

# **Rathdrum Prairie Project**

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## **Rathdrum Prairie Project**

The Rathdrum Prairie Project, consisting of the Post Falls, Hayden Lake, and East Greenacres units, provides irrigation water to 10,274 acres of irrigable land, as well as providing a guaranteed domestic and municipal water supply to regional water users.<sup>1</sup>

### **Project Location**

Project lands are located approximately twelve miles north and thirteen miles west of the town of Coeur d'Alene, in Idaho's panhandle. The project's three units, Post Falls, Hayden Lake, and East Greenacres, make up most of Kootenai County, Idaho. The region experiences warm, dry, summers, and cool winters. Average annual precipitation is about twenty inches, with July and August being the driest months. Mean temperatures in the project area range from a low of 26 degrees Fahrenheit in winter to a high of 84 degrees Fahrenheit in summer. The region's growing season totals approximately 200 days. Drainage within the region is very good, eliminating problems of salinity or alkalinity.<sup>2</sup>

### **Historic Setting**

Early inhabitants of Idaho's panhandle consisted of the Kootenai and Coeur d'Alene Indians, who were hunters and gatherers until the encroachment of trappers and explorers brought about changes to their lifestyles, turning them toward more settled agriculture.<sup>3</sup> Trappers, traders, explorers, and settlers on their way westward traveled through this region of Idaho, but few had designs on settling

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1. United States Department of the Interior, Water and Power Resources Service, *Project Data*, (Denver: United States Government Printing Office 1981), 1045.

2. Ibid.; Department of the Interior, Bureau of Reclamation, "Project Histories: Rathdrum Prairie Project, 1976-8, iii in RG 115, Records of the Bureau of Reclamation, Project Histories, National Archives And Records Administration, Denver, Colorado; (hereafter referred to as "Project History" followed by year and page); "Project History," (Hayden Lake Unit) 1949-63, 2, 3; "Project History," (Hayden Lake Unit) 1957, 2; "Project History," (Post Falls Unit) 1947-63, 1; "Project History," (East Greenacres Unit) 1972-3, 183.

3. Robert F. Peterson, *Idaho: A Bicentennial History* (New York: W. W. Norton & Company, Inc., 1976), 20-1.

the area until the later half of the 1800s.<sup>4</sup> However, David Thompson established Kullyspell House as a trading post on Lake Pend Oreille in 1809, and Father Pierre-Jean DeSmet, a Jesuit priest, established a mission at Cataldo, Idaho in 1842 for the purpose of bringing Christianity to the Coeur d'Alene Indians. The first recorded settler in the Rathdrum Prairie region was a trapper named Connors who established the town of Rathdrum in 1861.

The completion of Mullan Road increased the number of settlers to Rathdrum Prairie and vicinity. The trail linked the headwaters of the Missouri and Columbia rivers. Traffic along the trail brought goods, soldiers, settlers and miners from Fort Benton, Montana, around the north end of Coeur d'Alene Lake to Fort Walla Walla, Washington, beginning in 1861. Within ten years, an early settler, Fredrick Post, had built a much needed grist mill at nearby Post Falls, Idaho, and by 1880, had added a sawmill to help meet demands of the region's growing population.<sup>5</sup>

Early agricultural development on Rathdrum Prairie was a direct result of the establishment of Fort Sherman. The military post provided a market for feed for the Army's approximately 100 mules and horses stationed there. Thus, several settlers began farming Rathdrum Prairie to grow barley, hay, and oats to meet the Army's needs. The number of dry farms grew following 1880 as lumbering and mining efforts in the region increased, bringing in more draft animals which needed to be fed. Additional agricultural markets appeared with the completion of the Northern Pacific Railroad's mainline which passed through Rathdrum Prairie beginning in 1883. As the markets increased along with the population, agricultural crops expanded and diversified. Farmers began growing potatoes, wheat, and various fruits and vegetables where moisture conditions permitted.<sup>6</sup>

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4. Ibid., 22-9.

5. "Project History," (East Greenacres Unit) 1972-3, 1-3.

6. Ibid.

The first irrigation efforts on Rathdrum Prairie began in 1889 when three filings for water were made with the idea of irrigating approximately 6000 acres of land using water from Hayden, Hauser, and Twin Lakes. As part of this plan, the Spokane Valley Irrigation Company and the Valley Improvement Company formed and conducted surveys, however, they accomplished very little construction.<sup>7</sup> Within the next fifteen years, five small irrigation districts formed to supply water to large portions of Rathdrum Prairie. These irrigation districts consisted of the Interstate Irrigation District, which later became the Hayden Lake Irrigation District; Avondale Irrigation District; Dalton Gardens Irrigation District; Post Falls Irrigation District; East Greenacres Irrigation District. Hayden Lake, Avondale, Dalton Gardens, and Post Falls Irrigation districts all built systems which utilized Hayden Lake's water supply, while East Greenacres Irrigation District diverted water from Twin Lakes via Rathdrum Creek.<sup>8</sup>

The Post Falls Irrigation District, formed in 1910, built a 3,300 foot long canal which carried water by gravity from Hayden Lake to a pumping plant where it was lifted sufficiently for the flow to reach the district's farms through a distribution system. In the early 1920s, however, the lake's water level fell below the elevation of the inlet to the canal, so that the district needed to pump water from the lake into the canal in order to get the water to the main pumping plant. Throughout the 1920s and 1930s, the district experienced financial and water-supply difficulties, resulting in their irrigated area being reduced to less than 1,000 acres. Repairs required by the system during the 1920s caused the irrigation district to go into debt. In 1940 the district settled its bonded debt and delinquent interest issues with the bondholders through an agreement by which the bondholders accepted a token

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7. Ibid., 2.

8. "Project History," (Hayden Lake Unit) 1949-63, 2.

payment. However, the district continued to experience water shortages and problems with the irrigation system. Within a few years, the system deteriorated to the point that forced the district to abandon irrigation. It was at this point that local interests requested that the Bureau of Reclamation conduct an investigation and consider rehabilitating the district's irrigation system.<sup>9</sup>

The Interstate Irrigation District, formed in 1906, reorganized in 1922, and became the Hayden Lake Irrigation District. The district's original system included an offshore pumping plant on Hayden Lake, that used a 8,600 foot wood-stave pipeline and a distribution system. Shortly after its reorganization, the district obtained \$150,000 by selling bonds, and rebuilt the system. The rebuilt system and the water supply, however, proved inadequate for the district's 2,000 acres. As a result, in 1933 the district refinanced to make repairs and reduced their irrigation area to approximately 1,000 acres. Nonetheless, the irrigation system continued to cause problems. By 1946 the 8,600 foot wood discharge line had deteriorated to a point that it threatened further operation of the irrigation system. Reclamation was asked to look into the district's problem, and after investigation recommended rehabilitating the main supply line that served 1,050 acres.<sup>10</sup>

In the early 1950s, Reclamation investigated the irrigation works within the Avondale and Dalton Gardens Irrigation districts as well. Their investigations concluded that these irrigation systems also needed rehabilitation; their intention was to authorize rehabilitation under the Rathdrum Prairie Project. However, in 1953 each district submitted separate reconstruction plans to Congress. As a result, Congress' appropriation act for fiscal year 1954 designated the rehabilitation of the systems in the Dalton Gardens and Avondale Irrigation Districts as separate projects.<sup>11</sup>

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9. Water and Power Resources Service, *Project Data*, 1046-7; "Project History," 1947-63, vi.

10. "Project History," (Hayden Lake Unit) 1956, 3-5.

11. Water and Power Resources Service, *Project Data*, 17, 419.

The East Greenacres Irrigation District originally planned to build an irrigation system to irrigate 3,000 acres, however, they later reduced that amount to 1,500 acres. The irrigation system they built consisted of pumping water from Twin Lakes, via Rathdrum Creek, into an open canal and lateral system. This system was extremely expensive for the district to maintain and suffered from extremely high water losses. Reclamation began investigations into the possibility of rehabilitating or redesigning and rebuilding the district's irrigation system in 1958. However, in 1960 the Lakeshore Owners Association, a party interested in using the lake for recreation, initiated litigation over the lake's operating levels involving the East Greenacres Irrigation District, which brought a halt to Reclamation's investigations. In 1963 the case was settled, and Reclamation resumed its studies. Reclamation devised a plan to redesign the district's water system to pump water from an underground aquifer rather than Twin Lakes. In February of 1964, water users voted in favor of the project plan. A feasibility report dated May 1966 was issued and recommended construction of a closed pipe pressure system to provide the East Greenacres Irrigation District with both an irrigation and domestic water supply from the underground aquifer.<sup>12</sup>

### **Project Authorization**

Initial project authorization for the Post Falls Unit occurred under the terms of the Water Conservation and Utilization Act of August 11, 1939, as amended. A finding of feasibility for the Post Falls Unit was made by the secretary of the interior on December 24, 1943, and approved by President Franklin Delano Roosevelt on January 29, 1944. Authorization for replacement of the wooden discharge line within the Post Falls Unit was approved through the 1974 Public Works

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12. Ibid., 1047.

Appropriation Act dated August 16, 1973, Public Law 93-97 (87 Stat. 318).<sup>13</sup>

Authorization for the Hayden Lake Unit occurred under a finding of feasibility made by the secretary of the interior on June 9, 1947, under the Reclamation Project Act of 1939. On May 10, 1948, emergency rehabilitation of the Hayden Lake Unit was authorized under the Interior Department Appropriation Act (62 Stat. 221). Additional rehabilitation of the unit was approved July 2, 1956, through Public Law 641 (70 Stat. 474), and authorized under the Public Works Appropriation Act of 1957. Further emergency pipe rehabilitation for the Hayden Lake Unit was authorized by the act of September 22, 1961 (75 Stat. 588).<sup>14</sup>

Authorization for the East Greenacres Unit occurred through the Act of June 23, 1970, Public Law 91-286 (84 Stat. 319).<sup>15</sup>

### **Construction History**

Unlike the original irrigation system, Reclamation's plan for rehabilitation of the Post Falls Unit did not include pumping water from Hayden Lake, but rather installing a pumping plant at a point much closer to project lands, and pumping water from the Spokane River.<sup>16</sup> The Post Falls Unit of the Rathdrum Prairie Project consists of a pumping plant with two pumps, each of which possesses a capacity of 30 cubic feet per second. Water is pumped from the Spokane River into 3,000 feet of pipe, nine miles of canal, and twenty miles of laterals.<sup>17</sup>

Rehabilitation of the Post Falls Unit took place under two contracts. The first contract was issued to Charles A. Power on February 28, 1945. This contract included excavation and construction

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13. "Project History," (Post Falls Unit) 1947-63, vi; Water and Power Resources Services, *Project Data*, 1047.

14. "Project History," (Post Falls Unit) 1947-63, vi; Water and Power Resources Services, *Project Data*, 1047.

15. Water and Power Resources Service, *Project Data*, 1047.

16. "Project History," (Post Falls Unit) 1947-63, vi.

17. "Project History," 1947-63; Water and Power Resources Service, *Project Data*, 1045.



of the pumping plant, which provided for two, 14,000 gallon per minute centrifugal pumps working at a head of 150 feet; installation of 4,800 pounds of electrical equipment; excavation for, and placement of 2,700 linear feet of 42 inch wood stave pipe. The contractor began excavation of the pumping plant prior to receipt of notice to proceed, which he acknowledged on March 28, 1945, setting the completion date on June 26, 1945. The contractor conducted work on the pumping plant's concrete substructure and excavation and erection of the discharge pipe, simultaneously. However, labor shortages and the delayed arrival of materials caused all construction work to proceed on a restricted basis, resulting in a delay of completion of the contract by twenty-five days.<sup>18</sup>

The second contract provided for construction of earthwork, concrete lining, pipelines, structures, and the canal and lateral system. This consisted of six and one half miles of main canal, three and one half miles of laterals, 4,500 linear feet of wood stave pipe siphon, 14,500 foot long concrete pipeline ranging from eighteen to 27 inches in diameter, and 2,400 linear feet of concrete lined canal. Reclamation awarded this contract to Northwestern Engineering Company on April 24, 1945. Work began on May 16, 1945, eight days prior to receipt of notice to proceed. Initial work included clearing of the right-of-way for the main canal and continued with excavation of the canal. Because of the porous material through which the main canal was dug, it was necessary for the contractor to line three miles of the canal with six inch compacted clay overlaid with a six inch protective gravel coating. Work under this contract progressed smoothly, and the contractor completed all construction on April 18, 1946.<sup>19</sup>

The portion of Rathdrum Prairie Project lands served by the Hayden Lake Irrigation District

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18. "Project History," (Post Falls Unit) 1945, 18-9.

19. Ibid., 18, 21-3; "Project History," (Post Falls Unit) 1946, 7.

are located west of Hayden Lake, and approximately five miles north of Coeur d'Alene, Idaho. Initial work by Reclamation on the Hayden Lake Unit came in the form of an emergency rehabilitation of the district's main supply line. This supply line, beginning at the pumping plant located offshore on Hayden Lake, consisted of 8,600 feet of 26 inch wood-stave pipe, and 1,400 feet of 27 inch concrete pipe. In response to appeals by the district's board of directors, Reclamation conducted investigations of the project in 1944 and 1945. These investigations resulted in Reclamation agreeing with the board of directors that continued operation of the district's distribution system required replacement of all the wood-stave pipe and minor repairs to the pumping plant. Bids for rehabilitation of the pipeline opened October 29, 1948, with the contract being awarded to W. L. Raidge on December 29, 1948. The contractor subcontracted with the American Pipe and Construction Company for manufacture of the replacement pipe. Construction began with the delivery of the first 150 feet of pipe, which the contractor installed by March 21, 1949. The contractor finished work on the main discharge line in time to deliver water during the 1949 irrigation season. All other work was completed and accepted by July 16, 1949.<sup>20</sup>

Congress authorized the non-emergency rehabilitation of the Hayden Lake Unit in 1956. This rehabilitation consisted of construction of an onshore pumping plant on Hayden Lake to replace the offshore facility, replacement of the balance of the two mile long main discharge line, as well as construction of a 75,000 gallon steel reservoir.<sup>21</sup> As rehabilitated, the Hayden Lake Pumping Plant pumps water from Hayden Lake into the 75,000 gallon storage tank, which stands 160 feet above the ground in order to provide sprinkler pressure. Water is then carried from the tank into the steel pipe

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20. "Project History," 1976-8, iii; "Project History," (Hayden Lake Unit) vi, 4-5.

21. "Project History," 1976-8, iii; "Project History," (Hayden Lake Unit) 2.

distribution system and to the water users.<sup>22</sup>

Bids for construction of the Hayden Lake Pumping Plant, the elevated steel tank, and the distribution system opened on April 9, 1957, under the same specifications, but different schedules. Schedules 1 and 3 called for construction of the pumping plant and distribution system. Reclamation awarded the contract to Intermountain Company, who received notice to proceed on May 13, 1957. The contractor began construction on May 29, 1957. Work consisted of construction of the pumping plant building with a concrete foundation and a prefabricated steel superstructure; furnishing and installing two pumping units capable of pumping 5,000 gallons per minute at a head of twenty-five feet. Additionally, the contractor set up motor controls and station electrical equipment, furnished and installed one vacuum pumping unit; and put together the steel pipe, fittings, and accessories of the water distribution system. Work progressed with no problems or delays, and the contractor completed construction on April 5, 1958.<sup>23</sup>

Schedule 2 provided the contract for furnishing and erecting the elevated steel tank. On May 7, 1957, Reclamation awarded the contract to Chicago Bridge and Iron Company. The contractor acknowledged notice to proceed that same day. Work began shortly thereafter, with good progress made. By the end of 1957 only the installation of electrical equipment and painting of structures remained. The contractor completed all work by May 2, 1958.<sup>24</sup>

The redesign and reconstruction of the East Greenacres Unit of the Rathdrum Prairie Project was authorized in 1970, however, construction work did not begin until 1972. The plan which Reclamation authorized consisted of construction of a new irrigation system including three deep well

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22. "Project History," 1947-63, vi.

23. "Project History," (Hayden Lake Unit) 1957, 4-5.

24. Ibid.

pumping plant complexes, which had a combined total of fourteen pumps able to produce 87 cubic feet per second of water from an underground aquifer. The plan also provided for construction of a concrete regulating reservoir with float controls and a capacity of 325,000 gallons; a buried pressure pipe ranging from six to 30 inch diameters and heads from 300 to 425 feet; construction of 357 irrigation turnouts varying in size from one to six inches wide, each metered and constructed with a vacuum breaker or a backflow preventer to stop water from reentering the system; placement of 248 one inch wide domestic turnouts each equipped with pressure-reducing valves and meters; construction of power facilities to provide power to the pumping plants; and an office building and crew quarters building provided with the necessary equipment to operate and maintain the project.<sup>25</sup>

Work on the unit began with construction of the project headquarters and crewquarters. Bids for this contract opened June 31, 1972. The government awarded the contract to S.G. Morin and Sons, Incorporated on July 14, 1972. The contractor began construction more than a month later, on August 19, 1972. No problems occurred during construction and the contractor completed all work on January 13, 1973.<sup>26</sup>

On October 1, 1972, Reclamation opened bids for drilling of eleven water supply wells in the East Greenacres District. Although the first and second lowest bidders were E. A. Holman Drilling Company, and Briggs Drilling, these two low bidders were non-responsive to a material requirement of the invitations; therefore, the contract went to Holman Drilling Corporation. The contractor received the contract on December 8, 1972, but did not begin actual drilling until April 9, 1973. No significant delays were encountered by the contractor during construction, and all work under the contract was

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25. Water and Power Resources Service, *Project Data*, 1047; "Project History," 1979-81, 1.

26. "Project History," (East Greenacres Unit) 1972-3, 4.

completed during January of 1974.<sup>27</sup>

September 27, 1973 marked the opening for bids for construction of the district's pipeline distribution system. Reclamation awarded the contract to Perini Corporation on November 6, 1973. The contractor received notice to proceed two days later, setting completion for September of 1975.<sup>28</sup> Perini Corporation opened a local office in Post Falls, Idaho, in January of 1974. The contractor had intended to begin construction shortly after opening the construction office; however, late delivery of steel fittings by the contractor's supplier delayed the start of construction until the early part of March. When construction did begin, the contractor began work on the pipeline crossings under the existing irrigation system's canal.<sup>29</sup> Perini Corporation's contract was divided into two parts. Part I of the contract called for completion of the pipelines and reservoir, which the contractor substantially completed by August 26, 1975. However, Part II of the contract was fraught with problems and delays and was not finished by the September completion date.<sup>30</sup> The contractor completed work by the end of spring in 1976. Work during the first part of that year consisted of repairing breaks in the pipeline system which occurred after the system was filled for its spring water delivery. The contractor also finished final cleanup work during this time.<sup>31</sup>

The next project features to be constructed were the pumping stations. Bids for this contract opened December 13, 1973. Urban Incorporated won the contract on January 30, 1974, and received notice to proceed shortly thereafter. The contractor began work promptly, however, construction efforts were stymied throughout the year. By the end of 1974 approximately 60 percent of

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27. Ibid., "Project History," (East Greenacres Unit), 1974, 2.

28. "Project History," (East Greenacres Unit) 1972-3, 5.

29. "Project History," (East Greenacres Unit) 1974, 2.

30. "Project History," (East Greenacres Unit) 1975, 1.

31. "Project History," (East Greenacres Unit) 1976, 1.

the contract time had expired, with the contractor only completing 23 percent of the work. The contractor also faced several construction delays during 1975. During the first few months of 1976 Urban Incorporated, was able to install the pump motors, connect the electrical systems of the pumping stations, and chlorinate the pipelines. Once the project was essentially completed, the contractor tested the pumping stations. During these tests a variety of problems with the pump motors appeared. Emergency repairs were conducted, and although some units were still in need of major repairs at the beginning of the 1976 irrigation season, enough units were functioning to provide essential irrigation water during the irrigation season. Reclamation accepted the work under the contract as completed on May 17, 1976.<sup>32</sup>

Continual operation of the East Greenacres Unit facilities began in 1976. Pumping operations began for domestic and irrigation purposes on May 17, 1976, and continued under normal operations thereafter.<sup>33</sup> However, construction of all project features was not completed until the end of the year. A contract for completion of well sites 1, 2, and 3, was granted to Northwestern Construction of Washington, Incorporated, on May 28, 1976. This contract provided for construction of sunshades and graveling at all three well sites, and construction of houses around two pumps for use during winter operations. The contractor completed construction on December 18, 1976, ending construction of the East Greenacres Unit.<sup>34</sup>

### **Post-Construction History**

The 1946 irrigation season, the first that the Post Falls Unit was in operation, was not trouble

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32. "Project History," (East Greenacres Unit) 1972-3, 5; "Project History," (East Greenacres Unit) 1974, 2; "Project History," (East Greenacres Unit) 1976, 1.

33. "Project History," (East Greenacres Unit) 1976, 1.

34. *Ibid.*, 1-2.

free. On April 25, 1946, a break in the main canal occurred during priming operations, which undermined the structure and washed out pedestals under approximately 100 feet of the wood-stave pipeline. The Post Falls Irrigation District's maintenance crew had to perform emergency repairs in order to restore the canal to normal operations. Throughout the rest of the irrigation season the district experienced several leaks in the new concrete pipe laterals, which required several short shutdowns for repairs.<sup>35</sup> Additionally, one of the irrigation system's pumps began malfunctioning during operation. District workers had to dismantle the pump in June of 1946, and take it to Coulee Dam for repairs. During this first irrigation season, operators also discovered that several modifications on some of the turnouts and weirs were necessary in order to permit sufficient pressure during water deliveries.<sup>36</sup>

The next three decades saw fewer problems. The Post Falls Irrigation District performed a routine maintenance program and made repairs as necessary. In that time the district replaced screens on inlet valves; replaced a pump motor damaged by lightning; repaired weak spots on the wood-stave pipe, repaired cement structures as needed, kept moss and weeds under control with a chemical and burning program; repaired occasional small canal leaks by lining the trouble spots with clay.<sup>37</sup>

However, by the early 1970s the wood-stave pipeline had become a critical problem. In 1973 district forces rushed to repair several leaks in the discharge line, prior to the beginning of the irrigation season. At this point the Post Falls Irrigation District requested emergency assistance from Reclamation to help them replace the pipeline. Reclamation encountered a problem with this request in that the Emergency Fund Act of June 26, 1948 only provided for assistance for projects governed by federal reclamation laws, and the Post Falls Unit, being authorized under the Water Conservation and

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35. "Project History," (Post Falls Unit) 1946, 10, 13.

36. *Ibid.*, 3-4.

37. "Project History," (Post Falls Unit) 1947-63, 11-22; "Project History," (Post Falls Unit) 1946-66, 4.

Utilization Act of August 11, 1939, did not fall under this category, calling into question the district's eligibility for such assistance. Nonetheless, the commissioner, by letter dated September 20, 1973, authorized emergency funds to replace the wood-stave discharge line with 42 inch diameter steel pipeline. The district completed all work on the discharge pipe prior to the 1974 irrigation season.<sup>38</sup>

By 1976 the irrigation district again looked to Reclamation to investigate the possibility of providing funds for the district to update their entire irrigation system. As requested, Reclamation analyzed the irrigation district but found that a feasibility study was unjustifiable because of the district's financial situation. District finances were regularly exhausted by the operation and maintenance program of their current system, and by their contractual obligations to the federal government. Therefore, Reclamation took no further action in advancing the district's request to rehabilitate their irrigation system.<sup>39</sup> Again, in the early 1980s, the Post Falls Irrigation District contacted Reclamation about receiving funds from the Rehabilitation and Betterment Program. Once again, Reclamation studied the district, but based on the type of crops grown in the area, and additional economic factors, Reclamation found that the district would be unable to repay the costs of the Rehabilitation and Betterment Program, and refused the district's request.<sup>40</sup> Since that time the irrigation district has made repairs as necessary, and continued to maintain their irrigation system.<sup>41</sup>

The Hayden Lake Irrigation District also experienced difficulties following completion of their facilities in 1958. During Reclamation's biennial exam of the Hayden Lake Unit of the Rathdrum Prairie Project, the Dalton Gardens Project, and the Avondale Project, in October of 1959, a 50 foot section

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38. "Project History," 1973-5, N-3 - N-4; "Project History," 1976-8, N-3.

39. "Project History," 1976-8, N-3.

40. "Project History," 1979-81, 49-50.

41. "Project History," 1982-4, 47-53.



of the distribution pipeline from the Dalton Gardens Project was uncovered and examined. This examination revealed that the pipe was severely corroded, and perforated in several places. Since the same contractor had installed the same type of pipe at all three locations, Reclamation feared that all three irrigation districts would need to replace the distribution pipe. After further examination, Reclamation discovered that, indeed, this was the case, requiring the Hayden Lake Irrigation District in the Rathdrum Prairie Project, and the irrigation districts from Dalton Gardens and Avondale projects to replace the pipe over the course of the next four years.<sup>42</sup>

Replacement of the distribution line was the biggest problem faced by the Hayden Lake Irrigation District until the late 1970s. Up to that point the district's main concerns dealt with standard maintenance operations such as weed control, repairing damaged concrete, maintaining pump motors, and repainting features as necessary. However, in 1977, Hayden Lake Irrigation District water users suffered from a severe drought. In August of 1977 the district hired the consulting firm of Meckel Engineering and Surveying to prepare a feasibility study to investigate alternative ways to supplement the district's existing water supply. Based on information from the feasibility study the Hayden Lake Irrigation District's Board of Directors went to Reclamation in September of 1977 with a plan to drill a new well within the district to tap into the region's underground aquifer and alleviate the conditions caused by the drought. Reclamation agreed to the plan and drew up a contract on the last day of September. Both the United States and the district's board of directors signed the contract, which provided for the drilling and development of an irrigation well and related facilities pursuant to the Emergency Drought Act of 1977. However, the contract was nullified following the receipt of a letter dated December 12, 1977, in which the district informed Reclamation that its water users rejected the

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42. "Project History," (Hayden Lake Unit) 1949-63, 13.

program, deciding it would be less expensive to weather the drought.<sup>43</sup>

The majority of post construction work on the East Greenacres Unit has been under their standard maintenance program, which is essentially the same as those from the other two units in the project. However, shortly after completion of the unit, the district began experiencing problems with their flow meters. These problems led to the irrigation district installing turbine meters which provided better service with cheaper maintenance costs.<sup>44</sup> Additionally, in the fall of 1978, one the district's pumping units failed when several of the line shafts broke. As a result, the unit had to be removed, repaired, and reinstalled. The repaired unit worked satisfactorily for a brief period before developing a large oil leak. At that point the district was forced to shut down the unit and send the motor back to the factory for repairs. When reinstalled the second time, the unit caused no further problems and has required only standard maintenance. Since that time the East Greenacres Unit has needed no major repairs or alterations.<sup>45</sup>

### **Settlement of Project Lands**

The majority of the project lands were privately owned prior to construction of the project. However, during 1945 as part of the Water Conservation and Utilization Program, the Department of Agriculture's Security Administration purchased 1,500 acres of land to add to the Post Falls Irrigation District for the purpose of preparing it for irrigation, dividing it into farm units, and selling it to private purchasers. By 1946, Reclamation completed all structural features necessary for delivery of irrigation water to this land and the farm units were sold, increasing the number of privately owned farms on

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43. "Project History," 1976-8, N-3.

44. "Project History," 1979-81, 8.

45. *Ibid.*, 13.

Rathdrum Prairie Project lands.<sup>46</sup>

### **Project Benefits and Uses of Project Water**

The Rathdrum Prairie Project irrigates a total of 10,267 acres of land which produce over one and one-half million dollars worth of crops annually. Since its construction the project has encouraged growth of the towns within its boundaries, and brought additional industries such as processing plants, feed mills, and dairy farms, which help bolster the region's economy. Most of the project's lands are used for small farms which mainly supply their subsequent families with a food source. However, some farm units are large enough to produce marketable crops such as alfalfa, wheat, beans, potatoes, hay, and berries. Initially, most farms were fruit producers, however, competition from areas better suited for fruit production have caused Rathdrum Prairie farmers to diversify their crops. Project water also provides district water users with a reliable source of domestic, municipal, and industrial water.<sup>47</sup>

Construction of the East Greenacres Unit of the Rathdrum Prairie Project greatly improved the region's recreation industry by meeting the district's water demands through groundwater rather than utilizing the water from nearby Twin Lakes. This stabilized the water level in the lake and made it more inhabitable for local fish populations. Additionally, by eliminating irrigation demands from the lake, recreational opportunities such as boating, water skiing, and the like, have increased greatly. Therefore, construction of the project has increased the region's tourist industry as well.<sup>48</sup>

### **Conclusion**

Reclamation's rehabilitation of the irrigation systems within the Rathdrum Prairie Project have

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46. "Project History," (Post Falls Unit) 1945, 12, 25.

47. "Project History," 1982-4, N-4; "Project History, (Post Falls Unit) 1945, 26-7; "Project History," (Post Falls Unit) 1947-63, vi; "Project History (Hayden Lake Unit) 1949-63, 178; "Project History," (East Greenacres Unit) 1972-3, 3.

48. "Project History," (East Greenacres Unit) 1972-3, 1, 186.

greatly aided the irrigation districts within the project. By rehabilitating the project, Reclamation has provided the Post Falls and Hayden Lake Irrigation Districts with an efficient and reliable supply of irrigation water. Additionally, it has provided the East Greenacres Irrigation District with not only a reliable source of irrigation water, but of domestic water as well. As a result the economies of these districts benefit from being able to grow crops, and from the tourist industry associated with the recreational activities on Twin Lakes.

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