. Coombs—to review the feasibility report. Sowers and Coombs conducted preliminary studies of the proposed dam's safety. Sowers concluded the Narrows Dam site was safe, but he also raised many points that had yet to be answered and that would need to be addressed in the final design plans. Another consultant, Leps, did a reconnaissance study of the site. He noted that the major challenge was design and construction of such a large dam but concluded that "the

[44] White House, Office of the White House Press Secretary, "Statement on Water Projects," April 18, 1977, 17, in Carter Hit List Binder, U.S. Department of the Interior, Bureau of Reclamation, History Program Files, Denver, Colorado.

foundation and proposed dam design are considerably safer and more stable than was indicated to us by USBR staff personnel."[45]

The three independent experts charged with reviewing the Feasibility Design of Narrows Dam released their reports in early 1978. Several months later Woodward-Clyde Consultants completed its own review of the proposed dam, confirming the suitability of an earthen dam at Narrows. The studies boded well for the project, but they also opened new questions that would have to be explored in some depth.[46]

The project received a new life when, in fiscal year 1982, the House Appropriations Committee directed Reclamation to "conduct appraisal work and final design work on the Narrows Unit, Colorado, to ready the project for construction." Reclamation assistant commissioner said the Bureau would comply with the committee's request and review the geologic, engineering, and environmental conditions of the project and by prepare an updated cost estimate. Accordingly, Reclamation once again initiated the feasibility design studies and considered two schemes. The difference between the two plans was that one would provide flood control benefits and the other would not. The former was similar to the 1975 design, while the latter had a height six feet shorter and total reservoir capacity of nearly 500,000 acre feet less than the original design.[47]

The new plans also called for something of a facelift to the reservoir. Reclamation considered the National Park Service and Colorado Department of Parks

[45] Report on Safety of Preliminary Design for Foundation and Earth Embankment Proposed Narrows Dam, South Platte River, Fort Morgan, Colorado, by George F. Sowers, LETCO Project EC-383 for BOR, Law Engineering Testing Company, January 12, 1978; Report on Review of Certain Safety Aspects of Feasibility Stage Design of Proposed Narrows Dam, Colorado, for BOR, by Thomas M. Leps, Inc., Atherton, California, January 1978, 18, in RG 115, Accession 115-03-0061, Box 15, folder 185261-0.
[46] See files in RG 115, Accession 115-03-0061, Box 15, folder 185262-0.
[47] Assistant commissioner to Glenn Saunders, February 1982, in RG 115, Accession 115-94-0228, Box 8, folder 28723-0; H. Walter Anderson, Acting Chief Design Engineer, Memo, January 12, 1983, in RG 115, Accession 115-99-0062, Box 8.

and Outdoor Recreation's recommendation to have a boat marina near the dam site and suggested that excavation of the borrow area for construction of the dam might be "shaped in such a way to enhance the boat marina harbor." It also discussed plans for a fish hatchery. A manager at the reservoir would be charged with managing the recreation facilities.[48]

A Reclamation internal review team completed a review of the feasibility design. This time around, the review was fairly negative of the dam's design and capacity to withstand large volumes of floodwaters. The review noted that the right bank of the auxiliary spillway "is in great danger of being eroded out during a major spill, thereby jeopardizing the integrity of the service spillway and left abutment area of the dam embankment." This conclusion damaged the project's prospects, since Fort Morgan, a city of 8,000, stood directly downstream of the proposed dam.[49]

Killing the Narrows

Old and new critics of the project continued their attacks on the proposed project. Writing in response to sentiment to revive the Narrows project, Glenn Saunders criticized Reclamation for not modifying its design to meet requirements of the engineers studying the design back in the 1970s. They had indeed reported that a safe dam could be built at Narrows, but they also outlined a list of topics and issues needing resolution before the construction began. Saunders also referred to other problems of the dam, that it was too far downstream to be of much use for flood control, and that it would displace over 800 people from their homes. Even given what he considered the "facts" of the case,

[48] Acting Regional Director to Chief of Division of PTS, memo, August 1982, in RG 115, Accession 115-94-0228, Box 8, folder 28723-0.
[49] Acting Chief of Technical Review to Chief Design Engineer, memo, May 20, 1983, in RG 115, Accession 115-94-0228, Box 8, folder 28723-0.

opponents of the Narrows "realize our disadvantage in the propaganda war constantly carried on by the Bureau of Reclamation to keep itself alive."[50]

The U.S. Fish and Wildlife Service gave a heavy blow to the project when, on January 20, 1983, it issued a biological opinion stating that the dam and reservoir would negatively impact a 53-mile stretch of the South Platte in central Nebraska. The project might dry up wetlands downstream, affecting wildlife species dependent on a thriving, free-flowing river. Then there were other serious environmental impacts. The Environmental Protection Agency warned of contaminates flowing into the reservoir from partially treated sewage, waste of livestock, and pesticides and insecticides from thousands of acres of farmland. This, combined with the fact the repeated reservoir draw -downs by water users, would make the reservoir a stagnant cesspool unfit for recreation or use as a potable water supply. Seemingly, the environmental affects of the project were legion.[51]

Proponents of the project lobbied hard to breathe life into the dying project. They pressured Reclamation to find a way to make the project cost effective by adding hydropower to the list of functions served by Narrows. On the ten-year anniversary of initial appropriation for construction of the project, the Lower South Platte Water Conservancy District and proponents of the project pleaded with the subcommittee to move the Narrows forward. By then, however, the project was dying or dead. Congress

[50] Saunders to Donald Paul Hodel, Undersecretary of the Interior, January 19, 1982, in RG 115, Accession 115-94-0228, Box 8, folder 28723-0.
[51] Discussion Paper, Narrows Unit De-authorization, paper in possession of Reclamation's Denver office; Wallace, *Tin Lizard Tales*, 42-3.

denied the $5 million appropriation request. No serious proposal to push the project through Congress has since surfaced.[52]

In fact, in recent years certain politicians, environmental groups, and local landowners have supported deauthorizing the Narrows Unit. The idea behind deauthorization is that the likelihood of the project ever being reauthorized and funded is next to nil, and deauthorization would allow the United States government to sell project land to local landowners. Currently, Reclamation manages four tracts of land and leases them to local farmers and ranchers for agricultural purposes but cannot dispose of them until Congress deauthorizes the project. Reclamation is amenable to the idea, although at the time of this writing (2009), no specific legislation has been introduced for that purpose.[53]

Conclusion

In *Cadillac Desert*, Marc Reisner harshly criticizes the Narrows Dam and the Bureau of Reclamation for doggedly supporting the project. He critiqued everything from the site of the dam to the relocation of valley citizens to the utility of the water coming from a shallow, bacteria-infested pool. Perhaps his harshest criticism was reserved for the politicians and bureaucrats who doggedly pursued the project against all evidence to the contrary. That faith in growth for the sake of growth and water development for the purpose of not letting one drop go to waste has led some to push projects where there should be none. In Reisner's estimation, that misguided faith and all the accompanying ecological, social, and economic impacts is one of the major stories of the American West. Certainly, in many respects, Reisner is right. The project had a host

[52] See Acting Chief of Technical Review to Chief of the Division of Planning Technical Services, memo, March 6, 1984, in RG 115, Accession 115-94-0228, Box 8, folder 28723-0.
[53] Discussion Paper, Narrows Unit De-authorization, in Reclamation files.

of economic, environmental, engineering, and social problems that made even public supporters of the project like Colorado Governor Richard Lamm express serious reservations in private.[54]

The more interesting thing about the Narrows Unit than the rightness or wrongness of the project, however, is what it might reveal about the evolution of water politics and development in the western states. The project had been proposed at the apex of the Bureau's power and enthusiasm for large water projects. Over nearly four decades, the response to the dam shifted according to the prevailing mores and values of the time. From the beginning there was a group of landowners who opposed the project because they did not want to lose their land. Then there were the inter-county debates over where the dam ought to be located to promote the greater good. As Colorado's urban areas burgeoned in the postwar era, the notion that the state's agricultural interests should not have the remaining water on the South Platte gained currency. After project authorization in 1970, concern about the dam shifted to environmental, safety, and economic issues. Reclamation clung tightly to its original plan for an irrigation project in the South Platte Valley even as events eventually forced less emphasis on irrigation and greater focus not only on multiple use projects but water management and oversight. The Narrows project would be among the last large Bureau dam project considered and debated by the Congress.

[54] Reisner, *Cadillac Desert*, 432-4.

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