Uncompahgre Project

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Uncompahgre Project

Uncompahgre is a Ute word meaning as follows; Unca-=hot; pah=water, gre=spring. One of the oldest Reclamation projects, the Uncompahgre Project contains one storage dam, several diversion dams, 128 miles of canals, 438 miles of laterals and 216 miles of drains. The project includes mesa and valley land on the western slope of the Rocky Mountains in Colorado at an elevation between 5,000 and 6,000 feet above sea level.

Project Location

The Uncompahgre Project, stretching the Gunnison River of western Colorado, operates in Reclamation's Upper Colorado Region. The project, which draws water from the Uncompahgre and Gunnison Rivers, irrigates over 66,000 acres in Delta, Gunnison and Montrose counties. Delta County contains Gunnison Diversion Dam, East Canal Diversion Dam, Loutzenhizer Diversion Dam, Montrose and Delta Diversion Dam, Garnet Diversion Dam, Ironstone Diversion Dam and Selig Diversion Dam. Gunnison County, Colorado, contains Taylor Park Dam.

Historic Setting

In 1868 the United States Government negotiated a treaty with the Utes in which the Utes ceded their ownership of central Colorado in return for most of the western part of the state. Although the 1868 Treaty barred American settlers from attempting to colonize western Colorado, prospectors continued to work their claims in the mountain areas. When mining strikes were reported in the San Juan area in 1870-1872, the government negotiated with the Utes signing the Brunot Treaty in September 1873, which ceded the area of the San Juan Mountains to the United States.

With continual migration of settlers into western Colorado and into the remaining Ute Territory, it was not long before trouble occurred. Problems developed between the Utes and the Federal government, when the government attempted to change the nomadic lifestyle of the Utes. When troops were sent to persuade the Utes to change their lifestyle, they attacked the

soldiers and the Indian agency, killing fourteen men. This incident known as the Meeker Massacre created such a feeling of hostility toward the Utes that the people of the area demanded expulsion of the Utes from the State, eventually leading to their removal to the Utah Territory. Even though the Uncompahgre Utes, under Chief Ouray, had not been a part of the Meeker Massacre, they were also moved to Utah on August 28, 1881.

Removal of the Utes opened western Colorado to settlers. As mining activity increased and the population began to grow, the need for food and supplies became greater. Previous to Anglos entering the area, the Utes had used some water from the Uncompahgre River to irrigate their crops. Settlers began constructing ditches to provide irrigation water for farms.

In the 1880s, when it became apparent that the area was capable of producing crops, especially fruit, a great race for land took place, and a number of irrigation enterprises began. When the settlers moved into the valley, they believed that the Uncompahgre River and its tributaries contained enough water for all irrigable lands which equaled approximately 175,000 acres. Beginning in the 1880s irrigation companies such as the Montrose and Uncompahgre Ditch Company, which supplied water to the mesas west of the Uncompahgre River, began forming. Organized in March 1882, the Delta Ditch Company provided water for the town of Delta, and the Loutzenhizer Ditch, started in 1882, supplied water for Montrose and nearby farm lands. The Uncompahgre Canal, which was later renamed the Montrose and Delta Canal along with the Selig Ditch, began furnishing water to the area west of the Uncompahgre River in 1883. Other smaller ditches were built in the 1880s to aid in irrigation of the area.[1] Local enterprises developed the irrigation system to its potential but the water supply was not capable of irrigating 175,000 acres as the developers thought. By 1890, less than 30,000 acres were cultivated and often water shortages. Water in the Uncompahgre River became overcommitted during the last part of the growing season and the supply proved to be inadequate to water the crops.[2]

The shortage of water encouraged development of new ideas for supplementing the

1. Susan M. Collins, Maurice L. Albertson, R. Thomas Euler, Lewis K. Hyer and John Earl Ingmanson, *Survey of Cultural Resources in the Lower Gunnison Basin Unit, Colorado River Water Quality Improvement Program* (Salt Lake City, Utah: Water and Power Resources Service, 1981), 53-6.
2. Collins, 127.

irrigation water supply. An early plan called for bringing water over the Cerro Divide from the Cimarron River. The idea was actively promoted and a ditch constructed, but the water supply did not fill the irrigation needs.[3]

F. C. Lauzon, who claimed his idea had been revealed to him in a dream, called for construction of a tunnel from the Gunnison River to the Uncompahgre Valley. In 1890, Lauzon began to seek support for this plan, and in 1894, the Geological Survey completed a reconnaissance survey of the feasibility of constructing the tunnel. During the discussion regarding additional water sources, it became apparent that the planning, design and construction were beyond the capabilities of the people in the Uncompahgre Valley. Also, the project was too large financially for local interests to undertake so state aid was considered necessary. In 1901, $25,000 was set aside by the State Legislature for starting work on the tunnel.[4]

The plan of the State Legislature called for a three mile long tunnel through the ridge separating the Gunnison and Uncompahgre Rivers. The water would then be carried through a ditch, twelve miles to the Montrose and Delta Canal. It was expected that enough water would be available to irrigate 100,000 acres.[5]

In the summer of 1901, $4,000 was allocated by F. N. Newel, of the United States Geological Survey (USGS), to determine the location of the tunnel and canal. In June, A. Lincoln Fellows of the USGS and William W. Torrence, superintendent of the Montrose Electric Light and Power Company, were sent to survey and map the area. Other surveys were also conducted in the area by the USGS. Topographic surveys were conducted to determine the relative elevations between the Gunnison River and the Uncompahgre Valley; in October 1901, the geology along the proposed tunnel route was surveyed and by late that year, the potential tunnel route had been selected made by Deputy State Engineer John A. Curtis. In 1901, additional surveys of the project were begun by the Geological Survey, and the general scheme

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3. Collins, 57; Bureau of Reclamation, *Project History, Uncompahgre Project, 1901-1912, volume 1*, 6.
4. Collins, 57-8, 127; *Project History, Uncompahgre History, 1901-1912, volume 1*, 6.
5. Collins, 59; *Project History, Uncompahgre Project, 1901-1912, volume 1*, 8.

of the project was outlined in its first report.[6]

Project Authorization

After passage of the Reclamation Act in 1902 which created the United States Reclamation Service, the Uncompahgre Valley was selected for immediate development as a reclamation project. The original surveys by the Geological Survey, plus investigational work carried out by the Reclamation Service, served as the basis for the authorization of the project in 1903. The Uncompahgre Project (originally called the Gunnison Project) was authorized by the Secretary of the Interior on March 14, 1903, under the provisions of the Reclamation Act.

As required by the Reclamation Act, an association was to be established by landowners who would benefit from the project. The association would be required to pay back to the government the cost of the irrigation system as well as be responsible for the operation and maintenance of the system. On May 5, 1903, representatives and owners of the ditches and canals met and formed the Uncompahgre Valley Water Users Association.[7]

Construction History

In November 1901, work began on the state project. A road was constructed to the west portal location, and a bunkhouse, dining hall and blacksmith shops were erected. Originally, excavation was to be done by convicts, but legal problems prevented using them as laborers so local miners were used. On December 16, 1901, the first earth was removed from the tunnel. In the fall of 1902, the project was abandoned due to a lack of state funds. At the time the project was halted, almost 900 feet of tunnel had been built.[8]

On March 16, 1903, an agreement was reached to give all property rights, including the tunnel, to the Federal Government and on August 14, 1906, the transfer was finally accomplished. During this time, construction of the Gunnison River Diversion Project received funds of $2,500,000 authorized by the Secretary of the Interior under the Reclamation Act of 1902.

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6. Collins, 58; *Project History, Uncompahgre History, 1901-1912, volume 1*, 9.
7. Collins, 131.
8. Collins, 59; *Project History, Uncompahgre Project, 1901-1912, volume 1*, 8.

The project plan provided for diversion of water from the Gunnison River by the Gunnison Diversion Dam through the Gunnison Tunnel and the South Canal to the Uncompahgre River. To distribute water from the Gunnison and Uncompahgre Rivers, the South and West Canals were constructed and the larger existing private canals, that removed water directly from the Uncompahgre River, were purchased, enlarged and extended. Laterals were constructed to deliver water from the South Canal to project lands.

The Gunnison Tunnel was one of the first five projects undertaken by the United States Reclamation Service. Although transfer of the project to the Reclamation Service was not finalized, the Taylor-Moore Construction Company was awarded the contract in October 1904 and work on the tunnel began in January 1905. Within four months, due to construction problems and financial difficulties, the company declared bankruptcy, and Reclamation took control of the project on May 28, 1905. In addition, it was determined that the location of the old tunnel was inadequate, and a new site was located five miles farther upstream on the Gunnison River at Boat Landing Gulch.[9]

The construction of the new tunnel experienced difficulties from the beginning. A wagon road had to be built across Vernal Mesa to the floor of the Gunnison River canyon. The grade was nearly 30 percent in places, and much of the drilling equipment had to be eased down the incline on skids. Working conditions at the tunnel were difficult due to the high levels of carbon dioxide, excessive temperatures, humidity, water, mud, shale, sand, and a fractured fault zone. In December 1906, a seam of warm water surcharged with carbonic acid was tapped forcing drillers to abandon the heading for six months until a ventilation shaft was driven into the mountain. The water and humidity contributed to deterioration of the timbers in the tunnel making it necessary to line the tunnel with concrete. Water continued to plague the project between December 1906 and March 1909, with an average of 8 cubic feet of water flowing from the surrounding rock. It took the tunneling crew almost one year to bore through 2000 feet of water-filled rock. The tunnel was driven through granite, quartzite, gneiss, and shale as well as

9. Collins, 61; "The Cave-in of the Gunnison Tunnel Near Montrose, Colorado," *Engineering News* (29 June 1905): 681; *Project History, Uncompahgre History, 1901-1912, volume 1*, 50.

layers of sandstone, coal, and limestone.[10]

Work on the Gunnison Tunnel was first done manually and by candlelight. One miner would hold the drill and rotate it while the second miner would use a sledgehammer to drive the drill into the rock. This work required strong, hard-working men. In spite of good pay and fringe benefits, most disliked the dangerous underground conditions and stayed an average of only 2 weeks. Drilling for the tunnel occurred at four headings: one from each portal and east and west from a shaft sunk into the mesa. Although the conditions were dangerous and harsh, two boring records were established during the construction of the Gunnison Tunnel for the amount of feet bored during a month. The record for driving through granite was established at 449 feet during January 1908 and the record for driving through shale was 824 feet in a month.[11] Dirt and rocks were removed from the tunnel in cars on tracks that were moved by horses. Several months after construction began, power plants were installed at each end of the tunnel enabling the use of electrical equipment.[12]

By mid-1905, approximately 350 men were employed at the west portal of the Gunnison Tunnel. During 1906, 800 people were residing in the town of "Lujane". The town consisted of a dining hall, bunkhouse, storeroom, office, power house, stable and quarters. Water and sewage systems were installed; policemen and sanitation officers were employed; a hospital was established for the sick or injured workers; and a post office was also constructed in the town.[13]

During the construction of the tunnel, twenty-six lives were lost due to a series of accidents. Just three days after Reclamation began construction the first serious accident occurred. On May 30, 1905, timbering at the west portal collapsed, burying ten men and imprisoning nineteen others. As a result of the accident, six men died. In 1906, during a premature explosion at the east portal, two men lost their lives and another lost his eyesight. In

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10. Collins, 61.; National Register of Historic Places Inventory--Nomination Form, page 2; G. J. Van Gieson, "Holing Through in 1909, The Story of The Gunnison–Reclamation's First Major Tunnel," *The Reclamation Era* (August 1947): 173.
11. Collins, 61.; National Register of Historic Places Inventory--Nomination Form, page 2; Van Gieson, 173; "Records in Rock Tunneling," *Engineering News* (2 April 1908): 377.
12. Van Gieson, 174; Bureau of Reclamation, "The Gunnison Tunnel and the Uncompahgre Project."
13. Andrew Denny Rodgers III, *Federal Reclamation's Pioneer Period; A Biographical Study of Its Origins, Organization, and Early Work of Its Engineer Corps* (Columbus, Ohio: 1966), 270.

1910, thirteen miners were overcome by powder smoke resulting in the death of nine men.[14]

The Gunnison Tunnel was completed in 1909 at a cost of $2,905,307 and at 30,650 feet long was the longest irrigation tunnel in the world. In September 1909, dedication ceremonies were held in the lavishly decorated town of Montrose. A ceremonial arch was constructed in the middle of Main Street and President William Howard Taft was the guest of honor and primary speaker. On September 23, 1909, President Taft pressed a golden bell to a silver plate which opened the headgates and released seepage water into the South Canal. Because the diversion dam was not yet built across the Gunnison River, river water could not be sent through the tunnel. Workmen built a small dam in the tunnel to hold back the seepage and when President Taft tapped the golden bell, the dam in the tunnel was opened allowing seepage water to emerge from the tunnel to the delight of the audience.[15]

The tunnel was used to transport supplies, materials and equipment for construction of the Gunnison River diversion dam. The Gunnison River diversion dam, which diverts water to the Gunnison Tunnel, was constructed of concrete, steel and wood, and was completed in 1909. The dam contained special features such as the beartrap gates for flashboards which allowed diverting the water more easily when the flow was low and special cribbing was placed in the stilling basin and apron.[16]

Another part of the Uncompahgre Project was the South Canal. The purpose of the eleven mile canal was to carry the water from the tunnel to the Uncompahgre River. The canal required the construction of several tunnels and 12 vertical drops and three chutes which were primarily done by hand or horsepower. Work on the canal was completed approximately the same time as the tunnel.

In order to complete the Uncompahgre Project, Reclamation began to acquire private irrigation canals in the Valley. The idea behind acquiring the canals was to have a unified

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14. Van Gieson, 174; "The Gunnison Tunnel Caved In," *Engineering News* (8 June 1905): 606.
15. Collins, 61.; National Register of Historic Places Inventory–Nomination Form, 2; Van Gieson, 173; "The Golden Bell Used at the Opening of the Gunnison Tunnel," *Engineering News* (September 1909), 444; Bureau of Reclamation. "The Gunnison Tunnel and the Uncompahgre Project."
16. Collins, 146.

system under the Federal government. During the summer of 1908 the Montrose and Delta canal was transferred to the government for $110,000. This canal became the first operated by the Reclamation Service. On September 25, the Loutzenhizer Canal was also purchased for $15,000.[17]

After purchasing the canals, the Reclamation Service identified needed improvements for the 20 year old canals. Improvements included replacing wooden flumes with steel and concrete, and standardizing the headgates and measuring devices. Some of the canals were also enlarged to increase the water volume.[18]

In addition to the South Canal, the East and West Canals were constructed to carry the water to other parts of the project. The East Canal was built east of the Uncompahgre River with the headgate located one mile north of Olathe. Part of this system was the Garnet Mesa Siphon which consisted of an 8,560 foot wooden-stave pressure pipe to carry water to Garnet Mesa. Completed in 1911, the West Canal provided water to the area west of the Uncompahgre River. The Canal initially had wooden flumes which carried water across Happy Canyon, Tappen Creek, and Spring Creek Valleys. Laterals and diversion dams were built to supply water to the individual farms and help regulate the water supply.[19]

As construction of the project continued, extensive repair and construction work on the Gunnison Tunnel became necessary. During the winter of 1916-17, bulging sidewalls were replaced, portions of the tunnel were lined, transitions were constructed, loose debris was removed, and an electrical system for determining the elevation of water was installed. Prior to repair work on the tunnel, it was necessary to walk through the tunnel carrying supplies for repairs and a ladder to inspect the gauges. On April 17, 1917, the first trip was made through the tunnel in a car, which demonstrated the practicability of using a car for inspections.[20]

In order for needed maintenance to continue on the project, on May 7, 1918, the United

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17. Collins, 67; *Project History, Uncompahgre Project, 1901-1912, Volume 2,* 18, 169.
18. Collins, 67.
19. Collins, 68.
20. Fred D. Pyle. "Gunnison Tunnel--Construction, Operation, and Maintenance," *Reclamation Record*, (July 1920): 319.

States and the water users association executed an agreement. The terms of the agreement provided for operation and maintenance of the project at cost to the water users and deferment of the first construction charge until December 1, 1922. The project was transferred to the Uncompahgre Valley Water Users Association for operation and maintenance in 1932. As a result of the transfer in 1932, the Water Users Association has since occupied the Bureau of Reclamation's Project Office in Montrose which was built in 1905.[21]

By 1925, the Uncompahgre Project was practically completed. The project had been in use since completion of the tunnel, but the accompanying canals, diversion dams and laterals were not all finished until 1925. Reclamation spent approximately $6,800,000 to build the Gunnison Tunnel and the accompanying canals.

The project consisted of a series of diversion dams and canals. The Gunnison diversion dam, tunnel, and canal system provided additional water to the Uncompahgre Valley from the Gunnison River. The East Canal, Loutzenhizer, Montrose and Delta, Garnet, Ironstone, and Selig diversion dams on the Uncompahgre River with their associated canals and laterals also provided irrigation for the valley. With completion of the irrigation system, the Uncompahgre Valley was receiving a sufficient supply of irrigation water, but this changed toward the end of the 1920s. With the number of irrigated acres continuing to increase and the water shortages near the end of the growing season, the need for a storage reservoir became apparent.

Post-Construction History

Early in the Uncompahgre Project, Reclamation experienced problems with its canals. Most of the original structures in the canal systems were made from timber and required maintenance or replacements. Deterioration of structures was increased by alkali conditions in sections of the project. In addition, the requirement for some operation during the winter for watering livestock accelerated the decay, since remaining water froze, damaging the structures.[22]

There was additional work on the project during the 1930s. In 1934, the water users

21. United States Reclamation Service. *Seventeenth Annual Report of Reclamation Service* (Washington DC: Government Printing Office, 1918), 113.
22. Jesse R. Thompson, "Facelifting at Uncompahgre," *The Reclamation Era*, (May 1955): 33.

association entered into a contract with the Bureau of Reclamation to construct drainage ditches. The ditches were constructed to prevent the buildup of alkali, which had ravaged the land and disintegrated the cement linings in the canals. The work was completed in 1941 when an additional 200 miles of canals were added to the project. Also during the 1930s, using funds allotted by the Federal Emergency Administrator of Public Works, the South Canal was rehabilitated and repairs made to other portions of the irrigation system. About 1935, three wooden flumes which carried water across Happy Canyon, Tappen Creek, and Spring Creek were replaced by siphons. During the 1930s part of the Montrose and Delta Canal required reconstruction to eliminate a section of hillside canal which had been a source of constant trouble and expense since the initial construction.[23]

Other work done during the 1930s consisted of equalizing the flow of the Gunnison River to reduce the possibility of a drought. Following water shortages in 1931 and 1934, the Water Users Association asked the Federal government to build Taylor Reservoir. Although Reclamation conducted surveys in the Taylor Park area as early as 1903 and made additional surveys in 1912 and 1913, actual construction of the reservoir and dam began in the 1930s. Two million dollars was appropriated for the project under the National Industrial Recovery Act of June 16, 1933. Funds from this Act were also used to reline the tunnel and canals and replace deteriorating structures. The Uncompahgre Water Users Association and the United States entered into a contract on May 31, 1934, which provided for construction of the dam and the repayment of the funds to the government.[24]

Plans and specifications were drawn and bids were called for construction of the Taylor Park Dam. Bids were opened on February 18, 1935, in Gunnison and the contract was awarded to the Utah-Bechtel-Morrison-Kaiser Company with a bid of $798,078.50. The Frederickson & Watson Construction Company was the subcontractor during the 1935 and 1936 seasons. The work was completed in 1937 by another subcontractor, the Morrison & Condon Company. The

23. Collins, 68-9, 159-60; "Reconstruction of Montrose and Delta Canal to Eliminate Hillside Construction," *The Reclamation Record*, (July 1939): 187; Thompson, 33-4.
24. Donald Jerman, "Construction of Taylor Park Dam, Uncompahgre Project, Colorado," *The Reclamation Era*, (May 1938): 84.

government furnished all the materials that went into the completed structure including cement and steel.[25]

Taylor Park Dam and Reservoir is located on the Taylor River, 20 miles upstream from the head of the Gunnison River. The dam is an earth and rock filled embankment across the Taylor River with a concrete-lined tunnel, reinforced concrete valve house and outlet works, a concrete-lined spillway, and a permanent road.[26] The reservoir was built to regulate the water supply for the Gunnison Tunnel and to supplement water to the Uncompahgre Project. The water flows approximately 100 miles down the Taylor and Gunnison Rivers to the Gunnison Tunnel and then through canals to the project lands.[27]

A 150 man construction camp was established at the Taylor Park Dam site with shops, dormitories, dining hall, and offices. Near the camp a gravel washing and screening plant was set up with a batching plant established to handle the material for the tunnel lining. The Bureau of Reclamation built a field testing laboratory at the site.[28]

On May 1, 1935, excavation of the outlet tunnel began with anticipated completion in about 40 days. Throughout the construction period of the dam, progress was hindered by the isolated location of the project, the short construction season, and the severe weather conditions that exist through much of the year. Fractured rock and frost in the talus materials also hindered progress. Excavation of the outlet tunnel was completed October 12, 1935. Concrete placement in the tunnel began September 28, 1935, and was largely completed by December 8, 1935.[29] Due to the distance between the dam site and the Gunnison office, short-wave radio transmitters and receivers were installed for inter-office communication. The Taylor Park Dam reservoir's capacity is 106,230 acre feet at an elevation of 9,330 feet. The reservoir at the maximum water surface level covers 2,033 acres, and has a maximum length and width of 3.5 and 1.8 miles.[30]

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25. Jerman, 84; "Taylor Park Dam Will Provide Irrigation Storage," *Western Construction News*, (September 1934): 288; "Taylor Dam Completed," *Engineering News*, (25 November 1937): 871; Stephen Poe, "Construction Features of the Taylor Park Dam," *Western Construction News*, (February 1938): 57.
26. Jerman, 84.
27. Jerman, 84.
28. "Taylor Park Dam Progress During the 1935 Season," *Western Construction News*, (February 1936): 50.
29. Jerman, 86.
30. Poe, 57-8.

After the completion of Taylor Park Dam, the primary work on the Uncompahgre Project was the rehabilitation and replacement of older structures. The Montrose and Delta Diversion Dam was rebuilt in 1963. In 1966, $1,000,000 was allotted from the Rehabilitation and Betterment program to reline 910 feet of the Gunnison Tunnel and to provide funds for equipment and a new invert in the remaining lined section. Eagle Construction Company was awarded the contract for the work.[31] During the winter of 1971 the original timber structure of the Loutzenhizer Diversion Dam was completely replaced with a reinforced concrete and gate structure.

Settlement of the Project

Settlement began in the valley as early as 1882 and the population continued to increase into the twentieth century. As the population continued to grow, the demand on the water supply in the valley increased. During the 1910 growing season, 24,000 acres were furnished water from government canals while 13,600 acres were supplied by private ditches. From 1911 to 1920, the area under cultivation in the Uncompahgre Project increased from 24,000 acres to 64,180, an increase of 40,180 acres. Since 1920 the project has added an additional 12,000 acres of irrigated land. From 1911 to 1920 the number of farms on the project increased from 1,131 to 1,588. Between 1912 and 1920 the population increased from 5,171 to 6,015.[32]

During the 1910s the project continued to develop. Large farms and ranches were divided into smaller tracts and sold to prospective farmers. Many of the farms were sold without any cash down payment but the purchaser contracted to pay a certain percentage of the crop value toward the purchase price.[33]

Although an experimental farm did not exist on the project, the Colorado Agricultural College was conducting agricultural experiments. Farmers on the project formed clubs;

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31. Bureau of Reclamation, *Project History, Uncompahgre Project, 1966*.
32. United States Reclamation Service, *Seventh Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1908), 77; United States Reclamation Service, *Eighth Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1908), 67; United States Reclamation Service, *Tenth Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1908), 89; United States Reclamation Service, *Eleventh Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1908), 69.
33. United States Reclamation Service, *Thirteenth Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1914), 100.

participated in the Annual Western Slope Fair in Montrose; and formed the Grange Cooperative Association.[34]

On September 1, 1915, 168 farm units were opened for entry by the Secretary of the Interior. Only 70 units were filed on and the remaining units were withdrawn from settlement.[35] Forty-nine additional units were opened to settlement under a June 30, 1916, order of he Secretary of the Interior.[36] Throughout the remainder of the 1910s, farm units were opened each year for settlement. As the project continued to develop in the 1920s and with the addition of Taylor Park Dam in the 1930s, additional farm units were made available. By the early 1990s, the project has over 2,600 farms and a population near 20,000.

Uses of Project Water

The Uncompahgre Project provided an important agricultural base in western Colorado. As the project grew and developed, so did the agriculture. Almost 76,300 acres of land receive irrigation water from facilities of the project. The number of farms in the project totals 2,632. Principal crops are alfalfa, wheat, corn, oats, potatoes, beans, onions, apples, pears, and cherries.[37] Beginning in the 1960s an additional crop was grown on project farms. Moravian malting barley began to be grown by project farmers for the manufacture of beer by the Adolph Coors Company.[38]

Recreation activities also play an important part in the Uncompahgre Project. Camp grounds and picnic grounds are provided at Taylor Park Reservoir. Also available are cabins at privately owned resorts. Boating, swimming, sightseeing, fishing, and hunting are among the recreation activities available.[39]

Tourism also has a significant role in the project area. Black Canyon of the Gunnison National Monument, the Curecanti Storage Unit, and the Ute Indian Museum are sites widely

34. United States Reclamation Service, *Fourteenth Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1915), 83.
35. United States Reclamation Service, *Fifteenth Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1916), 125-6.
36. United States Reclamation Service, *Sixteenth Annual Report of the Reclamation Service*, (Washington DC: Government Printing Office, 1917), 92-3.
37. Bureau of Reclamation, *Project History, Uncompahgre Project, 1990*, 31.
38. "A New Crop Grows on an Old Project," *Reclamation Era*, (February 1964): 22.
39. Bureau of Reclamation, *Project History, Uncompahgre Project, 1990*, 3.

visited in the area. The population served by the project is approximately 20,000.

Conclusion

The history of the Uncompahgre Project is quite similar to the history of other irrigation projects. It began with individual farmers wanting to use the available water from the rivers to irrigate their lands, but with the increase in the number of farmers and lands the water supply became inadequate. Due to an insufficient water supply and unfavorable weather conditions, it became necessary to seek outside help. With passage of the Reclamation Act, funding became available to provide the necessary facilities to regulate and store water for irrigation purposes.

As one of the first Reclamation projects, the Uncompahgre Project had many milestones and innovations throughout its history. The Gunnison Tunnel was the longest of its kind when it was completed. A boring record was established while the tunnel was being excavated. Sluice gate hoisting mechanisms, flumes, siphons, and headgates within the project contain innovations in design and construction. The Gunnison Tunnel was declared a National Historic Civil Engineering Landmark by the American Society of Civil Engineers in 1972 due to its construction, operation, engineering ingenuity, and perseverance. The tunnel became only the 26th structure to receive the award. In 1979 the Gunnison Tunnel was listed on the National Register of Historic Places because of its significance in Colorado. On November 27, 1991, the Bureau of Reclamation's Montrose Project Office Building was listed on the National Register of Historic Places. The Montrose Project Office is documented as the second oldest office facility built by the Bureau of Reclamation.[40]

The Uncompahgre Project has had an enormous effect on the Uncompahgre Valley. Without the constant water supply the valley would not have been able to maintain its growth, both in population and in agriculture. Irrigation has greatly aided the area in terms of population, mining, horticulture, and tourism.

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40. Collins, 143.

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