

Smith Fork Project

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The Smith Fork Project

When Congressional hearings for the Colorado River Storage Project (CRSP) took place in 1956, Senator Paul Douglas of Illinois, the learned and eloquent former University of Chicago economist, took offense at the notion of paying for reclamation projects on so-called "high-elevation, low-value" farmlands which were doomed to never grow more than cattle forage. The Smith Fork Project in the West Elk foothills of west-central Colorado, sitting at an average elevation of 6300 feet, was such a project. Watering these high desert farms with expensive Federal reclamation projects was a wasteful investment of taxpayers' dollars, claimed Douglas, for even after irrigation participating project lands such as Smith Fork's would not be worth more than a few hundred dollars an acre. The irrigation projects often cost over \$2,000 an acre (with interest). To CRSP opponents like Douglas, this was a poor use of taxpayers' money and constituted heavily subsidized agriculture.¹

Western legislators and local water proponents such as Colorado Congressman Wayne Aspinall and Crawford rancher Leslie Savage were well aware of the law of the arid West, however, which said that one never by-passes the opportunity to procure water. The Colorado River Compact of 1922 (which apportioned Colorado River flows between basin states) and the fact that Southern California had already received its share of Reclamation projects employing lower basin water, dictated that that opportunity was now - 1956. Water was owed upper basin states such as Aspinall's Colorado, so as point man for the region, he took the water - took it in the form of the eventual hard-fought passage in 1956 of the \$1.5 billion CRSP bill which also provided for controversial irrigation projects such as Smith Fork.²

Project Location

Smith Fork Project lands sit 73 miles southeast of Grand Junction, Colorado, and 60 miles west of the continental divide outside of the small town of Crawford in Delta County (1990 population: 221). The 8,770 acres of mostly irrigated pasture and alfalfa is surrounded by

1. Reisner, Marc. *Cadillac Desert*. (New York: Penguin Books, 1986), 143.
2. Reisner, 140-3; Fradkin, Philip L. *A River No More*. (New York: Alfred A. Knopf, 1981), 147, 251-2.

a west-central Colorado setting filled with prominent natural features. To the east, the gently rolling Smith Fork farm lands give way to the majestic peaks of the West Elk Mountains whose snowmelt fills area streams. To the south and west, the main stem of the Gunnison River cuts a chasm thousands of feet deep, forming the Black Canyon of the Gunnison National Monument. The landscape to the north includes Grand Mesa and the North Fork Valley and its fruit orchards, which are irrigated by the Reclamation-managed flows of the North Fork of the Gunnison River and its Paonia Project (also a CRSP participating project).³

The Smith Fork Project's main features include the Crawford Dam, which is located on Iron Creek, itself a small tributary (average annual flow: 12,200 af) of the project's namesake Smith Fork of the Gunnison River. The Smith Fork's flows are the prime supplier of the project and annually average 32,000 af. The stream is diverted into the Crawford Reservoir by the Smith Fork Diversion Dam and Feeder Canal. The Crawford Reservoir stores and regulates the flows of Smith Fork, Iron Creek, and other small tributaries and private irrigation ditches from which users draw their supply. The remainder of the water stock is released to the 5.8-mile Aspen Canal for delivery to additional private ditches. The Crawford Dam and Reservoir are located one mile south of Crawford, while project farms lie mostly on lands on the other side of town to the north.⁴

Due to an average elevation of approximately 6300 feet, a growing season of only 137 days, and annual precipitation of a scant 10.5 inches a year, Crawford farmers are primarily relegated to growing winter feed for the area cattle industry such as alfalfa, hay, corn, and barley, as well as providing pasturage for their own livestock. The area is comprised of no high-grade, Class 1 farmland and of only 30% Class 2 lands. As a result, the intensive, high-value, irrigated agriculture such as that which takes place nearby in the North Fork and Grand Valleys is not possible here.⁵

3. United States Department of the Interior, Bureau of Reclamation. *Smith Fork Project Annual History, 1936-1960*, 13.

4. Water and Power Resources Service, *Project Data*, (Denver, Government Printing Office, 1981), 1163-7.

5. United States Department of the Interior, Bureau of Reclamation, *Smith Fork Project, Colorado: A Supplement to the CRSP*, February, 1951, 30, 33; Reclamation, *Smith Fork Project History, 1938-1960*, 13.

Historic Setting

Prehistoric Setting

No evidence of a human presence in the West Elk foothills existed until the Ute Indians migrated into western Colorado from the Great Basin after 1600. The Utes were nomadic and aggressively territorial, singularly occupying the Colorado intermountain region for over two hundred years but for the opening of sporadic mountain mining camps in the late 1800's. Even so, their presence delayed large-scale white settlement in the region until driven on to reservations in southwestern Colorado and Utah in 1881.⁶

Historic Setting

The first European sojourns into the Crawford vicinity and the North Fork lowlands just to the north and west were undertaken by two Spanish parties in the 1760's and '70's. The Juan de Rivera expedition came into the region looking for gold between 1761 and 1765 but received disappointing reports from the Utes whom they traded with in the Delta area. Padres Francisco Dominguez and Silvestre Escalante also passed nearby, probably crossing the North Fork of the Gunnison at Hotchkiss while searching for a feasible route from Santa Fe to Monterey.⁷

Mexican independence effectively opened up these lands to American fur traders beginning in 1821. The river valleys of the area such as the Gunnison, its North Fork, the Uncompahgre, and the Colorado were found to be efficient trade routes by the trappers, with the high country offering plentiful hunting grounds. The Delta area served as the site of Fort Robidoux, a vital trade post linking the more populated New Mexico to the northern trapping grounds.⁸

A Federal presence first appeared in west-central Colorado in the 1850's when the Fremont and Gunnison expeditions attempted to locate mining opportunities and transportation routes in the area, and, after a delay due to the Civil War, again in the 1870's when United States

6. Reed, Alan D. *West-Central Colorado Prehistoric Context*. (Denver: Colorado Historical Society, 1984), pp. 13-42

7. Husband, Michael B. *Colorado Plateau Country Historic Context*, (Denver: Colorado Historical Society, (no date)), 2.

8. *Ibid.*

Geological Survey (USGS) parties mapped the area. Ferdinand Hayden, in particular, was responsible for much of the understanding of the West Elk region.⁹

Once the remaining Ute population was relocated to reservations in 1881, white settlement of the region picked up. Early commerce was based primarily on the search for valuable minerals. In the West Elk high country above Crawford, towns such as Tincup, Irwin, and Gothic quickly sprang up, played out their strikes - usually silver in this area - and then faded away. After this period the region turned to the more stable farming and livestock raising which helped develop towns. Delta, Montrose, Paonia, and Grand Junction appeared on the scene at this time. The land around Crawford was mostly public land used for grazing large herds of cattle and sheep in the summer, although much of these lands were soon purchased by ranchers and turned into smaller parcels. By the turn-of-the-century, the construction of railroads through nearby towns like Delta enabled farmers, especially the nearby fruitgrowers of the North Fork Valley, to more easily deliver their product to market. Ranchers in the higher, colder Crawford area, though, mostly provided for themselves, growing winter feed for primarily their own livestock.¹⁰

Authorization

The Crawford area landscape has long been criss-crossed by numerous private ditches and dotted with small reservoirs, but still incurred late season water shortages. Area streams were over-appropriated so farms without senior water rights often went dry in the late months when water was most needed. The lack of late season water and the short growing season sometimes allowed for only one pasture crop cutting. This limited area ranchers in the amount of livestock they could maintain. Early local water development proponents, men such as Leslie Savage, pointed out that supplemental, regulated irrigation could allow for up to three cuttings per season, as well as open up new lands.¹¹

A comprehensive, state-wide investigation of the feasibility of irrigation projects on

9. *Ibid.*, 3.

10. *Ibid.*, 17; Reclamation, *Smith Fork Annual Project History, 1938-1960*, 3.

11. Reclamation, *Smith Fork Project, Colorado: A Supplement to the CRSP*, 33.

Colorado intermountain agricultural lands took place from 1936-38. Reclamation engineer Frank C. Merriell was hired by the State of Colorado to conduct the survey. Original feasibility studies of the Crawford area lumped it in with the North Fork, or Paonia Project, being planned for a nearby valley. These initial investigations from 1936-38 discussed damsites in the Upper Smith Fork Basin which would be able to serve all the lands below without building a canal system, but all prospective damsites were rejected due to prohibitively expensive embankment and foundation construction costs.¹²

In 1947, at the behest of Crawford area farmers like Leslie Savage, Reclamation reinitiated feasibility investigations of the Smith Fork region. An alternative damsite along side a hogback one mile above the town of Crawford was deemed feasible. Although this site would require an expanded canal system, bringing the total cost of the Smith Fork Project to approximately \$3.3 million - a figure that was beyond the repayment capability of the Crawford Water Conservancy District (CWCD) - an alternative repayment scheme which would make the project affordable for area ranchers was in the offing.¹³

Being formulated at this juncture, was a huge, comprehensive, basin-wide plan for the Upper Colorado River that outlined the future development of the river's water and power resources. The Colorado River Storage Project (CRSP), as it was called, included four main dams along the Colorado and its tributaries that would generate electrical energy and store the river's wildly fluctuating flows. It was planned that energy revenue from these "cash register" dams would help pay for several, smaller, localized irrigation projects in the upper basin. These "participating projects," as they were called, included the Smith Fork Project.¹⁴

Engineered by local congressman and longtime reclamation champion, Wayne Aspinall, the CRSP and its participating projects was authorized on April 11, 1956. The CRSP's total cost of an estimated \$1.5 billion made it Reclamation's most expensive undertaking ever and the subject of pointed criticism by project opponents. The participating projects, too, drew fire for

12. Reclamation, *Smith Fork Project Annual History, 1938-1960*, 3.

13. *Ibid.*; Reclamation, *Smith Fork Project, Colorado: A Supplement to the CRSP*, 8.

14. United States Department of the Interior, Bureau of Reclamation, *The Colorado River: A Natural Menace Becomes a Natural Resource*, March, 1946, 2, 132.

their heavy subsidization. Projects such as Smith Fork were deemed worthless high-altitude, low-value irrigation projects that grew nothing more valuable than grass for what was already a national beef surplus.¹⁵

In spite of the acrimony surrounding passage of the CRSP, Smith Fork farmers now had a water project they could afford. Sharing in the power revenues of dams such as Glen Canyon and Flaming Gorge meant that the CWCD now only had to pay for approximately \$860,000 of the \$3.3 million project. The Upper Colorado River Development Fund picked up the rest of the tab (recreation, fish, and wildlife interests also repaid small amounts).¹⁶

Construction History

Construction funds were not appropriated for the Smith Fork Project until 1960, at which point bids were opened for what was to become a \$4.43 million job. Construction activities at Smith Fork were assigned to the Construction Engineer at the nearby, and as yet unfinished, Paonia Project, Paul Fetzner. Robert Jennings was the Project Manager. In fact, the same main contractor that was still in the process of building Paonia Dam, Bud King Construction Company, was also awarded construction of the Crawford Dam. Their low bid of \$1.93 million allowed them to begin construction in October, 1960. Bud King was also selected to build the earthworks and structures for the Aspen Canal, which they started work on in April, 1961. As work was finished at Paonia, equipment and personnel moved to Crawford. Having submitted the low bid for the Smith Fork Diversion Dam and Feeder Canal, the Riverside Corporation began construction in August, 1961.¹⁷

Bud King Construction finished construction of the Crawford Dam two years later in October, 1962. The zoned earthfill structure is 162 feet high and 580 feet long with a volume of 1,006,000 cu-yds. The uncontrolled overflow spillway is on the left abutment of the dam and has a design capacity of 1,400 cfs. The outlet works in the right abutment carries water through a 34-inch diameter steel pipe controlled by four 2.25-foot-square high pressure gates. Maximum

15. Reisner, 140-3.

16. Reclamation, *Smith Fork Project Annual History, 1938-1960*, 6; Reisner, 140-3.

17. Reclamation, *Smith Fork Annual Project History, 1938-1960*, 19, 23, 31; Reclamation, *Smith Fork Project Annual Project History, 1961*, 4-5.

discharge capacity to Aspen Canal is 125 cfs. The 14,395 af Crawford Reservoir formed by Crawford Dam covers a surface area of 406 acres.¹⁸

Located about three miles northeast of Crawford, the Smith Fork Diversion Dam and Feeder Canal was built by Riverside Corporation to convey a portion of the stream's flow into the reservoir. The diversion dam is at the head of the feeder canal and consists of a concrete ogee weir and embankment wings. The dam stands 10 feet high, has a weir crest length of 34 feet, and a total crest length of 790 feet. The structure has a diversion capacity of 80 cfs.¹⁹

The earth-lined Aspen Canal begins at the dam and stretches mostly northerly for a length of 5.8 miles, feeding private ditches and small creeks from which users draw their supply. The canal, also dug by Bud King Construction, has a bottom width of 10 feet and an initial capacity of 60 cu-ft-sec. It was finished in April, 1962.²⁰

At Smith Fork Project dedication ceremonies at Crawford Reservoir the next spring, on April 20, 1963, amidst chilled water-skiers demonstrating their skills on the half-filled reservoir and the local high school band blaring away, Reclamation Commissioner Floyd Dominy honored long-time, local water backer Leslie Savage as the "Father of the Smith Fork Project." Wayne Aspinall, the "Father of the CRSP," looked on proudly as well.²¹

Post-Construction History

After the Smith Fork Project was finished in the spring of 1963, it encountered few setbacks. The operation and maintenance of the project works over subsequent years concerned itself primarily with the diversion dam, where the feeder canal headworks was accumulating large amounts of debris which created slowdowns in flowage. CWCD project managers had a few options in solving the problem. They could try installing a rod or rail-type deflector to bypass the debris, alter the stream channel in hopes that it would change the effect of the in-coming debris, or lastly, submit for the funds to rebuild the headworks at an estimated \$50,000. When variations of the two former options were tried unsuccessfully, the CWCD applied to the federal

18. Reclamation, *Smith Fork Project Annual History, 1963*, 5; *Project Data*, 1167.

19. *Ibid.*

20. *Ibid.*

21. Reclamation, *Smith Fork Project Annual Project History, 1964*, 12.

government for the funds to redesign and repair the headworks. In 1966, Congress appropriated the necessary funds for a new, Reclamation-designed, radial gate sluiceway. No similar problems were encountered thereafter.²²

The search for alternative energy sources in the 1970's and '80's brought hydroelectricity developers seeking potential sites knocking on the door of the CWCD, just as they did at many other possible sites around the West at this time (such as the neighboring Paonia Project). Preliminary feasibility study permits for Crawford Dam were released to developers in 1982. However, the CWCD had reservations about another party fiddling with their project, believing that the large summer releases that accompany a hydropower plant would draw down the reservoir to insufficient levels. The water district filed a petition to intervene and further hydropower studies were effectively blocked.²³

Otherwise, the Smith Fork Project operated relatively smoothly over the years, with "things pretty much staying the same" as a project manager commented in 1995. Among other things, the project survived the drought of 1976-77, when releases were 50% of normal (neighboring projects such as Paonia were forced to borrow water from other sources); was the site of a Reclamation-sponsored seepage prevention experiment, in which a wax emulsion substance was coated on canal walls with some favorable results; and was a popular recreation destination where boating, swimming, fishing, and camping took place.²⁴

Settlement of the Project

The Smith Fork Project opened up an estimated 1400 acres of new land to irrigated farming. These lands were scattered tracts that were mostly added to ranches currently in operation. The Crawford area has a stable rural population, with approximately 140 farms in the district using project water. Some subdivision of land is beginning to take place.²⁵

Uses of Project Water

22. Reclamation, *Smith Fork Project Annual History, 1965-66*, 2,5.

23. Reclamation, *Smith Fork Project Annual History, 1982*, 17.

24. Telephone Interview with John Cunningham, Manager, Crawford Water Conservancy District, September, 12, 1995; Reclamation, *Smith Fork Project Annual History, 1977*, 34; Reclamation, *Smith Fork Project Annual History, 1965*, 5; *Project Data*, 1166.

25. *Project Data*, 1163.

By the 1990's, Crawford Reservoir supplies served the nearby agricultural community in a predominately supplemental capacity. The irrigation water was used mostly to grow alfalfa and pasturage on approximately 9,000 acres. Gross crop values averaged just over \$100 an acre (as compared to the nearby Grand Valley, where they grow fruit and average about \$2000 an acre). A negligible amount of water goes to the town of Crawford for drinking water. No flood control benefits result from the project. Recreation activity on Crawford Reservoir, including fishing, camping, and boating, averaged about 50,000 annual visitor days.²⁶

Conclusion

Built as a participating project in the Colorado River Storage basin-wide plan, Smith Fork might not have come to fruition by any other means. In the West, one takes any opportunity for water that presents itself, for water is a scarce, expensive, and valuable commodity that might not become available again. The CRSP was just that sort of chance for upper basin states, Congressman Aspinall and local water proponents like Crawford's Leslie Savage. The participating projects such as Smith Fork were able to "ride the coattails" of the big "star" projects of post-war, western water development - the huge, revenue-producing dams like Glen Canyon and Flaming Gorge. High-altitude farmers never could have possibly paid for their local projects without sharing in the Upper Colorado River Development Fund receipts. In any case, the complex and esoteric rules of Washington, D.C., the Colorado River Compact of 1922, and the West in general, dictated that water was owed Upper Colorado River Basin residents, even farmers in the west-central Colorado high country straddling a little Colorado River tributary, the Smith Fork of the Gunnison River. Not ones to pass up such an opportunity, they took it. Gladly.

26. *Project Data*, 1163-7; United States Department of the Interior, Bureau of Reclamation, *1990 Summary Statistics: Land, Water, and Related Data*, (Denver, 1990), 69.

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