

# **Preston Bench Project**

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# **The Preston Bench Project**

The Preston Bench Project does not number among Reclamation's most well-known projects. A small project with few significant features outside of an irrigation canal, the privately constructed portions of the project date back to the late nineteenth century, a situation not entirely unheard of on a Reclamation project but still rather rare. The local water users requested Reclamation's assistance when repair costs on the canal exceeded the scope of the project. Reclamation stepped in to make the necessary repairs, salvaging the project. Though Reclamation's impact did not extend much further than the immediate vicinity of the project, the water users realize the importance of the project to the local economy.

## **Project Location**

The Preston Bench Project, located near the town of Preston in southeastern Idaho, consists of the Mink Creek Canal and the Station Creek Tunnel. Mink Creek, which captures the drainage of nearly thirteen square miles above the canal, provides the only water supply for the Mink Creek Canal, which in turn depends upon the natural flow of the stream. During the irrigation season the entire flow of the stream derives from natural springs located about four miles upstream from the headworks of the canal. The canal and tunnel supply irrigation water to over 5,000 acres of highly developed land in the vicinity of Preston, Idaho.<sup>1</sup>

## **Historic Setting**

### **Prehistoric Setting**

Based on carbon dating of numerous archeological finds scientists believe that habitation of southern Idaho dates back at least 14,000 years. Largely nomadic, these early Idaho visitors

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1. United States Department of Interior, Water and Power Resources Service, *Project Data*, (Denver: U.S. Government Printing Office, 1981), 1029; Denver Colorado. National Archives and Records Administration: Rocky Mountain Region. Records of the Bureau of Reclamation. Record Group 115. "Annual Project History, Preston Bench Project, Idaho," 1950-9, Volume II, 5.

hunted big-game animals, including elephants, bison, and camels, most of which later became extinct. For the most part these early people lacked domestic animals, horticulture, or permanent villages, they subsisted off of the land by harvesting available plant and animal resources. Archeologists believe that these early bands remained small, comprised of extended nuclear families. Little evidence remains of these earliest nomadic tribes. The minimal surviving evidence of their use of the natural resources of the region remains in sporadic sites throughout the area.

Archaeologist speculate that one of the most well known of Idaho's native inhabitants, the Shoshone, arrived, or at least traveled through the region, beginning as early as the fifteenth century, however they lack sufficient evidence to substantiate their hypothesis. Substantiated evidence traces their presence to the early nineteenth century. The largest surge of Shoshone occupation occurred in the late eighteenth century when the Blackfoot tribe, armed and newly horse-mounted, drove them from the High Plains.<sup>2</sup>

### **Historic Setting**

Historians and archaeologists estimate that the European colonization of the Americas impacted the Shoshone long before either group knew of the others existence. Researchers estimate that the horse reached the Shoshone in the late seventeenth century, filtering northward from the Spanish settlements in the southwest along the western edge of the Rocky Mountains. With the aid of their new mounts the Shoshone spread beyond the Rockies into Montana and as far north as Canada in search of buffalo. The equestrian period also saw the splitting off and migration southward of other Shoshone who became known as the Comanche.

Newly mounted populations throughout the West fought for hunting territories and horses

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2. William C. Sturtevant, ed, *Handbook of North American Indians*, Vol. 11, *Great Basin*, Warren L. D'Azevedo, ed, (Washington, D.C.: Smithsonian Institution, 1986), 127-34.

as Anglo settlers moving westward caused turmoil throughout the plains. The introduction of both British and American fur trappers and traders in the nineteenth century only seemed to exacerbate the situation. In 1807, the North West Company founded a trading post at the junction of the Big Horn and Yellowstone rivers. Not to be outdone, David Thompson, a British trader, established a post on Pend Oreille Lake in northern Idaho in 1809. Other British and American posts followed with some regularity for the next few years. By 1818, the North West Company and Peter Skene Ogden of the Hudson's Bay Company concentrated their efforts in the Snake River drainage, exploiting the natural resources found there. The Rocky Mountain Fur Company followed in 1823. Though these new residents disrupted the native life, both human and animal, and destroyed the beaver, the more literate of them left behind journals which became the major sources of information on the native inhabitants.

The Shoshone traded extensively with the Anglos at the annual summer rendezvous which took place throughout the region, including at Pierre's Hole in southeast Idaho, however they did not engage in the fur trade to the extent that some of their Canadian counterparts did. The fur trade collapsed by roughly 1840, with the beaver hunted out of the region and a declining fashion for beaver hats. During the same period, the fur trappers and native Americans hunted out the remaining buffalo herds west of the Continental Divide, by 1840 the herds disappeared from the Green and Snake River areas.

Just as the fur trade ended, the Westward migration to Oregon and California began. The Oregon Trail went over South Pass, Wyoming, passed through or just north of Fort Bridger, ascended the Bear River to Soda Springs, Idaho, and then turned west along the Snake and Boise rivers. By 1850, what started as sporadic migration became relentless. For the most part, the Shoshone spent the summer emigration season scattered in hunting activities and rarely

encountered the travelers.<sup>3</sup>

Anglo settlement of the Preston Bench area began as early as 1860 when members of the Mormon faith moved to Franklin, Idaho, with their families. An outgrowth of the initial colonization of Salt Lake City, Utah, in 1847, these early settlers moved outward onto the varied valleys of Utah and adjoining states, including Idaho, Nevada, and Arizona. These early Idaho residents moved away from Salt Lake City in an effort to expand the territory of Deseret and find land more suitable for agriculture. Most of these settlements required construction of forts for protection.

Settlement of Preston, Idaho, the nearest town to the project, began in 1877, though settlement of the project area started as early as 1866. Diary accounts tell of locating these early settlements at the base of mountain canyons or along streams allowing for diversion of water to irrigate farm lands, pastures, and gardens.

In 1889, the Preston, Riverdale, and Mink Creek Canal Company developed the first large scale irrigation project on the Preston Bench. Organized in the late 1880s to construct a canal bringing water from Mink Creek to irrigate lands in the Riverdale area and on Preston Bench, the canal company constructed the Preston, Riverdale, and Mink Creek Canal from 1889 to 1899. This original canal ran along the Bear River Bluffs, turning southward onto the Preston Bench. Thirty years later, during the winter of 1919-1920, a landslide destroyed about 850 feet of the canal necessitating repairs. Hoping to prevent further destruction, the canal company constructed a new section of the canal around the slide area and lined it with concrete.

Unfortunately, another slide in the winter of 1920, demolished the new concrete section. The unstable soil conditions of the Bear River Bluffs caused additional catastrophes in 1921, 1922,

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3. Sturtevant, 300-3.

1926, 1935 (when a tunnel caved in), 1936, 1937, 1941, and 1943, with evidence of an impending slide in 1946 and 1947. The repeated slides resulted in high repairs costs for the canal company leaving it on the verge of bankruptcy and unable to restore the canal for operation, leaving water users without irrigation water for the upcoming seasons. As a result, the canal company requested Reclamation's assistance to repair the structure. Due to the severity of the situation Reclamation proceeded without delay to investigate the situation and issue a report on their findings.<sup>4</sup>

### **Project Authorization**

Due to the imminent loss of water supply to the irrigators on Preston Bench, Reclamation undertook an investigation of the area and issued a report recommending construction of a new canal and tunnel through different terrain. Based on Reclamation's report Congress authorized construction of the Preston Bench Project in the act of June 15, 1948.

### **Construction History**

The Preston Bench Project consists of the fifteen-mile long Mink Creek Canal and the 1,125-foot Station Creek Tunnel. With a diversion capacity of thirty-six cubic feet per second (cfs), the canal extends from Mink Creek, nine miles above its confluence with the Bear River, southward to Worm Creek northeast of Preston. A concrete-lined six and one-half foot horseshoe tunnel, the Station Creek Tunnel pierces a prominent divide between Station Creek and Worm Creek. Project water travels from Mink Creek through the Mink Creek Canal and the Station Creek Tunnel to Worm Creek. From Worm Creek water is diverted into privately built laterals and conveyed to project lands.<sup>5</sup>

Reclamation constructed the Mink Creek Canal to replace the fifty-year old privately

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4. "Annual Project History, Preston Bench Project, Idaho," 1960-4, Volume III, 1-2.

5. *Project Data*, 1029.

constructed Preston, Riverdale, and Mink Creek Canal which supplied irrigation water to 4,050 acres of highly developed land in the vicinity of Preston, Idaho. The old canal diverted from Mink Creek, a tributary of the Bear River, and extended roughly twenty-two miles along steep terrain before emerging onto the smooth bench lands it served. The last three-miles of the canal traversed the Bear River Bluffs, north of Preston, where recurrent land slides destroyed several sections of the canal. By 1946, the Preston, Riverdale, and Mink Creek Canal Company, a mutual irrigation organization that owned and operated the old canal, fell deeply into debt making expensive repairs. They lost hope of maintaining water supply and as a result the irrigators associated with the company faced financial disaster.<sup>6</sup>

Reclamation began surveys for construction of the new Mink Creek Canal in July of 1948. At the end of August, Reclamation issued the specifications and invitations for bids on the first portion of the project, an open-cut excavation and a twelve-foot long tunnel at the inlet portal of the Station Creek Tunnel. This excavation exposed the rock in the tunnel zone allowing prospective bidders to examine the rock prior to bid. Reclamation awarded the contract to Ross W. Telford of Preston, Idaho, on September 11, 1948.

Telford began work on September 17, 1948. In addition to the open-cut excavation, the contractor excavated a ditch along the upper side of the waste material created by the tunnel, to provide for drainage of the run-off which originated on the adjacent hillside. The contractor also constructed a roadway along the west side of the portal cut to replace an old road partially in the excavated area. Telford completed all work on the contract October 1, 1948.<sup>7</sup>

Reclamation issued specifications and invitations to bid for construction of the Station Creek Tunnel and the Mink Creek Canal on September 3, and 13, 1948, respectively. To

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6. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 1.

7. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 5, 6-7.



expedite construction and lower bids, Reclamation divided work on the Mink Creek Canal into three separate sections and contract schedules, each about five miles long. Section-one extended from Mink Creek to Birch Creek, section-two from Birch Creek to Bear Creek, and section-three from Bear Creek to the Station Creek Tunnel.

Reclamation awarded the contract for construction of the Station Creek Tunnel to Thatcher Construction Company of Ogden, Utah, on October 12, 1948. The contractor began work on October 14, 1948, continuing the open-cut excavation began by Ross Telford. During excavation the construction company opened a small spring near the inlet portal and near the tunnel grade. Most of the work on the inlet portal was completed by mid-December 1948 and the contractor began excavation of the tunnel on December 15. On January 30, 1949, the construction company began excavation of the tunnel from the outlet end. The tunnel was holed through on March 14, 1949. After completion of the tunnel excavation the contractor began lining it with concrete. After finishing concrete operations the construction company installed a concrete outlet drain 400-feet long and six-inches in diameter leading from the tunnel to Worm Creek. In addition, the contractor installed weep pipes in the inlet portal to prevent any accumulation of water from the small spring discovered during excavation. Thatcher Construction Company satisfactorily completed all work under the contract on July 9, 1949.<sup>8</sup>

Work on the Mink Creek Canal began October 11, 1948, when Reclamation awarded the contract for construction of the first section of the canal to Leland Knudson of Ogden, Utah. Knudson began construction on October 21, 1948. Section one included the canal headworks, a sluiceway, two flumes, necessary drainage culverts, the Birch Creek Siphon, and the Dry Fork Siphon. The contractor completed the majority of the work under the contract during the spring

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8. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 5-9.

and summer of 1949. Knudson finished all work on the contract September 6, 1949.

On September 14, 1949, Reclamation filled the Birch Creek Siphon with water to test for leakage. Several joints leaked extensively during this first test. Reclamation then went back and sealed the joints with additional caulk. During the final test on September 28, the leakage had been reduced to a satisfactory level. Reclamation tested the Dry Fork Siphon on September 12, 1949, and accepted the structure as satisfactory after completion of the test.<sup>9</sup>

Reclamation issued the contract for construction of sections two and three of the Mink Creek Canal to LeGrand Johnson of Logan, Utah, on October 12, 1948. The contractor began work October 25, 1948. This section contained few extraneous structures. Johnson did most of the work on the project during the spring and summer of 1949. He completed all work under both contracts on July 20, 1949.<sup>10</sup>

Reclamation did minor construction work on the project which included the fabrication and installation of a fish screen, ½-inch mesh wire cloth in a wooden frame, at the headworks of the canal. Government forces also installed gages on various portions of the canal structure.

Reclamation began testing the Mink Creek Canal on September 24, 1949, by diverting water from Mink Creek into the new structure. Thought he canal proved exceptionally tight, leakage from the canal caused a portion of the embankment to slide out on September 25. Leland Knudson replaced the embankment and lined the leaky section of the canal with clay a few days after the slide. Reclamation forces sealed the remaining leaks. Water flowed through the entire length of the canal and through the Station Creek Tunnel for the first time on November 23, 1949. Seasoning and further testing of the canal continued until the middle of

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9. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 6, 11-5.

10. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 6, 10-1.

December when cold weather prevented any further activity on the project.<sup>11</sup>

At the conclusion of construction activities on Reclamation's portion of the project, the Preston, Riverdale, and Mink Creek Canal Company extended and enlarged the Preston Branch of the Preston-Whitney Canal. On May 28, 1949, the Preston, Riverdale, and Mink Creek Canal Company contracted with the Preston-Whitney Irrigation company to convey project water through the latter's facilities (Glendale Reservoir, Glendale Dam outlet works, and Preston Bench Canal). The contract and rehabilitation of existing features was necessary for conveyance of project water from Worm Creek to the project lands; the Reclamation structures only extended as far as the upper reaches of Worm Creek. The canal company also constructed a small diversion dam on Mink Creek at the head of the Mink Creek Canal. The canal company enlarged the canal in the fall of 1949. They completed the remainder of the work in the spring and summer of 1950.<sup>12</sup> Reclamation turned operation and maintenance responsibilities for the project works on the Preston Bench Project over to the Preston, Riverdale, and Mink Creek Canal Company on July 1, 1951.<sup>13</sup>

Reclamation, in conjunction with the Preston, Riverdale, and Mink Creek Canal Company, successfully completed the Preston Bench Project in time to avert the threatened loss of water for irrigators associated with the canal company. Though the new Mink Creek Canal was not finished prior to the 1949 irrigation season, with careful operation and a reduced flow of water to prevent further landslides, the old Preston, Riverdale, and Mink Creek Canal provided necessary irrigation water during the season.<sup>14</sup>

### **Post-Construction History**

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11. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 16-7.
  12. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 17.
  13. "Annual Project History, Preston Bench Project, Idaho," 1950-9, Volume II, 6.
  14. "Annual Project History, Preston Bench Project, Idaho," 1946-9, Volume I, 18.

Construction of the Mink Creek Canal did not alleviate the landslides that plagued the original Preston, Riverdale, and Mink Creek Canal. In its first year of operation, 1950, a large slide occurred roughly one and one-half miles below the Dry Fork Siphon. Subsequent slides were smaller in volume, but continued to threaten the stability of the canal.

In an effort to address the continued slides, in the fall of 1951, Reclamation and the canal company seeded the canal banks and other areas disturbed by construction with various grasses as part of the Soil and Moisture Conservation (S&MC) program. By 1955, due largely to good growing conditions, satisfactory groundcover existed over most of the area, effectively controlling erosion and contributing to the stability of the canal banks and side-slopes. In a 1958 examination Reclamation discovered roughly one and one-half miles of canal bank where the grass cover did not survive, either caused by overgrazing and trampling by livestock or adverse seedbed conditions. In cooperation with the canal company the affected areas were reseeded under the S&MC program. Generally the seeded program helped control the persistent landslides along the canal.

A break in the canal occurred in 1958. Water overtopped the lower bank at a point where the bank was low and caused the break. As a result the canal company raised the lower bank in a number of places with insufficient freeboard. Otherwise the general condition of the project was good.<sup>15</sup>

In the spring of 1960, the Dry Fork Siphon developed a noticeable leak. Reclamation representatives from the Regional and Area office inspected the structure and recommended it be repaired. The canal company carried out the necessary repairs before the start of the next irrigation season. In 1962, 1964, and 1965, Reclamation seeded additional eroded areas around

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15. "Annual Project History, Preston Bench Project, Idaho," 1950-9, Volume II, 7,10-1.

the canal under the S&MC program. Heavy runoff and flooding caused most of the erosion and sedimentation damage which in turn induced several slides along the canal.<sup>16</sup> After seeding, no significant slides occurred for the next several years, though they continued to be a concern.

In 1969, a slide partially blocked a section of the Mink Creek Canal. This slide resulted in considerable maintenance expense for the canal company. A review of maintenance by Reclamation the same year found all the remaining project facilities in good operable condition. In addition, the grass seeding on the lower bank of the canal for weed and erosion control provided an excellent model for other projects.<sup>17</sup>

From 1970-1983, the area around the canal proved relatively stable without major landslides. In 1984, mud slides, prompted by rain and snow saturating the ground, caused considerable damage to the canal system, necessitating costly repairs. Reclamation provided an emergency loan to the canal company for the repairs. Repair work continued through the start of the next irrigation season (1985) when the canal company determined that a canal spillway was essential to protect the control structure. Reclamation agreed and work on the spillway began in 1985. The canal company completed all repairs and modifications of the canal, and privately owned structures, by the start of the 1986 irrigation season.<sup>18</sup>

### **Settlement of the Project/ Uses of Project Water**

Operated and maintained by the Preston, Riverdale, and Mink Creek Canal Company, the Preston Bench Project provides irrigation water to over 5,000 acres of highly developed land in southeastern Idaho. Principal crops grown in the area include alfalfa, wheat, barley, oats, sugar beets, peas, and potatoes. No new project lands were developed in conjunction with this

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16. "Annual Project History, Preston Bench Project, Idaho," 1960-4, Volume III, 6-9.

17. "Biennial Project History, Preston Bench Project, Idaho," 1969-70, Volume VI, 3.

18. "Annual Project History, Preston Bench Project, Idaho," 1984, Volume XIV, 9; "Annual Project History, Preston Bench Project, Idaho," 1985, Volume XV, 7, 9.

project.<sup>19</sup>

### **Conclusion**

Reclamation aided the Preston Bench water users not by constructing a new large-scale project in their vicinity, but rather by taking their existing water delivery system and making it work. The importance of this project lies not in the impact of project settlement on a local area, instead it helped maintain the quality of life in its vicinity. For this reason, the Preston Bench Project demonstrates the importance of Reclamation projects on a more direct level.

Reclamation did not just confine itself to construction of large scale multipurpose projects, it also aided western water users in smaller ways, as was the case with the Preston Bench Project.

### **About the Author**

Toni Rae Linenberger, a Colorado native, received her B.A. in History from The Colorado College in Colorado Springs, Colorado in 1996. In 1998, she earned a MS in Western American History from Utah State University in Logan, Utah. Ms. Linenberger's final paper, a case study entitled *A Dam for All Seasons: Hollywood, the Bureau of Reclamation, and Construction of Parker Dam*, explored the relationship between the growth of a small town in California and the development of the Colorado River.

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19. *Project Data*, 1029-30.

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