

Lyman Project

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The Lyman Project

In the far southwestern corner of Wyoming an alpine valley sits nestled between the Unita Mountains in the south and the Green River Basin in the north. From the high Unita Mountains, streams and creeks tumble and fall down the mountain slopes through the Bridger Valley into rivers below, bringing water to the arid plains of the Green River Basin. Pines and aspens line the paths of these silvery ribbons and a host of wildlife crowd to drink at their banks. It is hard to imagine that westward bound pioneers would leave this beautiful valley, once they had discovered it, to move on to California, Oregon, or Utah.

Some pioneers did eventually settle there, fanning out around an old trading station built by mountain men and later converted into a military fort by the Army. This hardy collection of men and women raised crops and livestock for sale to the seemingly never-ending stream of westward bound pioneers. Irrigation of their farms and ranch lands was critical for the success of their small, but important industry, for though there was more water in the Bridger Valley than most places in Wyoming, its use could be maximized if carefully planned in the dry months. As time passed, the original system of irrigation to be developed grew increasingly insufficient to supply the growing needs of the farms surrounding the little town of Lyman in the Bridger Valley. The Bureau of Reclamation played an important role in maximizing the water resources of the high Unitas, through the development of storage projects, to support the farmers and ranchers who depended upon its supply in the Valley below.

Project Location

The Lyman Project provides supplemental irrigation water to the Bridger Valley in the southwestern corner of Wyoming, though the Project waters flow from the Unita Mountains within the borders of the state of Utah. Blacks Fork and Smiths Fork, both tributaries of the

Green River, running north through the Bridger Valley, supply the water for the storage units. The towns bounding the Project include Mountain View (population 1,189) and Lyman (population 1,896), named after an early Mormon settler. Evanston (population 10,903), the seat of Unita County, Wyoming, (population 18,705), is the largest town in proximity to the Project, 37 miles west. The average annual rainfall is 11 inches, which is greater than most places in Wyoming. The Project storage units are in the Unita Mountains at an elevation between 8,500 feet to 9,300 feet above sea level, though the Bridger Valley, to which the Project delivers irrigation water, is only between 6,000 feet and 8,000 feet above sea level. Annual temperatures can range from 100 degrees Fahrenheit to negative 30 degrees Fahrenheit, with an annual mean temperature of 41 degrees Fahrenheit. Because of the high altitude and harsh climate, the growing season is around 90 days.¹

Historic Setting

The Bridger Valley, “...a large splotch of green in the midst of desert country...”², has played an important role in the settlement of the West. The resources the Valley has offered include minerals, fur-bearing animals, and rich pastures and farmlands. It was here that mountain men set up one of the first trading posts in Wyoming, which became an important link in the trail to the west coast. It was at this trading post, called Fort Bridger, that Wyoming gained some of its first permanent settlements, where Wyoming was first farmed, and where its first irrigation projects began.³

Prehistoric Setting

The Bridger Valley is at the edge of the Wyoming Basin, an arid region surrounded by

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1. www.census.gov, accessed 24 July 2000; Denver, National Archives and Records Administration, Rocky Mountain Region, Records of the Bureau of Reclamation, Record Group 115, Project Histories, *Lyman Project, Wyoming, Volume I* (Denver: United States Government Printing Office, 1963), 1, 8.
 2. Pitcher, Don, *Wyoming Handbook* (Emeryville: Avalon Travel Publishing, Inc.: 2000), 191.
 3. Pitcher, 191.

the Columbia Plateau, the Great Basin, and the Great Plains. It is the next stop west from the South Pass on the pioneer trails to Utah, California and Oregon. Archaeological evidence indicates that early residents of the Bridger Valley were small extended family groups of hunter-gatherers who subsisted primarily on bison. By A.D. 1500, the Wyoming Basin was dominated by the Shoshone tribe, although, Ute and Crow tribes conducted forays into the Valley on occasion. With the arrival of European explorers in the mid 1600's, the Shoshone integrated horses and European weapons and technology into their lifestyle. The acquisition of horses provided them with greater mobility in their search for sustenance. Eventually, however, the Shoshone of the Wyoming Basin, in addition to the other surrounding tribes, came into conflict with migrant settlers and were forced onto reservations in the late 1800's.⁴

Historic Setting

The first Anglo to set foot in Wyoming was John Colter who, in 1806, left the Lewis and Clark Expedition and went with several others to explore further south. Although Colter did not explore as far south as the Bridger Valley, he opened the door for further exploration. William Price Hunt's group of Astorians (employees of John Jacob Astor's fur trading company in the Pacific Northwest) traveled overland in 1811, on their way to the Oregon Coast, by way of the South Pass; the first time any Anglos had done so. This subtle depression in the Rockies was one of the few easy passage ways through the rugged Rocky Mountains and was in frequent use by the late 1840's. In the 1820's, mountain men, like James Bridger and Jedediah Smith, found their way into the Bridger Valley and trapped for fur at the streams that coursed over its landscape. The names of the creeks in the Bridger Valley, such as Blacks Fork and Smiths Fork,

4. Sturtevant, William C., *Handbook of North American Indians, Volume 11* (Washington, D.C.: Smithsonian Institution, 1986), 308-9.

are taken from the men in Jedediah Smith's trapping party in 1824.⁵

By 1839, James Bridger, for whom Bridger Valley is named, probably the most famous of all mountain men, and his partner Louis Vasquez, established a trading post at the confluence of Big Sandy Creek and the Green River. Whether it was foresight that caused him to choose the location, or just blind luck, by 1841, pioneers began migrating west along the Oregon Trail which ran over the South Pass right through the Bridger Valley and close to the trading post. Bridger moved his trading post to an even more convenient site in 1843, on Blacks Fork of the Green River; the current site of Fort Bridger. Unfortunately, Bridger's financial success led to some jealousy on the part of the Mormons, who passed through the Valley in 1847 on their way to Utah and left a settlement party there to assist other Mormon pioneers on their journey west. Brigham Young, leader of the Mormons, ordered the local Mormon authorities to arrest Bridger on the pretext of his sale of firearms to the Ute Indians which they used to harass the Mormons. Bridger managed to escape arrest and traveled to Fort Laramie. The Mormons built their own trading post, Fort Supply, twelve miles south of Bridger's trading post and took over the sale of supplies to the pioneers moving west.⁶

In 1853, at Fort Supply, the first irrigation system in Wyoming began serving the Bridger Valley just south of the present town of Robertson. The Mormons established an efficient system of irrigation canals to divert water from Blacks Fork and Smiths Fork to irrigate their hay fields and farms. In 1855, the Mormons took over the empty buildings left at Fort Bridger until a frustrating conflict with the Army prompted the Mormons to burn both Fort Supply and Fort Bridger, as opposed to handing them over to the military. By 1858, the Army had taken

5. Larson, T. A., *Wyoming, A Bicentennial History* (New York: W. W. Norton & Company, Inc., 1977) 9-39; Pitcher, 191-5.

6. Department of the Interior, Bureau of Reclamation, *Project Data* (Denver: United States Government Printing Office, 1981), 597; www.swchm@sweetwater.net, accessed on 3 July 2000; www.kcpl.lib.mo.us accessed on 25 July 2000; Larson, 9-39; *Lyman Project, Wyoming, Volume I*, 1; Pitcher, 191-5.

possession of what was left of the old trading post founded by Bridger and converted it to a military garrison to protect the pioneers from the increasingly hostile attacks of the Shoshone, Cheyenne, Arapaho, and Lakota along the Oregon Trail. The Army recognized Bridger's original claim to the old trading post (Bridger had since settled on a farm in Kansas), kept the name Fort Bridger, and paid him \$600 a year to lease the property until his death in 1881.⁷

By the late 1860's, after several gold rushes in the West had attracted hordes of westward bound pioneers looking to get rich quick, it was clear that the Indians were on the losing end of the conflict with the Anglos. Most of the Shoshone and portions of several other tribes were summarily moved to the Wind River Indian Reservation in western Wyoming in 1868, opening up more land for settlement. By 1869, the transcontinental railroad was completed, passing through the nearby town of Evanston and bringing even more permanent settlers. As ranching began to take root as the leading industry in the Green River Basin, more and more settlers migrated to the valley instead of through it. As a result, further irrigation was needed to support the growing industry. New settlers used and expanded the still functioning irrigation system the Mormons built in the 1850's and which their ancestors continued to use. In 1891, cooperative irrigation began with the formation of the Blacks Fork Canal Company and the Fort Bridger Company. Other companies soon followed and the Bridger Valley boomed with livestock and crops.⁸

The need for irrigation continued to increase until the early 1900's, when it became apparent that too much water was being diverted and Blacks Fork and Smiths Fork were running dry. In 1919, the Unita County Farm Bureau, concerned landowners of Unita County, and Senator John B. Kendrick all wrote Reclamation Service Director, Arthur P. Davis, to inquire

7. Pitcher, 191-5.

8. *Project Data*, 597; *Lyman Project, Wyoming, Volume I*, 1; Larson, 55, 67-73; Pitcher, 191-5.

after existing investigations and request further studies into the construction of reservoirs for the storage of water for irrigation in the Bridger Valley. A 1933 report indicated that although the Bridger Valley was indeed in need of a water storage project, it could not be built in the near future because of the probability that repayment of the construction of the project by water users would not be sufficient to cover the entire cost. But in 1946, the possibility of a project in the Bridger Valley was revived and included in a report on the Colorado River. Further studies in the early 1950's yielded a more positive outlook on actual construction of a project, but it would not be until the 1960's that ground was actually broken on its construction.⁹

Project Authorization

The Lyman Project, named after the town of Lyman, the closest to the Project, was authorized as a participating project in the Colorado River Storage Project Act (CRSP), April 11, 1956. As a part of CRSP, the concern over repayment of construction costs to build the Lyman Project was addressed. According to the stipulations of CRSP, participating projects could utilize revenue generated by the sale of hydropower on the larger projects, like Glen Canyon Dam, to cover the cost of repayment that was not paid by water users in the smaller irrigation districts. Once repayment was no longer an issue, plans to proceed with construction of the Lyman Project began.¹⁰

Construction History

9. Denver, National Archives and Records Administration, Rocky Mountain Region, Bureau of Reclamation, Record Group 115, *Letter from Unita County Farm Bureau to Reclamation Service, November 15, 1919*; Denver, National Archives and Records Administration, Rocky Mountain Region, Bureau of Reclamation, Record Group 115, *Letter from A. P. Davis, Reclamation Service Director to Senator John B. Kendrick, November 15, 1919*; Denver, National Archives and Records Administration, Rocky Mountain Region, Bureau of Reclamation, Record Group 115, *Letter from Congressman Frank Mondell to A. P. Davis, Reclamation Service Director, December 19, 1919*; Department of the Interior, Bureau of Reclamation, *Annual Report of the Secretary of the Interior* (Washington, D.C.: United States Printing Office, 1933), 36; *Project Data*, 597; *Lyman Project, Wyoming, Volume I*, 1.

10. Department of the Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws, Annotated, Volume II* (Washington, D.C.: United States Government Printing Office, 1972), 1248; Pitcher, 191-5.

After close to 50 years of investigation and discussion, the Bureau of Reclamation finally constructed the Lyman Project. Irrigation had been present in the Bridger Valley since 1853, thanks to the Mormons, but it was not enough to support the growing population and industry of the Bridger Valley. Once constructed, the Lyman Project included two dams and reservoirs and a canal system to provide supplemental irrigation to farms in the Bridger Valley.

On May 13, 1966, Reclamation awarded the contract to construct the first of the two dams, Meeks Cabin Dam, to W. W. Clyde and Company from Utah and construction began June 1, 1966. The Dam was completed in 1971 and first storage at Meeks Cabin Reservoir occurred the same year. Meeks Cabin Dam is a zoned earth and rockfill dam. Located on the Blacks Fork River two miles north of the Wyoming-Utah state border and 22 miles southwest of Fort Bridger, it contains 3,587,000 cubic yards of earthen material. The Dam is 184.5 feet high, with a crest length of 3,162 feet, and a width of 30 feet. The outlet works include an uncontrolled concrete overflow crest spillway with a discharge capacity of 6,250 cubic feet per second, an eight foot diameter conduit gate chamber and a 9.5 foot diameter horseshoe conduit with a discharge capacity of 1,070 cubic feet per second. The Meeks Cabin Reservoir holds 32,470 acre-feet of water, of which 29,480 acre-feet is active capacity. The surface area of the Reservoir is 473 acres. Water flows north from Blacks Fork into Meeks Cabin Reservoir and is released into Blacks Fork and a series of canals that distribute water to Lyman and Mountain View.¹¹

Construction of the second dam and reservoir, located at China Meadows in Utah, was delayed due to environmental concerns. On April 18, 1972, a public meeting was held on the environmental aspects of the feature being constructed at China Meadows. Concerned citizens objected to the projected changes in landscape and the loss of big game habitat caused by the

11. *Project Data*, 598.

flooding of the Meadows. At the request of the Governor of Utah and other political officials, Reclamation sought another damsite and investigated the East Fork of Smiths Fork downstream from China Meadows. After several years of investigation, the Stateline site, just downstream from China Meadows and one half mile south of the Utah-Wyoming border, was found to be the best alternative.¹²

In March of 1977, construction on Stateline Dam began by the contractor S. J. Groves & Sons Company. The contractor completed Stateline Dam in 1979, and first storage occurred the same year in Stateline Reservoir. Stateline Dam is a zoned earthfill dam located on the East Fork of Smiths Fork one half mile south of the Wyoming-Utah border in Utah. It contains 1,456,000 cubic yards of earthen material, is 134 feet high, with a crest length of 2,900 feet, and a width of 30 feet. The outlet works include an uncontrolled concrete morning glory drop inlet spillway with a 14.5 foot diameter concrete conduit through the dam at the right abutment with a discharge capacity of 5,850 cubic feet per second and a gate chamber, control house, and stilling basin with a discharge capacity of 400 cubic feet per second. Stateline Reservoir contains 14,000 acre-feet of water of which 12,000 acre-feet is active capacity. The surface area of the Reservoir is 300 acres. Water flows from the East Fork of Smiths Fork into Stateline Reservoir and is released into East Fork and a series of canals that distributes water to Lyman and Mountain View.¹³

Irrigation water is delivered to the Bridger Valley (specifically the farms around Lyman and Mountain View) via a series of previously existing canals that include Blacks Fork Canal, Smiths Fork Canal, Bridger Canal, Twin Buttes Canal, Von Kleet Canal, Unita Canal, and Pine

12. Denver, National Archives and Records Administration, Rocky Mountain Region, Bureau of Reclamation, Record Group 115, *Lyman Project, Wyoming* (Denver: United States Government Printing Office, 1989), 15; Department of the Interior, Bureau of Reclamation, *Lyman Project: Wyoming, Definite Plan Report Supplement* (Denver: United States Government Printing Office, 1976), 1.

13. *Project Data*, 598.

Grove Canal.¹⁴

Post Construction History

The Lyman Project was dedicated on September 24, 1981, after a two year delay in filling the Stateline Reservoir due to insufficient runoff in the East Fork of Smiths Fork. In 1983, the outlet works at Meeks Cabin Dam needed repairs which were completed by W. R. Henderson Construction Company on October 14, 1983. Further reviews have indicated a need to place seepage monitoring instruments on both dams, but no further repairs have been necessary.¹⁵

Settlement of Project Lands

All lands serviced by the Lyman Project lie within the state of Wyoming. Because the farms serviced were already in existence and had been receiving irrigation water, some since the 1850's, there was no land to be settled. The operation and maintenance of the Project is administered by the Bridger Valley Water Conservatory District, established May 14, 1959.¹⁶

Uses of Project Water

The Lyman Project provides supplemental irrigation water to the Bridger Valley. Of 41,196 irrigable acres, 37,916 acres actually receive water. Total gross crop value on the irrigated acres is around \$2,271,088, an average of \$60.99 per acre. Total farms served is 180 with a population of 611. Crops produced include barley (75 acres), oats (210 acres), alfalfa (1,220 acres), grass hays (16,945 acres), and irrigated pasture (18,740 acres). Because of the increase in irrigation service since the inception of the Project, the Bridger Valley has

14. *Project Data*, 596. *Lyman Project, Wyoming, Volume I*, 3.

15. *Lyman Project, Wyoming* (1989), 17-8.

16. *Lyman Project, Wyoming* (1989), 15.

significantly increased its range of livestock feed by growing more than just grass hays.¹⁷

In addition, the Lyman Project provides municipal and industrial water services to Lyman and Mountain View in the amount of 1,500 acre-feet per year, serving 3,853 persons.¹⁸ Recreational services are provided by the U.S. Forest Service in the Wasatch National Forest at Meeks Cabin Reservoir in Wyoming and Stateline Reservoir in Utah. Activities include picnicking, camping, fishing, and boating. Annually, visitation to the reservoirs include 3,600 persons to Meeks Cabin Reservoir and 3,500 persons to Stateline Reservoir.¹⁹

Conclusion

The Lyman Project is one of Reclamation's more recent construction efforts. An odd fact considering it is one of the oldest irrigation sites in the West. Since 1853, the Bridger Valley, courtesy of the Mormons, has received irrigation water to supplement crop production. But it was not until the Project's inclusion in the Colorado River Storage Project that funding was available for construction of a formal, government-sponsored, storage project. Once built, however, the Lyman Project has faithfully served the Bridger Valley, making it more productive for raising crops and serving the people of Lyman and Mountain View with their municipal water supply. The Project is also a testimony to the concern Reclamation has developed over the impact of its projects on the environment. As a result of this concern, the Lyman Project was not built as originally planned, due to the possible adverse environmental impact on China Meadows. Though small and serving just the Bridger Valley, the Lyman Project is an excellent synthesis of Wyoming's oldest, privately funded irrigation project and one of Reclamation's newer storage projects.

17. Department of the Interior, Bureau of Reclamation, *1992 Summary Statistics* (Denver: Water, Land, and Cultural Resources, 1992), 32, 53, 61, 64, 233.

18. *Lyman Project, Wyoming* (1989), iii; *Summary Statistics*, 64.

19. *Summary Statistics*, 110-1, 115; *Project Data*, 597-8.

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