Umatilla Project

Eric A. Stene
Bureau of Reclamation
1993

Table of Contents

The Umatilla Project

In the 1840s prospective farmers traveled across the United States' Louisiana Purchase in the hope of obtaining good farmland in Oregon. These early settlers primarily converged on the fertile lands of the Willamette Valley, bypassing the Umatilla area as they followed the Oregon Trail to the West Coast. Willamette filled to overflowing before the turn of the century, forcing future settlers to homestead the drier eastern regions of Oregon fairly late in Oregon's agricultural history. The northern counties of the state provided open lands for homesteaders near the Columbia River. On these eastern Oregon lands it soon became apparent the water supplies, which often ran out before the end of July, would not sustain mass agriculture. Irrigation seemed to provide the answer to the problem.

Project Location

The Umatilla Project lies in Morrow and Umatilla Counties of North-Central Oregon, just south of the Columbia River. Pendleton, Oregon, is located six miles north of McKay Dam and Reservoir, the southeastern corner of the project. Cold Springs Dam is located a few miles east of Hermiston. The West Extension Irrigation District protrudes from the central area of the project parallel to the Columbia River. The project contains three diversion dams; Three Mile Falls Diversion Dam, the Feed Canal Diversion Dam, and the Maxwell Diversion Dam. Maxwell Canal, the Feed Canal, and West Extension Main Canal constitute the major carriage facilities of the project. Umatilla and Stanfield comprise the other towns on the project. The Umatilla River and McKay Creek provide the water source for the project's irrigation system.[1]

Historic Setting

Irrigation first began in the Umatilla County area in 1870, but only in the area's river bottoms. In that year Allen Ditch, a Umatilla County resident, secured the first water rights to the Umatilla River. The first agricultural practice in the area was stock raising, mostly horses, cattle, and sheep. Later, in 1876, farmers began growing grains. The idea of irrigation

---

1. Department of the Interior, Water and Power Resources Service, *Project Data* (Denver: Government Printing Office, 1981), 1235. Department of the Interior, Bureau of Reclamation, *Umatilla Storage and Extensions to Umatilla, October, 1918*, Engineering Reports, Record Group no. 115, box 837, 1.

continued spreading in the area. Private concerns began initial projects which later became part of the Umatilla Project or connected to it. The Hinkle Ditch Company excavated the Hinkle Ditch in Umatilla County in 1903. Western Land and Irrigation Company took over the Hinkle operation, and extended and enlarged the system. The Furnish Ditch Company constructed the Furnish Ditch in 1905-06. The Irrigon Canal later became the site for construction of the Umatilla Project's West Extension. Maxwell Land and Irrigation Company built the Maxwell Canal which would be taken over later and renovated by the Bureau of Reclamation.[2]

Project Authorization

Reclamation engineers began investigating the Umatilla Project in the spring of 1903. Early plans called for the irrigation of 60,000 acres of land. In 1904 a board of engineers reported that the proposed reservoir site risked heavy seepage. An investigation of land east of the Umatilla River and south of the Columbia River the next year promised a feasible location. The investigations spurred land speculation which caused Maxwell Land and Irrigation to purchase several hundred acres from the Northern Pacific Railroad for $4.50 an acre. This land later appraised at three dollars an acre.[3]

The Oregon Legislature passed an irrigation act on February 16, 1905. The act provided for a State Engineer, and cooperation with the Federal Government in hydrographic and topographic surveys, and in construction and use of waters in the state. A Board of Engineers recommended authorization of the project on October 27, 1905. On the same day Reclamation reached an agreement with the Maxwell Land and Irrigation for the purchase of its system. Secretary of the Interior Ethan A. Hitchcock authorized one million dollars to construct the Umatilla Project on December 4, 1905.[4]

The Umatilla Water Users' Association officially organized on January 10, 1906 after

---

2. Reclamation, *Project History, The Umatilla Project, 1910*, Record Group no. 115, box 197, 10. Department of the Interior, Water Resources Branch, *Report on Transmission Losses and Return Flow on Umatilla River, Oregon, 1921-1925*, by G. H. Canfield, U.S. Geological Survey, Engineering Reports, Record Group no. 115, box 837, 4. Reclamation, *Water Supply for Greater Umatilla Project, September, 1919*, by E. Debler, Engineering Reports, Record Group no. 115, box 837, 2-3. Department of Agriculture, Soil Conservation Service, Pacific Region, *Sedimentation in Cold Spring Reservoir Umatilla County, Oregon, October, 1953*, Engineering Reports, Record Group no. 115, box 837, 4. Water and Power Resources, *Project Data*, 1235.
3. Reclamation, *Project History, 1910*, 3-4, 9.
4. Reclamation, *Project History, The Umatilla Project, 1912*, Record Group no. 115, box 197, 5.

work toward formation began in 1905. The Association preceded the establishment of future irrigation districts. Water users from the West Extension formed the first irrigation district June 10, 1919. The Hermiston Irrigation District formed from the Umatilla Water Users' Association on December 15 of the same year. The irrigation district reached a contract agreement with the Department of the Interior that came to fruition on April 9, 1921. Stanfield Irrigation District received a contract on October 4, 1923. Westland Irrigation District organized in 1924. West Extension Irrigation District signed a contract on April 27, 1926 with the Department of Interior turning control of the West Extension, including Three Mile Falls Diversion Dam over to the irrigation district. The contract confirmed payment on a crop return basis.[5]

Construction History

The Umatilla Project began under Herbert D. Newell who acted as both the Project Engineer and Project Manager. Reclamation first turned its attention to the Feed Canal. Puget Sound Bridge and Dredging Company of Seattle received the contract for the canal and began work on September 1, 1906. The company excavated the canal and built diversion and regulating works. Excavation of the canal proceeded without any significant difficulties except in an area west of Echo. Crews ran into an area composed of cement gravel. Disagreement arose between Puget Sound and Reclamation about classifying the material for payment purposes and they reached a compromise classifying a certain percentage of the material as rock.[6]

Excavation of the canal necessitated construction of crossings under a railroad and across Mill Ditch. Puget Sound built a concrete lined section that traversed a total of 2100 feet. The section traveled along the side of a rock bluff. Puget Sound encountered problems molding the forms to the sharp horizontal turns on the bluff face. Excavation of the canal finished August 6, 1907. Puget Sound's contract called for the construction of nine highway bridges across the

---

5. Reclamation, *Project History, 1913*, 9. *Project History, 1912*, 8. *Project History, The Umatilla Project, 1919*, 10, 52. *Project History, 1923*, 63. *Project History, 1924*, 3. "Contracts Under the Act of December 5, 1924 Umatilla Project," *New Reclamation Era*, November 1926, 198.
6. Reclamation, *Project History, 1910*, 4. *Project History, 1912*, 12.

canal. Worked commenced January 15, 1907, and concluded July 1.[7]

To divert water from the Umatilla River into the canal, Puget Sound constructed a concrete diversion dam. The company made an earthen embankment to shift the river water over the diversion weir. They further installed sand gates to prevent the canal from silting up. Construction of the Feed Canal Diversion Dam took approximately nine months. Construction began September 10, 1906, and finished June 15, 1907. Constructed of concrete, rock, and timber, the Feed Canal Dam was eight feet high and 2100 feet long.[8]

The contract with Puget Sound did not call for construction of wasteways for the canal. As construction of the canal proceeded it became apparent the works needed wasteways to smooth out operation. A series of floods in 1907 demonstrated the need for wasteways which would eliminate excess water and prevent damage to the canal. Reclamation built the wasteways by force account beginning construction on August 8, 1907, and finishing in December.[9]

Bids opened for construction of the Cold Springs Dam June 28, 1906. The Board of Engineers recommended rejecting all the bids as too high. Reclamation re-advertised the work and bids reopened September 18, but once again Reclamation rejected all bids. Reclamation proceeded with work on the dam by force account. Reclamation established the construction camp in late fall 1906, and crews moved equipment into the camp during the winter. Laborers began placing material for the embankment on May 11, 1907. Reclamation crews built low cutoff walls extending into the embankment to protect against water seeping under the dam or along the sides of the gorge. Crews built a trestle across the canyon from which they dumped material for the dam. They then spread the material with scrapers. Three floods in early 1907 delayed construction and caused several thousand dollars worth of damage. In spite of the delays, construction finished in June, 1908.[10]

Cold Springs Dam is a 100 foot structure with a top width of 20 feet and a maximum base width of 460 feet. The crest length of the dam is 3450 feet with a total volume of 793,000 cubic

---

7. Reclamation, *Project History, 1910*, 4. *Project History, 1912*, 13-4.
8. Reclamation, *Project History, 1912*, 12-3. Water and Power Resources, *Project Data*, 1238.
9. Reclamation, *Project History, 1912*, 15-6.
10. Reclamation, *Project History, 1910*, 4. *Project History, 1912*, 5-6.

yards. The reservoir holds 50,000 acre-feet of water. Work crews constructed an uncontrolled concrete overflow spillway and chute in the right abutment. A concrete conduit through the base of the dam provide the outlet works. Two slide gates measuring four square feet control the outlet conduit. Cold Springs Dam stores water for release into the Stansfield Irrigation District.[11]

West of Cold Springs Dam lies the Maxwell Diversion Dam which diverts water into the Westland Irrigation District. Construction of the diversion dam proved quick and relatively painless. Reclamation conducted the work by force account starting September 13, 1912. Construction finished in November. The first dam was moveable and could be placed in the spring before the irrigation season then removed in the fall when the season ended. Construction crews modified Maxwell Diversion Dam in 1915. They built a low concrete weir across the river. This replaced the moveable dam previously installed at the site. The dam was a concrete and timber-crib weir with embankment wings. Maxwell Diversion Dam stood 14 feet tall with a crest length of 400 feet. Material volume in the dam constituted 500 cubic yards.[12]

Investigation of the West Extension Canal began in 1912. Reclamation acquired land pledges from the Northern Pacific Railroad and the Oregon Land and Water Company in January, 1913. This did not secure immediate approval from the Secretary of the Interior, Franklin K. Lane, so in March E. G. Hopson, W. R. Bristol, and O. P. Morton traveled to Washington, D.C. to gain Lane's approval. Next Reclamation negotiated with land owners whose property would be affected by the construction of a new diversion dam. Maxwell Land and Irrigation Company, Western Land and Irrigation Company, and J. S. West signed agreements selling land to Reclamation. Franklin Lane arrived at the project on August 19 and approval was given to begin the West Extension Canal.[13]

Reclamation located the first construction camp on the Irrigon Canal, three quarters of a mile south of the town of Irrigon, in early January, 1914. Failure of land owners holding contracts with Oregon Land and Water to sign for government water caused the construction

---

11. Water and Power Resources, *Project Data*, 1237.
12. Reclamation, *Project History, 1912*, 13. *Project History, The Umatilla Project, 1915*, Record Group no. 115, box 197, 22-3. Water and power Resources, *Project Data*, 1238.
13. Reclamation, *Project History, The Umatilla Project, 1913*, Record Group no. 115, box 197, 20-2.

crews to move 16 miles and begin work on the laterals. Workers started excavating on January 3. Scarce labor became a problem at this time making it difficult to retain an experienced work crew. Reclamation kept a standing order for laborers with employment agencies in Portland, but rarely had a full crew during construction. The high price of materials served to drive up the cost of construction adding to the problems caused by the lack of workers.[14]

Newport Land and Construction Company received one of the few contracts given out on the Umatilla Project. Newport contracted, in 1915, to excavate three sections of the West Extension. The company finished its contract work and all subsequent work well within time limits. Two contractors laid 1650 lineal feet of 16 inch cement pipe with concrete turnouts. Two other contractors laid another 960 feet of pipe. Workers completed the West Extension Canal in 1916, which connected to the system already built by the Oregon Land and Water Company.[15]

During construction of the West Extension laborers separated into different construction camps. The *Project History* said most workers were American, probably meaning white. The project employed about 25 Greeks who lived in a camp separate from the Americans. Reclamation avoided establishing a mercantile store in the camps because the storehouse held enough stock for the messhall. The population of the Greek camp increased to 35 in 1915.[16]

In conjunction with construction of the West Extension, Reclamation built the Three Mile Falls Diversion Dam in 1914. The dam proved a unique structure for its time because it was a multiple arch structure. The dam curved in a 1200 foot radius with 40 arches resting against concrete buttresses. The crest of the arches were one foot thick increasing in thickness half an inch for every foot down. Each arch measured an 18 foot radius on the outside. The buttresses measured 18 feet thick, and 20 feet from center to center. A back wall traversed the dam except for a 180 foot gap in the river section. An inspection gallery traveled the length of

---

14. Reclamation, *Project History, The Umatilla Project, 1914*, Record Group no. 115, box 197, 12, 14-5.
15. Reclamation, *Project History, The Umatilla Project, 1915*, Record Group no. 115, box 197, 2, 22. *Project History, The Umatilla Project, 1916*, Record Group no. 115, box 197, 1. *Project History, The Umatilla Project, 1917*, Record Group no. 115, box 197, 27a.
16. Reclamation, *Project History, 1914*, 29. *Project History, 1915*, 6, 34.

the upper part of the dam. Considering the unusual design, Reclamation built the dam quickly, beginning and completing it in 1914.[17]

In March 1923, Reclamation decided to build McKay Dam on McKay Creek to provide additional water for irrigating the Umatilla Project. Reclamation decided to build the dam by force account. Failing to secure an agreement with owners of the land on the reservoir and construction camp sites, the Department of the Interior initiated condemnation proceedings to acquire the land. After settling the case in court in June, 1923, Reclamation began the project.[18]

In July, 1923 construction of the camp began. Workers started stripping the dam site on July 30. They moved the material upstream to a point where it would serve as an embankment to divert the creek water through a bypass tunnel during construction of the dam. Excavation of the outlet tunnel commenced on September 29, 1923. Work crews experienced no difficulties in drilling. The rock surrounding the tunnel remained solid enough that timbering the excavation proved unnecessary. Work continued rapidly, and workers completed the tunnel excavation by the beginning of 1924. Laborers stripped two thirds of the dam site, and started digging the toe trench before the end of 1923.[19]

Work on the tunnel continued in 1924 as workers trimmed the sides where necessary and started placing concrete. Crews completed lining the tunnel and installing the trash racks on May 9, 1925. On that date workers began diverting creek water through the tunnel and away from the dam site. Laborers commenced excavation on the spillway on February 4. Workers built a trap at the lower end of the spillway so they could dump excavated material into cars. Crews hauled the excavated material to the toe trench of the dam to serve as a rock drain. Work on the spillway continued throughout the year. Workers continued digging the toe trench, but did not complete it before the end of the year. Reclamation placed two cutoff walls, averaging five feet in height, at the base of the dam to prevent excess water from seeping through it. The

---

17. George Wharton James, *Reclaiming the Arid West: The Story of the U.S. Reclamation Service* (New York: Dodd, Mead, and Co., 1917), 283. Water and Power Resources, *Project Data*, 1238.
18. Reclamation, *Project History, The Umatilla Project, 1923*, Record Group no. 115, box 199, 22-3.
19. Reclamation, *Project History, 1923*, 23, 24, 26. *Project History, The Umatilla Project, 1924*, Record Group no. 115, box 199, 20.

first material deposited on the site filled in the areas around the cutoff walls and leveled the dam site.[20]

Reclamation only worked a small crew on the spillway during 1925. Lining the hard basalt upper section of the spillway proved unnecessary. The lower section went through soft lava, so crews lined the last 400 feet with concrete. Other workers completed excavating the toe trench with picks and shovels. It was 30 inches wide with a maximum depth of 20 feet and an average depth of 10 feet. September saw completion of the cutoff walls. Workers finished placing the earthfill of the dam and lined the lower part of the upstream face with concrete. The upper section was not lined yet to allow the embankment to settle.[21]

At the beginning of 1926 Reclamation had 300 employees living in the construction camp. Laborers started lining the lower section of the spillway in late winter of 1925-26 and concluded the work in the spring. The concrete work on the dam resumed in March, 1926. A series of five steps were built into the top section of concrete to dampen any wave action that might break over the embankment. Work crews completed most of the dam in December, 1926. Placement of the two 48 inch balanced needle valves in early 1927 finished the construction of McKay Dam.[22]

McKay Dam stood 165 feet with a crest length of 2700 feet. The width of the crest measured 23.5 feet and the maximum base width stood at 650 feet. The upstream slope had an unusually shallow ratio of 1.75:1. The dam held a total volume of 2,364,000 cubic yards. The reservoir held 73,800 acre-feet. The spillway consisted of the chute in the right abutment of the dam with a side overflow inlet. Six 20 x 10 foot radial gates and one twin barreled siphon controlled the inlet. The concrete lined tunnel with two four foot needle valves and a ten inch needle valve constituted the outlet works for the dam.[23]

Post Construction History

---

20. Reclamation, *Project History, 1924*, 20, 22, 24, 28.
21. Reclamation, *Project History, The Umatilla Project, 1925*, Record Group no. 115, box 199, 16, 18, 20, 27.
22. Reclamation, *Project History, The Umatilla Project, 1926*, Record Group no. 115, box 199, 3, 9, 11, 18, 20, 24, 26.
23. Water and Power Resources, *Project Data*, 1237-8.

Reclamation experienced problems with the Feed Canal almost immediately after turning water into it. Seepage appeared above the railroad track of the Oregon Railway and Navigation Company, softening the track bed and threatening the safety of passing trains. Reclamation quickly placed drains in an effort to carry the water safely under the tracks. Oregon Railway ballasted the bed with gravel in saturated sections. Workers puddled the canal and built a concrete cutoff wall to alleviate the seepage. The latter two proved fairly ineffective. To deal with the seepage, workers finally placed 4400 feet of full concrete lining and 300 feet of side lining in the canal during the summer of 1908. Reclamation saw immediate results as seepage declined when water was turned into the canal that fall. Workers placed another 1200 feet of full lining and 800 feet of partial lining in 1909.[24]

In June 1916, Reclamation awarded a contract to Newport Construction Company to enlarge the Feed Canal. Work started in late July to widen the canal by five to six feet over a 20 mile section of canal. Newport Construction proceeded quickly and completed the job in the middle of December. In addition to enlarging the Feed Canal, Reclamation advertised for bids to enlarge the Maxwell Canal. Reclamation rejected all bids as too high and proceeded with the work by force account. During the late fall and early winter construction crews enlarged the lower five miles of Maxwell Canal.[25]

West Extension Canal traversed and extremely sandy area. Blowing sand accumulated in the canal in 1917 and 1918. Removal of the sand cost Reclamation $18,271.75. Reclamation took action to avoid the problems and cost of cleaning the sand out of the canal in the future. Reclamation crews planted brushed along the sides of the West Extension Canal to catch blowing sand and prevent it from getting into the canal.[26]

In 1909 a saucer shaped depression appeared near the toe of Cold Springs Dam. The excavation of an open sheeted trench revealed breaks in the eight inch tile drain at the toe of the dam. Crews repaired the drain, but left the sheeted trench to aid future inspection of the drain.

---

24. Reclamation, *Project History, 1910*, 17. *Project History, 1913*, 16-7.
25. Reclamation, *Project History, 1916*, 26-7.
26. Reclamation, *Project History, The Umatilla Project, 1918*, Record Group no. 115, Box 198, 43-4, 51, 53.

A spring broke out in the sheeted trench the next year. In response workers placed 12 inch tile in the bottom of the trench to eliminate further springs. Excavating a trench near the most violent spring at the toe of the dam, work crews found water had washed out a cavity next to the drain and broken the tile. Workers replaced the tile and connected the drain by eight inch cement pipe to the tile at the toe of the dam.[27]

Settlement of Project

Population in the project area grew some in the early years, but such growth proved slow. Early reports said Hermiston consisted of about three or four buildings. Settlement continued progressing slowly during 1908-9. After that settlement made better progress. By 1910 approximately 500 people resided in Hermiston. By 1919, 1,313 people lived on 507 project farms and Hermiston had a population of 650 people. A population of 300 resided in Umatilla. Boardman had 80 people, and Irrigon had 100. The Umatilla Project had a total population of 2,443.[28]

Reports lamented that settlement leveled off and the real estate business became stagnant between 1919 and 1924. No significant growth occurred by 1926. The World War II years and post-war years saw a greater increase in population on the project. In 1942 the Westland Irrigation District recorded a farm population of 279, while the Stanfield District listed 412 people on farms. Westland counted 304 people and Stanfield recorded 484 in 1943. Stanfield increased by seven in 1944, while Westland lost ten. Westland increased to 330 in 1945, and Stanfield retained its 491 of 1944.[29]

The East Division of the Umatilla Project showed a 1950 population of 4683 on project farms. Of these, 674 lived on farms irrigated by the project. The West Division claimed 1310 with 896 on project irrigated farms. Westland claimed 454 people on farms irrigated by the project in 1950, and the Stanfield District had 520 for a total of 2,544 people on project farms.

---

27. Reclamation, *Project History, 1912*, 25-6.
28. Reclamation, *Project History, 1910*, 9. *Project History, 1912*, 41. *Project History, The Umatilla Project, 1919*, Record Group no. 115, box 198, 98.
29. Reclamation, *Project History, 1924*, 24. *Project History, The Umatilla Project, 1942*, Record Group no. 115, box 199, 8-9. *Project History, The Umatilla Project, 1943*, Record Group no. 115, box 199, 11-2. *Project History, The Umatilla Project, 1944*, Record Group no. 115, box 199, 9-10.

Towns on the project increased in population during the post-war years. Irrigon had 270 people, Hermiston held 3783 and Boardman increased to 170 by 1950. Umatilla had a population of 870, while Stanfield increased to 825 in the same year. About Westland, the report said, "Westland, sometimes given as a town, is a country store and trailer camp."[30]

The Westland District increased to 500 on project irrigated farms in 1951, and Stanfield District reached 590. West Division reached 941, and as with the past years all the farms located on the project received irrigation from the project. The population on farms on the East Division increased in 1951, but the population served by the project decreased to 627. The populations of Stanfield and Umatilla both reached 1000 in 1951. Boardman increased to 200, and Irrigon claimed 325 people. Hermiston retained its 1950 population which gave the project a total of 8,966. In the late 1960s the Umatilla Project served 14,307 people on project farms. By 1990 Boardman had 1387 residents, and Irrigon held 737. Umatilla had a population of 3046, and Stanfield numbered 1568. Hermiston grew to 10,040 people by the 1990 census.[31]

Private concerns in the Umatilla area continued attempts to build irrigation systems separate from Reclamation's efforts throughout the project's history. The Furnish Company constructed Furnish Reservoir in 1915. The reservoir proved a small undertaking with a capacity of only 5500 acre-feet. Its capacity quickly declined due to siltation. Later the West Extension Irrigation District built a pumping plant on the Columbia River to augment the district's water supply. This venture did prove successful.[32]

During World War II Reclamation placed signs warning people away from McKay Dam. Radio stations broadcast the same warnings. Reclamation posted four guards on 24 hour shifts at the dam along with floodlights. Pendleton Airfield, which served as a finishing center for combat pilots, was visible from McKay Dam. In emergencies guards blacked out the dam whenever the airfield blacked out. Reclamation installed a siren and telephone in the guardhouse

---

30. Reclamation, *Project History, The Umatilla Project, 1950,* Record Group no. 115, box 199, 34-7.
31. Reclamation, *Project History, The Umatilla Project, 1951,* Record Group no. 115, box 199, 30-3. Department of Commerce, Bureau of the Census, *Twenty First Census of the United States: Population and Housing, 1990,* Bureau of the Census, 1990.
32. Debler, *Water Supply for the Greater Umatilla Project*, 3. Water and Power Resources, *Project Data*, 1238.

to warn of emergencies from the Fire Control Center and the Airfield. The guards at McKay Dam were released in late January, 1944, their services no longer needed. Reclamation continued keeping the floodlights on. The scarcity of labor and close proximity of the Umatilla Ammunition Depot during the war affected the local population. Many ranchers with small land holdings worked at the ammunition depot and ranched during their spare time.[33]

Uses of Project Water

As with most Reclamation projects irrigation constitutes the majority of the water use on the Umatilla Project. The amount of land irrigated by the project steadily increased in conjunction as structures were built and the number of landowners with whom Reclamation reached agreements. Reclamation reported 36,300 irrigable acres with 25,000 in the East Division and 11,300 in the West Extension in 1918. In 1920 the Umatilla Project irrigated 12,028 acres. Irrigated acreage increased to 13,145 the next year. The project irrigated 9100 acres of the East Division. 10,533 irrigable acres were located in the East Division. This increased to 13,330 acres in 1923. In 1950 the project held 32,561 irrigable acres. The project irrigated 6972 acres in the East Division; the Hermiston Irrigation District, 4962 acres in the West Division; the West Extension Irrigation District, 4898 acres in the Westland Irrigation District, and 5206 acres in the Stanfield Irrigation District for a total of 22,038 acres.[34]

The project irrigated lands which fed a limited variety of crops. Alfalfa proved the largest crop constituting over 8000 of the 12,028 acres irrigated in 1920. Apples came in as the second largest crop in 1920, but they only occupied 632 acres. Pasture land and hay fields grew on 422 and 333 acres respectively during that year. Other crops on the project included alfalfa seed, barley, Indian corn, summer corn, small fruits, garden crops, peaches, pears, prunes, potatoes, rye, and wheat. Later oats, millet, straw, melons, grapes, and hops were grown on the

---

33. Reclamation, *Project History, 1942*, 3. *Project History, 1943*, 89. *Project History, 1944*, 6.
34. Reclamation, *Project History, The Umatilla Project, 1918*, Record Group no. 115, box 198, 1. *Project History, The Umatilla Project, 1919*, 99. *Project History, 1920*, 1. *Project History, 1921*, 88. *Project History, The Umatilla Project, 1922*, Record Group no. 115, box 199, 63, 70. *Project History, 1923*, 73. *Project History, The Umatilla Project, 1950*, Record Group no. 115, box 199, 8.

project. Livestock played a role in the agriculture of the project, but to a lesser extent.[35]

Stored water on the Umatilla Project soon became popular for the local population's recreational uses. Boating, fishing, and swimming soon established themselves as preferred activities on McKay Reservoir. One article in *Reclamation Era* proclaimed McKay Dam and Reservoir as Pendleton's recreation area. Anglers eagerly set out on the lake to catch their share of bass, trout, perch, crappies, catfish, and bluegills.[36]

Conclusion

The Umatilla Project did not cover a large area, irrigate a large acreage, nor have any features that captured national attention. The project served the farms surrounding the small communities of Umatilla, Stanfield, Irrigon, and Hermiston. Pendleton enjoyed the advantages of a nearby water recreation area in the otherwise arid plains of Northern Oregon. The agriculture on the project did not gain the familiarity of the Willamette Valley farther to the West, but maintained the lives of a small population of Oregonians. The Umatilla Project served the people by granting their wishes to expand the agriculture of the area and provide water to sustain it.

About the Author

Eric A. Stene was born in Denver, Colorado, July 17, 1965. He received his Bachelor of science in History from Weber State College in Ogden, Utah, in 1988. Stene received his Master of Arts in History from Utah State University in Logan, in 1994, with an emphasis in Western U.S. History. Stene's thesis is entitled *The African American Community of Ogden, Utah: 1910-1950*.

35. Reclamation, *Project History, The Umatilla Project, 1920*, Record Group no. 115, box 198, 96. *Project History, 1950*, 20-1, 29.
36. Nolan Skiff, "McKay Dam and Reservoir, Pendleton's Next Door Recreation Area," *Reclamation Era*, March 1949, 54-6.

Bibliography

Manuscript and Archival Collections

Record Group No. 115. Department of the Interior. Bureau of Reclamation Records.

Project Histories, The Umatilla Project: 1910, 1912-26, 1942-4, 1950-1.

Engineering Reports

Department of Agriculture. *Sedimentation in Cold Spring Reservoir Umatilla County, Oregon, October, 1953*. Soil Conservation Service, Pacific Region, 1953.

Department of the Interior. Bureau of Reclamation. *Water Supply for Greater Umatilla Project, September, 1919*. by E. Debler. Bureau of Reclamation, 1919.

Department of the Interior. Bureau of Reclamation. *Umatilla Storage and Extensions to Umatilla, October, 1918*. Bureau of Reclamation, 1918.

Department of the Interior. Water Resources Branch. *Report on Transmission Losses and Return Flow on Umatilla River, Oregon, 1921-1925*. by G. H. Canfield. U.S. Geological Survey, 1925.

Government Documents

Department of Commerce. Bureau of the Census. *Twenty First Census of the United States, 1990*. Bureau of the Census, 1990.

Department of the Interior. Water and Power Resources Service. *Project Data*. Denver: Government Printing Office, 1981.

Books

James, George Wharton. *Reclaiming the Arid West: The Story of the U.S. Reclamation Service*. New York: Dodd, Mead, and Co., 1917.

Articles

"Contracts Under the Act of December 5, 1924 Umatilla Project." *New Reclamation Era* (November 1926): 198.

Skiff, Nolan. "McKay Dam and Reservoir, Pendleton's Next Door Recreation Area." *Reclamation Era* (March 1949): 54-6.

Index