

# **Rogue River Basin Project**

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## **The Rogue River Basin Project**

The primary purpose of Reclamation projects has always been irrigation and settlement of the arid American West. Oftentimes, however, these projects provide secondary benefits in the form of flood control, recreation, hydropower generation, and even enhanced wildlife opportunities. In the case of the Rogue River Basin Project, the intended irrigation benefits played an important role in the continued prosperity of the region, but the flood control benefits it provided during the mid-1960s almost outweigh the continued irrigation benefits. Without the control of the local water system provided by the Rogue River Basin Project's various storage facilities, flood damage and loss of life in the area would have been significantly greater.

### **Project Location**

The Rogue River Basin Project, Talent Division, occupies the southeastern part of the Rogue River Basin and the northeastern part of the Klamath River Basin in southwestern Oregon, on the western side of the Cascade Divide. Cities in the vicinity of the project include, Medford, Ashland, Talent, Phoenix, Central Point, and Jacksonville. Project facilities consist of Howard Prairie Dam and Lake (on Beaver Creek), Howard Prairie Delivery Canal, Keene Creek Dam (on Keene Creek), Green Springs Powerplant, the enlarged Emigrant Dam and Lake (on Emigrant Creek), Agate Dam and Reservoir (on Dry Creek), Fourmile Lake (on Fourmile Creek), Fish Lake (on Little Butte Creek), and rehabilitated facilities of the Medford Irrigation District, the Rogue River Valley Irrigation District, and the Talent Irrigation District. The bulk of the rehabilitation work occurred on the irrigation delivery system built by the Irrigation Districts prior to Reclamation's involvement in the area. The Districts carried out much of the rehabilitation work themselves under Reclamation supervision. Both the Medford Irrigation District and the Rogue River Valley Irrigation District are located in the lower Bear Creek

Valley, a tributary of the Rogue River, adjacent to the city of Medford in southern Oregon. The Talent Irrigation District is in the Rogue River Basin in extreme southern Oregon.

The project's water collection and storage facilities sit in the Cascade Mountain Range of Jackson County in southwestern Oregon. Project lands lie in the Bear Creek Basin. Specifically, lands in the Medford Irrigation District lie along both sides of Bear Creek, extending from Phoenix northwest (downstream) to Medford, west to Jacksonville and Central Point, and east to the slope of Roxy Ann Peak. Rogue River Valley Irrigation District lands also lie along both sides of Bear Creek, beginning adjacent to the Medford Irrigation District lands and moving northwest (downstream). Lands of the Rogue River Valley Irrigation District extend from the city of Medford on the south, to the Rogue River on the north, and from west of Central Point eastward to Little Butte Creek. The Talent Irrigation District is located southwestern Oregon. Project lands in the Talent Irrigation District extend west roughly forty-five miles from the project collection facilities located high in the Cascade Mountains towards Medford.<sup>1</sup>

### **Historic Setting**

### **Prehistoric Setting**

Because the Rogue River Basin Project crosses the Cascade Mountain range, its historic setting encompasses two distinct native cultures. The project covers both the Northwest Coast area, as well as the Great Basin region.

Archaeological evidence shows that parts of the Northwest Coast have been inhabited – or at least visited – for an estimated 13,000 years. The Northwest Coast region consists of the coastal region reaching from southern Oregon north through British Columbia and just touching

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1. United States Department of the Interior, Bureau of Reclamation, "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1955," 1-2, 5; "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1956," 4; United States Department of the Interior, Water and Power Resources Service, *Project Data*, (Denver: Government Printing Office, 1981), 1068-9.

the southern tip of Alaska – a length of approximately 1,500 miles. The Cascade and Coast mountain ranges provide the eastern border, giving the region a width of only about 200 miles. Archaeologists speculate that the earliest inhabitants were the coastally adapted peoples who followed the edges of the glaciers south. Over time, many distinct tribes and cultures made their homes within this larger region. Along the Oregon coast alone the inhabitants can be split into three distinct cultures; the geological division between the Coast Range and the Klamath Mountains provides the boundary between two of them.

As with most native cultures, the Northwest coast tribes were largely nomadic, however, many made camp during the winter months because of the weather. Each tribe had its own language and culture though there were similarities between tribes that roamed nearby. Even within tribes there existed distinct languages. The Athapaskans, who occupied the project area, spoke four different languages with varying dialects within those languages.<sup>2</sup>

The archeological record places various native dwellers in the Great Basin approximately 12,000 years ago. The Great Basin region—eastern Oregon, southern Idaho, Nevada, Utah, and portions of California, Wyoming, and Colorado—provided homes for many different, mostly nomadic inhabitants. The culture of these residents remained relatively contiguous and largely free of outside influence. Eventually, perhaps thousands of years later, these nomadic groups settled into particular areas and established distinct cultures and bands. Over time these early cultures gradually adopted similar languages, allowing them to communicate with each other but yet retain their individual lifestyles. Despite their unique cultures archaeologists classify these

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2. William C. Sturtevant, ed, *Handbook of North American Indians*, Vol. 7, *Northwest Coast*, Wayne Suttles, ed, (Washington, D.C.: Smithsonian Institution, 1990), 14, 15, 554, 580-7; Phillip Kopper, *The Smithsonian Book of North American Indians: Before the Coming of the Europeans*(Washington, D.C.: Smithsonian Books, 1986), 201-7.

linguistically connected bands together as a single tribe, the Northern Paiute.<sup>3</sup>

### **Historic Setting**

The Northern Paiute settled throughout eastern Oregon and western Nevada about one-thousand years ago. At the time of European contact the Paiute consisted of several culturally and politically distinct cultures bound linguistically, all speaking the Northern Paiute language. These early tribes were semi-nomadic and traversed the region in small bands hunting, gathering, and fishing.

Life changed rather dramatically for portions of the Northern Paiute, principally those living in eastern Oregon, during the late eighteenth century when the horse, originally brought to the Americas by Spanish conquistadors and readily taken up by the Plains tribes, made its way to the northern reaches of the Great Basin. The acceptance of the horse by the Plains tribes accelerated the horse's migration throughout the west. The first group of Northern Paiute to adopt the horse radically altered their culture in response; after traveling with their Northern Shoshone neighbors for many years this portion of the tribe became known as the Bannocks.

Not all the Northern Paiute adopted the horse as readily as the Bannocks. Peter Skene Ogden of the Hudson's Bay Company documented in detail his travel throughout the region as a trapper, including descriptions of the various inhabitants he encountered. Ogden's 1826 account included a description of a group of Northern Paiute living in north central Oregon near the Deschutes River. This particular band of Northern Paiute that Ogden encountered either used few horses or none at all. Instead the majority of the Northern Paiute continued their traditional means of subsistence, fishing, gathering, and hunting. Many of the trappers and explorers documented the existence of horses throughout the Great Basin and the apparent choice by the

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3. William C. Sturtevant, ed, *Handbook of North American Indians*, Vol. 11, *Great Basin*, Warren L. D'Azevedo, ed, (Washington, D.C.: Smithsonian Institution, 1986), 121, 124.

Northern Paiute not to integrate the animal into their established cultures.

As the Euro-American presence in the west increased through migration and settlement so did the outside influences on the native inhabitants. Not surprisingly local acceptance and use of the horse coincided with the marked increase in traffic west through the Northern Paiute country during the late 1840s and 1850s. With the arrival of the horse many Paiute hunters consolidated into mounted raiding groups targeting the migrating settlers which escalated already hostile relations between the two entities.<sup>4</sup>

Contact between the Northwest coast tribes, specifically the Athapaskan, and Anglos date back to 1788 when Robert Gray viewed several of their populous coast villages. Gray began trading with Athapaskans in spring of 1792. More regular contact between settlers and tribes of the Northwest coast began in the 1820s with the establishment of Fort Umpqua.<sup>5</sup>

The first lengthy explorations of the Rogue River Valley began as early as 1825, when Jedediah Smith of the Rocky Mountain Fur Company traversed the area as he journeyed from his post on the American River to Vancouver where he sold \$40,000 worth of furs to the Hudson's Bay Company. En route, Native Americans along Umpqua river destroyed his party, however the Hudson's Bay Company was able to recover his furs. In 1828, the Hudson's Bay Company sent Alexander McLeod and Joe McLaughlin to explore the area. Their reports prompted further investigations and eventually settlement. In 1838, a group of independent trappers guided Ewing Young and seven or eight hundred head of cattle through the valley destined for the Willamette Missions. In 1841, the government became interested in the area and sent Lieutenant Emmons

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4. United States Department of the Interior, Bureau of Reclamation, "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1956," 1-2.

5. Sturtevant, Vol. 7, 182-5, 586.

and J. D. Dana, a noted geologist, to explore the valley.<sup>6</sup>

Anglo migration west devastated the Paiute culture. The California Trail passed through the center of Paiute territory disrupting traditional Paiute subsistence patterns. Many Paiute responded to the invasion of their native lands by moving further north into Oregon; the Oregon Trail touched only a small part of Paiute territory in the far north. Others chose to capitalize on the situation and found new means for subsistence in the wagons and stock traveling west to California in search of gold.<sup>7</sup>

The California gold rush did more to Oregon than just devastate the native landscape and inhabitants. Overland westward migration also brought settlement to the Oregon territory, then comprising most of Oregon and Washington as well as part of Idaho; Oregon officially became a territory in August of 1848. Previous attempts to settle the region, primarily missionary endeavors, made little overall impact on the region, however the massive western migration undertaken after 1848 provided the impetus needed to actually settle parts of the region. Many of these early settlements logically occurred on the western side of the Cascade Mountains, the east retaining its distinction of being part of the “Great American Desert.”

The same year that settlement of the Oregon territory began in earnest, 1859, prospectors discovered gold and silver and in Northern Paiute territory; the Virginia Range in western Nevada and the Owyhee basin in Oregon and Idaho. The promise of mineral wealth brought prospectors and businessmen to the region, joining the farmers and missionaries already there. The Northern Paiute, for the most part mounted on horseback by this point, responded to this new influx of settlers with increased hostility. In an attempt to forestall any further damage to

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6. United States Department of the Interior, Bureau of Reclamation, “Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1956,” 1-2.

7. Sturtevant, Vol. 11, 126, 435, 436, 455, 456.



their native lands the Paiute chose to attack various encampments throughout the region.

Actual settlement of the Rogue River Valley began in 1851, after the defeat of the Native Americans by General Phil Kearney and establishment of Fort Lane at the mouth of Bear Creek. That summer many settlers entered the valley and settlements sprang up at Phoenix, Talent, Ashland, Willow Springs, and throughout the rest of the valley. These early settlements were primarily agricultural and had little to do with the discovery of gold at nearby Jacksonville and Applegate. However, many who came to the mines chose to stay within the valley.<sup>8</sup>

As with the majority of the western tribes, the gold rush shattered the Athapaskans and the neighboring tribes. The local gold rush began in January of 1852, with the discovery of gold on Jackson Creek in the Rogue River drainage. The subsequent rush for resources led to conflict between the new, mostly male Anglo, population and the tribes. Oftentimes the new mining population formed companies of volunteers. In 1853-1854, these volunteers massacred the Takelma, Shasta, Chetco, and Lower Coquille Indians. A slight military presence at Fort Oxford and Fort Lane, both established in 1853, did little to deter the hostilities.

Outright massacre was not the only method the miners employed to drive the native tribes from the area. Though inadvertent, the flood of mining debris took a significant toll on several important fisheries. Miners drove the tribes from their established villages on the stream terraces. These activities combined reduced several tribes to starvation. In some instances, children were enslaved as “pet” Indians, women were raped, and men murdered. Hunger, deception, a sense of desperation, and anger drove the tribes to fight back.

In October of 1855, the final Rogue River War erupted after a company of volunteers attacked a peaceful camp near the Table Rock Reservation. Fearful of further attacks the

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8. “Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1956,” 1-2.

Takelmas fled the reservation for the canyons of the Rogue River. Volunteer soldiers followed and assailed the refuges for the next several months. The U.S. Army brought an end to the hostilities in June of 1856 when it defeated the various bands at the Big Bend of Rogue River. All told, several hundred Native Americans and approximately fifty settlers and miners perished during the conflict. The final resolution to the conflict was the forced removal of all the remaining Native Americans to distant reservations.<sup>9</sup>

The hot dry Oregon summers, coupled with the necessity of keeping livestock close to the settlements, emphasized the need for irrigation. Residents addressed this need with simple stream diversions which furnished irrigation water to summer pastures, and by 1860, residents had irrigated nearly 4,000 acres throughout the valley. Gradually the lands under cultivation grew until residents appropriated the summer flow of all tributary streams in the area. By 1890, residents irrigated 17,000 acres. These early successes spawned attempts to control the larger streams, notably Bear Creek, which in turn proved the inadequacies of the local mediums available to handle the needed expansion.

For the most part, residents confined their early agricultural attempts to raising grain for fattening livestock, though a few planted home orchards. Peter Britt brought the first fruit trees to Jackson County in 1859. The Britt Orchard, located near Jacksonville, boasted pears, plums, prunes, and apples, as well as a small vineyard with many grape varieties. Other residents followed in Britt's footsteps and attempted to cultivate other orchards, but a shortage of water and lack of market and available transportation eventually doomed many of these endeavors. However, these early attempts laid the foundation for the later fruit industry in the region. With completion of the railroad in 1887, the fruit growing potential of the valley became known to

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9. Sturtevant, Vol. 7, 182-5, 586.

those outside the valley and commercial orchards were planted around Ashland. Unfortunately, erratic summer water supplies doomed the venture, unless late season requirements were met.<sup>10</sup>

Lands irrigated by the Rogue River Basin Project have been in private ownership and most of them under cultivation since prior to the turn of the twentieth century. Settlers obtained the first irrigation supply for these lands from Bear Creek and its tributaries; this water supply later became inadequate. Anticipating a need for irrigation water, settlers organized the Fish Lake Water Company in 1898. Organizers patterned the company after the Carey Land Act companies. At the same time, to further aid in development of the area, water users organized, for the purpose of acquiring and selling land, the Jackson County Improvement Company as a subsidiary corporation to the Fish Lake Water Company. The water company planned to irrigate 55,000 acres, most of which lay in the Bear Creek Valley, extending from Talent to the Rogue River. To meet the increased demand, the company proposed a diversion of Little Butte Creek and storage in Fish Lake and Four Mile Lake. Water from Four Mile Lake could then be diverted through a canal into the Fish Lake drainage basin. From Fish Lake the water could flow down the North Fork of the Little Butte Creek to the Main Canal intake.

The water company began delivering some water in 1902, by diverting from Little Butte Creek and using a small amount of storage at Fish Lake. By June of 1904, the company finished the Main Canal to Bradshaw Drop, a distance of about sixteen miles. In addition, the company constructed ten miles of laterals to deliver water to the company's lands. The company also surveyed Fish Lake for construction of a storage reservoir, and filed applications with the State Engineer and the Secretary of the Interior. In 1906, the company built additional laterals, surveyed Four Mile Lake and the connecting canal, and filed an application for right-of-way.

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10. "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1956," 1-2; "Annual Project History, Rogue River Basin Project—Oregon, Volume 9, 1963-1964" 2.

In 1908, the Public Water Company bought the Fish Lake Water Company. The Public Water Company then constructed temporary dams in Fish Lake and Four Mile Lake and enlarged portions of the system. In 1910, the water company started working on a canal connecting Four Mile and Fish Lakes, but they accomplished little. In May of 1910, local water users incorporated the Rogue River Valley Canal Company. Later the same year, the original holdings of the Fish Lake Water Company were transferred to the new canal company. Similarly, holdings of the Jackson County Improvement Company transferred to Rogue Lands, Inc., a corporation organized for a like purpose.

During 1915, the canal company removed the temporary dam at Fish Lake and replaced it with a permanent structure. By this time, the various water companies had constructed approximately 17,000 feet of canal from the outlet of Four Mile Lake toward the divide and into Ursa Creek, a tributary of Lake of the Woods. In the fall of 1915, the canal company constructed an additional 7,5000 feet of canal diverting from Ursa Creek, across a saddle into Dry Creek, and from Dry Creek into Fish Lake Basin. This latter portion of the canal later became known as the Cascade Canal. The newly constructed Fish Lake Dam developed a leak in 1917, resulting in its partial destruction. The dam as it stood prior to Reclamation's rehabilitation was reconstructed in 1922, with some additional work in 1923 and 1927.<sup>11</sup>

Water users organized the Medford Irrigation District on September 15, 1917, to irrigate additional lands in the Bear Creek Valley. The Medford Irrigation District then contracted with the Rogue River Valley Canal Company whereby the irrigation district constructed additional canals, dams, storage, and other irrigation works to irrigate their lands using water rights garnered from the existing canal company. In a contract dated, March 9, 1929, the two

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11. "Annual Project History, Rogue River Basin Project—Oregon, Volume I, 1955," 5-6.

districts divided ownership of the existing water rights and physical structures. One-third ownership remained with the Rogue River Valley Canal Company while two-thirds ownership reverted to the new Medford Irrigation District. Soon after, in September of 1929, local residents formed the Rogue River Valley Irrigation District and purchased the Hopkins canal and all other properties, rights, and equities—these included one-third of all water rights originally owned by the company and one-third of all physical property above Bradshaw drop—held by the Rogue River Valley Canal Company. The Hopkins Canal, though merely a lateral of the integrated irrigation system, became the main delivery medium of the Rogue River Valley Irrigation District just as the Medford Canal is the main delivery medium of the Medford Irrigation District. The Hopkins Canal provided water to one of the first orchards in the valley, located immediately south of Central Point. The orchard, originally known as the Oldwell Snowy Butte Orchard, later became the Hopkins Orchard, which in turn lent its name to the Hopkins Canal.<sup>12</sup>

The Talent Irrigation District, also located in the Rogue River Basin, dates back to 1916; irrigation in the area dates back to 1851. Lands in this area include several productive pear orchards. Major development of the district occurred in the early 1920s, when the irrigation district constructed many of its irrigation facilities.<sup>13</sup>

### **Project Authorization**

As early as 1915, in response to requests involving irrigation development in the Rogue River Basin, the Reclamation Service (later changed to the Bureau of Reclamation), in cooperation with the State of Oregon, began investigations in the area. As part of a cooperative agreement between the state and Reclamation the State Engineer withdrew all unappropriated

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12. “Annual Project History, Rogue River Basin Project—Oregon, Volume I, 1955,” 7.

13. “Annual Project History, Rogue River Basin Project—Oregon, Volume I, 1955,” 8.

direct flows of Rogue River and its tributaries above Raygold for the purpose of irrigation, power, domestic use, and storage. These withdrawals remained in effect even after investigations in the area ceased. Reclamation published the first report on irrigation potential in the area in 1916. This report described water supply, storage reservoirs, and delivery and distribution canals previously developed, as well as additional features later developed by the local irrigation districts. In 1918, Reclamation published a second report detailing the existing features and possibilities for expansion of irrigation works. Nothing came of the initial investigations, outside of continued irrigation development by local water users.

In 1938, the Medford Irrigation District and the Rogue River Valley Irrigation District, in cooperation with Josephine and Jackson Counties and the State of Oregon, initiated additional investigations to study irrigation and multipurpose possibilities of the Rogue River Basin. The preliminary investigations led to the Reclamation Project Investigation Report No. 27, in 1940, and additional investigations of a basin-wide nature. The basin-wide investigations highlighted various plans for development of the basin which Reclamation detailed in a 1948 report.

In 1952, the irrigation districts began investigating the costs of rehabilitation of the existing irrigation system. The consulting engineer they hired recommended replacement of much of the distribution system. A Reclamation report the next year detailed plans for construction of the Rogue River Basin Project, Talent Division. In December of 1953, the irrigation districts requested Reclamation's cooperation in making an engineering appraisal of needed rehabilitation work on the facilities of both the Medford Irrigation District and the Rogue River Valley Irrigation District. After inspecting the facilities, Reclamation concluded that many structures required rehabilitation work. After pursuing and discounting other possible methods

of obtaining the rehabilitation work, the districts approached Reclamation as a last resort.<sup>14</sup>

Based on previous investigations and reports, on October 7, 1949, Congress authorized the rehabilitation and betterment of facilities located in the Medford and Rogue River Valley Irrigation Districts. On August 20, 1954, Congress authorized construction of the Rogue River Basin Project, Talent Division. Congress authorized construction of the last project features, the Agate Dam and Reservoir, on October 1, 1962.<sup>15</sup>

### **Construction History**

The first year of construction activities on the project, 1955, focused on the rehabilitation and betterment of the existing irrigation facilities of the Medford Irrigation District, the Rogue River Valley Irrigation District, and the Talent Irrigation District. For the most part, the Irrigation Districts were responsible for the bulk of these activities under Reclamation's supervision.<sup>16</sup>

Part of the rehabilitation of existing project features included reconstruction of the existing Four Mile Lake and construction of Fish Lake Dam and Reservoir. Reclamation awarded this contract to R. K. Shelton Construction on August 3, 1955. Rehabilitation of Four Mile Lake was minor and the contractor finished work on this portion of the contract on November 30, 1955. Work on the remainder of the contract, construction of Fish Lake Dam and Reservoir, took another year, and Reclamation accepted the entire contract as complete on October 17, 1956.<sup>17</sup>

Reclamation awarded the first construction contract on the Rogue River Basin Project,

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14. "Annual Project History, Rogue River Basin Project—Oregon, Volume I, 1955," 8-9.

15. United States Department of the Interior, Water and Power Resources Service, *Project Data*, (Denver: Government Printing Office, 1981), 1071.

16. "Annual Project History, Rogue River Basin Project—Oregon, Volume 1, 1955," 4-5.

17. "Annual Project History, Rogue River Basin Project—Oregon, Volume 1, 1955," 4; "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, 1956," 63, 75-6.

Talent Division on August 31, 1956. The contract, for construction of the Deadwood Tunnel, went to Lord Brothers, Portland, Oregon. Not long after construction activities began on the tunnel, the Teamsters Operating Engineers and Laborers Union placed a picket line around the downstream portal, requesting an additional two dollars a day travel time. After the contractor forwarded the request to an arbitration board, work resumed on the project. The contractor completed holing through the tunnel on August 31, 1957. Reclamation accepted the work under this contract as complete on March 8, 1958.

Reclamation awarded the contract for construction of the Howard Prairie Dam and Lake to R. A. Heintz Construction Company of Portland, Oregon, on December 28, 1956. The contractor received the notice to proceed on February 18, 1957. Actual construction activities began on April 30, 1957, after the spring thaw. By June the contractor cleared enough of the damsite to divert Grizzly Creek through a channel along the toe of the left abutment. Except for temporary winter shutdowns, construction work on this portion of the project proceeded virtually without incident and Reclamation accepted the contract as essentially complete on November 22, 1958.<sup>18</sup>

Reclamation awarded the contract for construction of the Howard Prairie Delivery Canal to Cherf Brother, Inc., Sandkay Contractors, Inc., and S. Birch and Sons Construction Co., (a joint venture) of Ephrata, Washington, on May 27, 1957. The contractors received the notice to proceed on May 31, 1957, and construction activities began June 10, 1957. Work took approximately two years and Reclamation accepted the contract as complete on June 13, 1959.<sup>19</sup>

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18. "Annual Project History, Rogue River Basin Project—Oregon, Volume 1, 1955," 7-13; "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, Volume 3, 1957," 11, 18, 26, 40; United States Department of the Interior, Bureau of Reclamation, *Technical Record of Design and Construction: Rogue River Basin Project (Talent Division)*, (Denver, Colorado, February 1962), 305.

19. *Technical Record of Design and Construction*, 331; "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, Volume 3, 1957," 19, 22, 27.



Reclamation opened bids for construction of Keene Creek Dam and Green Springs Power Conduit on September 10, 1957. On October 11, 1957, Reclamation awarded the contract to Cheney-Cherf-Sandkay-Green and Birch, of Seattle, Washington. A subsequent union-called labor strike in May of 1958, and a operating engineers' strike in July of the same year, halted construction activities on the project for a period of nearly two months. The strike officially ended August 18, 1958. The strikes delayed completion of the project slightly. On April 18, 1958, the contractor holed through the Cascade divide tunnel. The second tunnel, the Green Springs tunnel was holed through on November 13, 1958. Reclamation accepted the contract as complete on August 14, 1959.<sup>20</sup>

Reclamation opened bids for construction of Green Springs Powerplant, Switchyard, and Penstock, on June 18, 1957. Reclamation awarded the contract, on June 28, 1957, to Wismer and Becker and P.S. Lord. The contract received the notice to proceed on July 31, 1957, and began work the same day. Reclamation accepted the contract as complete on November 28, 1959, prior to performing load tests on the plant. Reclamation completed load tests February 4, 1960, finishing all work on this portion of the project.<sup>21</sup>

Reclamation opened bids for the next phase of construction on the project, enlargement of Emigrant Dam, on June 3, 1958. R. A. Heintz Construction Company submitted the low bid and Reclamation awarded them the contract on June 25, 1958. Due to the ongoing strike, the contractor actually began work on the project nearly two months later on August 19, 1958, a day after the strike finally ended. After construction activities actually began, work proceeded relatively smoothly. In 1960, after construction operations started, the National Park Service, in

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20. *Technical Record of Design and Construction*, 339; "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, Volume 4, 1958," 29, 88.

21. *Technical Record of Design and Construction*, 365.

conjunction with the University of Oregon, issued a report stating that the area to be inundated by Emigrant Lake was not archaeologically significant and did not warrant preservation. Also in 1960, Reclamation determined that the auxiliary arch portion of the existing dam needed to be removed. The contractor completed its removal in April of 1960. By October, the contractor had completely covered the old concrete dam. Work continued without incident and Reclamation accepted the contract as complete on April 1, 1961.

Concurrent with construction activities on Emigrant Dam, Reclamation contracted with Wm. Gross Contracting Company of Auburn, California, to relocate the existing Hill Cemetery to avoid its inundation by waters of the enlarged Emigrant Lake. Reclamation awarded the contract on June 12, 1958, and the contractor began work at the beginning of July. The strike did not impact this portion of the project. The contract involved the excavation and re-internment of eighty remains, including the re-erection of existing grave monuments, stones, lot monuments and concrete and stone tombs. The contractor completed all work on the contract and Reclamation accepted it as complete on September 24, 1958.<sup>22</sup>

In 1960, Reclamation awarded a contract to Thomas J. Parker of Ashland, Oregon, for installation of a fish screen structure at Hyatt Prairie Dam, previously constructed by the Talent Irrigation District. The contractor began work on the structure in September, after the close of the irrigation season. Concrete placement for the structure started immediately and was completed by October. The contractor erected the frames in November and began installation of the screens soon after. Reclamation accepted all work under the contract as complete on

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22. *Technical Record of Design and Construction*, 395; "Annual Project History, Rogue River Basin Project—Oregon, Grants Pass Project—Oregon, Volume 4, 1958," 43, 51, 59, 69; "Annual Project History, Rogue River Basin Project—Oregon, Volume 6, 1960," 9, 29, 63; "Annual Project History, Rogue River Basin Project—Oregon, Volume 7, 1961," 42.

April 28, 1961.<sup>23</sup>

Reclamation transferred the bulk of project facilities to the respective Irrigation Districts for operation and maintenance January 1, 1961. The remaining features were transferred April 15, 1961. Previously, Reclamation transferred operation of the recreational facilities at Howard Prairie and Emigrant Lakes to Jackson County: Howard Prairie Lake on November 18, 1960, and Emigrant Lake on April 1, 1961.<sup>24</sup>

Reclamation began exploratory work on the Agate Dam, the last project feature constructed, in March of 1964. In July of 1964, Reclamation awarded the first contract on this final portion of the project for clearing of the damsite and reservoir area. This contract went to Sprague's Inc., on August 3, 1964, and work began on August 11. Reclamation accepted the contract as substantially complete on February 10, 1965.

Reclamation opened bids for construction of Agate Dam on February 18, 1965. Soon after Reclamation awarded the contract to Sandkay Construction Company, Inc., of Ephrata, Washington. The contractor began work on March 25. Work on the project proceeded at a fairly rapid pace. The contractor diverted Dry Creek during the month of May, allowing for placement of embankment materials in the dam structure and pouring of concrete in the outlet works structure. By February of 1966, the contractor completed the majority of the work on the project. Reclamation accepted the contract as complete the following April of 1966. The original contract completion date was December of 1966. Reclamation held dedication ceremonies for the structure on May 6, 1966. Invited speakers at the dedication included, Gilbert Stamm, Assistant Commissioner for Reclamation, Oregon State Governor Mark Hatfield, and

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23. "Annual Project History, Rogue River Basin Project—Oregon, Volume 6, 1960," 36, 40, 5, 65, 69; "Annual Project History, Rogue River Basin Project—Oregon, Volume 7, 1961," 42.

24. "Annual Project History, Rogue River Basin Project—Oregon, Volume 7, 1961," 13, 187; "Annual Project History, Rogue River Basin Project—Oregon, Volume 8, 1962," 159.

Congressman Robert Duncan. Reclamation turned the structure over to the water users for operation and maintenance and closed the Rogue River Basin Project Office in June of 1966.<sup>25</sup>

The initial water collection facilities of the Rogue River Basin Project, Talent Division, begin in the Cascade Mountains of Jackson County in southwestern Oregon. Runoff from mountain snows enters the South Fork of Little Butte Creek, which then becomes the initial diversion point for project water. A tunnel beneath the Cascade Divide diverts excess flows of Little Butte Creek to Howard Prairie Lake. Howard Prairie Dam stores collection canal diversions and Beaver Creek runoff. From Howard Prairie Lake the Howard Prairie delivery canal conveys water, as well as collects additional runoff, to Keene Creek Regulating Reservoir, which also regulates releases from Hyatt Prairie Reservoir. From Keene Creek Reservoir a tunnel and conduit carry water over a mile across the Cascade Divide and down to Green Springs Powerplant on Emigrant Creek. A second tunnel then carries water from the powerplant nearly two miles to Emigrant Lake. Emigrant Dam and Lake then stores powerplant releases for irrigation usage. Agate Dam, on Dry Creek, stores water diverted from Antelope Creek and Little Butte Creek also for irrigation usage.

Howard Prairie Dam, a zoned earthfill structure with a height of 100 feet and a crest length of 1,040 feet, contains 416,000 cubic yards (cy) of material. The dam itself sits across Beaver Creek, eighteen miles east of Ashland, Oregon. The resulting reservoir, Howard Prairie Lake, has a total capacity of 62,1000 acre-feet.

Keene Creek Dam sits on Keene Creek, roughly sixteen miles east of Ashland, Oregon. The 558-foot long and 78-foot high earthfill dam forms the 340-acre-foot Keene Creek

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25. "Annual Project History, Rogue River Basin Project—Oregon, Volume 9, 1963-1964," 49, 54, 57, 60; "Annual Project History, Rogue River Basin Project—Oregon, Volume 10, 1965-1966," 6, 7, 11, 16, 48, 157, 160, 179, 183.

Reservoir. The reservoir, in conjunction with the dam, regulates releases from both Howard Prairie and Hyatt Prairie Reservoirs. The reservoir also provides a forebay for Green Springs Powerplant and contains sufficient water to maintain the weekly cycle of powerplant operation.

The Green Springs Powerplant provides power to the local utility, PacifiCorp-West who in turn distributes it to local residents. Green Springs also holds the distinction of being Reclamation's only powerplant in Oregon. An isolated outdoor-type plant, Green Springs, began operating in 1960. The plant has a capacity of 16,000-kW and a penstock discharge of 133 cubic feet per second operating under 1,800 feet of rated head.

Emigrant Dam, originally a 110-foot high thin-arch concrete dam, became a 204-foot high zoned earthfill structure after Reclamation rehabilitated it. The dam sits across Emigrant Creek, about eight miles southeast of Ashland, Oregon, and helps reregulate powerplant discharges for irrigation. The resulting reservoir, Emigrant Lake, covers 806 acres and has a total capacity of 40,500 acre-feet.

Agate Dam, a zoned earthfill structure, sits on Dry Creek about eleven miles northeast of Medford, Oregon. The dam itself extends 3,800 feet across the creek with a structural height of eighty-six feet. The resulting reservoir, Agate Reservoir, covers 216 acres with an active capacity of 4,670 acre-feet.<sup>26</sup>

### **Post-Construction History**

Not long after the end of the first portion of construction activities on the project, the Irrigation Districts began additional work on the distribution system. This work included, constructing additional laterals to aid in water distribution, extending several recently rehabilitated laterals, and the concrete lining of several existing canals and laterals. All of this

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26. *Project Data*, 1068-9.

work continued under the auspices of the respective Irrigation Districts. At the same time, Reclamation made arrangements to line several larger, recently constructed laterals, with concrete. All work on the distribution system was completed during the off-season and the water users encountered no difficulties with water deliveries the following, 1963, irrigation season.

In December of 1964, one of the worst floods in the history of the northwest occurred, impacting Idaho, Washington, Nevada, Oregon, and northern California. Late December rain coupled with a rise in temperatures which caused snow to melt in the mountains, increased the level of water in streams and rivers throughout the northwest. All portions of the state of Oregon suffered extensive property damage and loss of life. Governor Hatfield called the flood the worst disaster in the history of the state.

Specifically, a log jam at McLeod on the main stem of the Rogue River broke loose and demolished McLeod bridge. The resulting debris then proceeded downstream knocking out the center span of the highway bridge at Shady Cove and parts of the Dodge, Bybee and Gold Ray bridges. Total damage cost estimates exceeded ten-million dollars. While the damage to the area was extensive particularly along the uncontrolled streams in the area, the Rogue River Basin Project and its regulating storage dams helped avert additional damage. Minimal damage occurred along Bear Creek and its tributaries largely due to the well-managed use of available storage space in Emigrant Lake and the other storage reservoirs on the project.

In 1962, Reclamation initiated investigations on the Medford Division of the Rogue River Basin Project, to complement the existing Talent Division. This second division would address irrigation needs, both supplemental and new, in the area by using water supplies stored in the nearby Army Corps of Engineers Lost Creek and Elk Creek Projects. At the same time, the project would allow for higher minimum flows in Bear Creek, through releases from

Emigrant Lake, in exchange for water diverted from Rogue River, for fish enhancement, recreation, and water quality improvement. The Regional Director in Boise, Idaho, Harold T. Nelson submitted a report on the project to Commissioner Ellis Armstrong in July of 1967. A change in policy and procedure during the review process, impacting the economic analysis of the cost efficiency of constructing the project, rendered the project infeasible and Reclamation never sent the original report forward for Congressional consideration. Though interest in the Medford Division remained high in the irrigation area, economic considerations rendered the project virtually obsolete by the mid-1970s.<sup>27</sup>

In late 1971, the Grants Pass Irrigation District contacted Reclamation about the possibility of obtaining a federal loan to alleviate maintenance problems on their distribution facilities. Congress authorized a feasibility study of the Rogue River Basin Project, Grants Pass Division, Oregon on December 15, 1971. In accordance with a Senate Committee report on the project, the feasibility investigation involved a study of the fishery problems at Savage Rapids Dam, on the Grants Pass Project and a study of the Grants Pass Irrigation District's existing irrigation system and the feasibility of irrigation additional lands on the Grants Pass Project.<sup>28</sup>

After receiving funding in November of 1972, Reclamation and the Bureau of Sport Fisheries and Wildlife began investigations on the fisheries issues. At the same time, an eight month deadline was set on the project. Because of the short time frame, the focus changed from a comprehensive study to one looking at solving the problem in the interim. The two agencies forwarded a draft report entitled "Anadromous Fish Passage Improvements, Savage Rapids Dam, Rogue River Basin Project, Grants Pass Division, Oregon," to the Commissioner in July of 1973.

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27. "Annual Project History, Rogue River Basin Project—Oregon, Volume 9, 1963-1964," 12, 15, 17, 62, 64; "Annual Project History, Rogue River Basin Project—Oregon, Volume 13, 1971-1972," N-7, N-8.

28. See The Grants Pass Project History for information on the project, including construction and rehabilitation of Savage Rapids Dam.

The final report was completed in March of 1974. In October of 1974, the Reclamation Development Act authorized the construction of necessary facilities at Savage Rapids Dam to provide for improved anadromous fish passage.

Reclamation received funding for the second part of the feasibility study during fiscal year 1974. Work continued on the feasibility study for another year, but with little progress. In 1976, Reclamation contracted with the irrigation district to do modification work on the gravity canal. The following year, Reclamation contracted with the State of Oregon to provide fish passage improvement work at Savage Rapids Dam. These modifications made the construction and rehabilitation activities on the Grants Pass Project under the Rogue River Basin Project, Grants Pass Division unnecessary and the division was never authorized.<sup>29</sup>

### **Settlement of the Project**

Settlement of the lands in the vicinity of the Rogue River Basin Project occurred prior to the development of the Reclamation project. As a result of the previous settlement activities, no lands in the area remained for Reclamation withdrawal in conjunction with the project. As such, there are no, “project lands” associated with the project.

The original project plan provided water for irrigation of nearly 30,000 acres, on a mostly supplemental basis, of land in the Medford Irrigation District, the Rogue River Valley Irrigation District, and the Talent Irrigation District. As of 1992, the various Districts irrigated approximately 35,000 acres with project water.

### **Uses of Project Water**

Authorization for the Rogue River Basin Project provided for a multipurpose project. As a result, the project provides water for irrigation, hydroelectric power, recreation, and fish and

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29. “Project History, Grants Pass Project–Oregon, volume 7, 1972-1973-1974,” N-2; “Project History, Grants Pass Project–Oregon, volume 8, 1975-1976-1977,” N-2.



wildlife development. The project also provides flood control benefits along Bear Creek.

Development of the Talent Division increased agricultural production in the area at the same time it stimulated activity in other basic industries. The irrigated farms in this district specialize in fruit, specifically pears, some specialty crops, hay, pasture, and grain.

Rehabilitation of the Medford Irrigation District and Rogue River Valley Irrigation District irrigation facilities allowed the two districts to continue operating at full efficiency. The hydropower plant on the project generates electricity distributed to residents in southern Oregon and northern California, helping to meet expanding power demands throughout the region. Emigrant Lake, through a schedule of joint-use storage, helps to regulate Bear Creek providing flood control benefits to the area by regulating the flows of the creek at Medford.

The reservoirs on the project provide various recreational benefits to local residents. Jackson County Parks developed Agate Reservoir in conjunction with their nearby Sportsman's Park. This reservoir, near Medford, offers non-motor boating, swimming, picnic areas, a model airplane runway, and eight baseball diamonds. Jackson County Parks also administers Emigrant Lake and Emigrant Lake Park, near Ashland. This reservoir and park offer overnight camping, picnic areas, swimming beaches, water skiing, and play fields. Hyatt and Howard Prairie Lakes lie in the midst of the Cascade Mountains. Nearby resorts provide groceries, boat rentals, gasoline, and trailer hookups for campers. Both reservoirs have campgrounds along their banks and provide boating and water skiing facilities.

All the project reservoirs provide habitat for fish. Agate Reservoir, now a favorite fishing spot, did not support fish prior to the construction of Agate Dam due to the intermittent nature of Dry Creek. Emigrant Lake supports an excellent bass fishery as well as trout in various arms of the lake. The other reservoirs, with higher elevations and cooler temperatures, provide

increased trout habitat. Howard Prairie Lake also provides habitat for ducks and geese.

Combined visitor days on the project numbered nearly three-hundred fifty thousand in 1992.<sup>30</sup>

### **Conclusion**

Thankfully many Reclamation projects with flood control benefits never get to prove their worth in that capacity. Unfortunately for the Rogue River Basin Project its flood control benefits were tested very early in the project's history. The project passed the test with flying colors, minimizing loss of life and property destruction in the project area, regrettably other portions of the region did not fare quite as well. Though the continued irrigation benefits of the project impacted the region in a positive manner, the project will probably always be known to local residents for its effectiveness in halting local destruction during the flood of 1964 and 1965.

### **About the Author**

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

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30. *Project Data*, 1073; United States Department of the Interior, Bureau of Reclamation, *1992 Summary Statistics*, (Denver: [1995]), 27, 115.

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