The Sargent Unit

Middle Loup Division

Pick-Sloan Missouri Basin Program

Wm. Joe Simonds
Bureau of Reclamation
1996

Table of Contents

The Sargent Unit

Nebraska's most valuable natural resource is its land. For decades, farmers in the valley of the Middle Loup River scratched a living from this most valuable resource using dry farming techniques while only a short distance away a large and steady supply of water flowed down the river and on to distant lands. In the early 1940s, tiring of the cycle of drought and crop failure that had repeated itself through the early decades of the twentieth century, the farmers of the Loup River Valley became determined to harness the water of the river and bring their valuable lands to their full potential.

Project Location

The Sargent Unit is located along the Middle Loup River in central Nebraska about 100 miles northwest of Grand Island. The majority of the project is located in Custer County, with small portions in Valley and Blaine Counties. Project lands are located on the north side of the river and extend from the town of Milburn, southeast past Sargent, the largest town on the project, to Comstock on the southeast end of the unit.

Historic Setting

The lands comprising the Sargent Unit were acquired by the United States as part of the Louisiana Purchase in 1803. But it would not be until construction of the trans-continental railroad that settlement began in earnest. Cattlemen were the first to settle in the Middle Loup River Valley and their antagonism towards farming and the resulting feuds with homesteaders retarded agricultural development in the region. But the rapid economic development of the Platte River and its tributary valleys between 1870 and 1890 helped establish a firm agricultural foothold in the Middle Loup Valley.

Between 1891 and 1894, drought conditions gripped the region, and several irrigation systems were constructed to help alleviate the situation. Interest in early irrigation projects waned when the rains returned in the late 1890s, and the systems fell into a state of disuse and were eventually abandoned. Development in the region remained stable during the first quarter

of the twentieth century. Drought conditions returned in the early 1930s, renewing interest in irrigation. In 1939, the Sargent Public Irrigation District was organized and plans made to irrigate 25,000 acres in the Middle Loup Valley. Several unsuccessful attempts were made to secure funding from the Public Works Administration. In 1950, local leaders again initiated a strong campaign for development of irrigation in the valley, forming the Loup Basin Reclamation District, and seeking the support of the Bureau of Reclamation. Their efforts were rewarded when the Sargent Unit was included in the Pick-Sloan Missouri Basin Program.[1]

Project Authorization

The Sargent Unit was authorized under the 1944 Flood Control Act which authorized the Pick-Sloan Missouri Basin Program, a comprehensive plan to develop the water resources of the Missouri Basin. Support for the project was reaffirmed by the 1946 Flood Control Act which authorized $150,000,000 over and above previous authorizations for the continued advancement of the plan.[2]

Construction History

The original plan for the Sargent Unit called for the diversion of water at the Milburn Diversion Dam into two canals: the Sargent Canal on the north side of the river, and the Lillian Canal on the south side. Plans for the Lillian Canal and distribution system were deferred and eventually dropped from the Unit plan. Water enters the Sargent Canal at the Milburn Diversion Dam and flows into a 670-foot long, 125-foot wide settling basin which traps sediment that entered the canal. From the settling basin, water flows through the canal and into the distribution system. Near the end of the canal, the Woods Park Pumping Plant lifts water to some 170 acres above the canal line.[3]

Milburn Diversion Dam

---

1. United States Department of Interior, Water and Power Resources Service, *Project Data*, (Denver: U.S. Government Printing Office, 1981) 992; United States Department of Interior, Bureau of Reclamation, Map No. 499-700-220, "Missouri River Basin Project, Middle Loup Division, Sargent Unit," (U.S. Government Printing Office, 1959).
2. *Project Data*, 992; United States Department of Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws Annotated*, Volume II, through 1958. ed. Richard K. Pelz (Washington: U.S. Government Printing Office, 1972), 833.
3. United States Department of Interior, Bureau of Reclamation, Map No. 499-700-220, "Missouri River Basin Project, Middle Loup Division, Sargent Unit."

The bids for construction of Milburn Diversion Dam and the dam section of Sargent Canal, about ½ a mile, were opened on November 1, 1954. The winning bid, $279,095, was submitted by The Platte Valley Construction Company of Grand Island, Nebraska. Notice to proceed was given to the contractor on November 30, 1954. Excavations for the channel to divert the Middle Loup River around the construction site began on March 29, 1955. The river was diverted through the channel on April 15. Concrete work began on June 9, with placements in the footings for the downstream wingwalls. Installation of the five radial gates began in October, and the final concrete placement was made in late November. All work under the contract was completed and accepted on May 28, 1956.[4]

Milburn Diversion Dam is a concrete ogee weir with earthen wings. The total length of the dam is 3,880 feet. The control section is 76 feet long. The dam has a structural height of 24½ feet, and a hydraulic height of 13 feet. The embankment contains 72,900 cubic yards (c/y) of material, and 1,640 c/y of concrete was used in the control section. The dam has five radial control gates: two 11- by 13-foot sluiceway gates, two 22- by 7- foot spillway gates, and one 10- by 8½- foot canal control gate. The diversion capacity of the dam is 260 cubic-feet-per-second (cfs).[5]

Sargent Canal and Distribution System

Work on the Sargent Canal began in January 1955. Construction of the 39.6 mile long canal was divided into three sections with separate contracts let for each section. The contract for section one, 10.8 miles, was awarded to the Diamond Engineering Company of Grand Island, Nebraska, which bid $414,711 for the contract. A sub-contractor, Missouri Valley Construction Company, began excavations on January 25, 1955. A second sub-contractor, Franke Construction Company, took over excavations on July 11. The primary contractor began construction of bridges and canal structures in April, and first concrete placements took place in

4. National Archives and Records Administration, Rocky Mountain Region, Records of the Bureau of Reclamation, Record Group 115, "Project Histories: Pick-Sloan Missouri Basin Program, Middle Loup Division: Sargent Unit" 1954-5, Vol I, 1; 1956, Vol. II, 2-3 (hereafter cited as "Project History" with year, volume number, unit name, and page).
5. *Project Data*, 993; Map No. 499-700-220, "Missouri River Basin Project, Middle Loup Division, Sargent Unit."

mid-May. Adverse weather conditions delayed work during February and March, and equipment problems and manpower shortages created delays during June and July. By the end of 1955, 66% of the contract work was complete. All work under the contract for section one was accepted as complete on June 14, 1956.[6]

Bids for section two, 9.3 miles , were opened April 26, 1955. The contract was awarded to Ace Construction Company of Omaha, Nebraska, which received the notice to proceed on June 4. Excavations began on July 28, with concrete operation commencing on September 19. Concrete operations were sub-let to General Contractors of Omaha. As with section one, work was delayed by adverse weather and equipment problems, and only about one-third of the work was complete by the end of 1955. Section two was accepted as complete in early December 1956.[7]

The Cooke Construction Company of Jackson, Mississippi, received the contract for section three of the Sargent Canal in June 1956. In addition to 19 miles of Sargent Canal, the contract for section three included construction of 23.3 miles of the Sargent Laterals and the Woods Park Pumping Plant. Notice to proceed was transmitted on June 20, 1956, and work under the contract began on July 25. All earthwork was sub-contracted to four sub-contractors, and the contract was a little more than one-third complete by the end of 1956. Bad weather delayed work during the early part of 1957, and because of financial problems, the primary contractor was forced to take over for one of the sub-contractors. Work on the lateral section was completed in late November, and the canal section was accepted as complete on December 23, 1957. The Woods Park Pumping Plant was completed and accepted on May 13, 1958.[8]

Construction of the Sargent Laterals was divided into two sections. The contract for section one, 21.3 miles, was awarded to the Rentlor Construction Company of Grand Island.

---

6. "Project History, Sargent Unit" 1954, 1955, Vol. I, 3; 1956, Vol. II, 4-5; National Archives and Records Administration, Rocky Mountain Region, Records of the Bureau of Reclamation, Record Group 115, "Project Histories: Pick-Sloan Missouri Basin Program, Middle Loup Division: Sargent and Farwell Units" 1961, Vol III, iv. (beginning in 1959, Project Histories for the Sargent and Farwell Units were combined into a single volume with separately titled sections).
7. "Project History, Sargent Unit" 1954, 1955, Vol. I, 3-4; 1956, Vol. II, 5-7; "Project History, Sargent and Farwell Units," 1961, Vol. III, iv.
8. "Project History, Sargent Unit," 1956, Vol. II, 7-10; 1957, Vol. III, 4-7; 1958, Vol. IV, 3; "Project History, Sargent and Farwell Units," 1961, Vol. III, iv.

The winning bid was $203,564. Work began in May 1956, with concrete work beginning in late June. Work under the contract was completed and accepted on October 25, 1956. Work on section two, which was awarded as part of the contract for section three of the Sargent Canal, was completed in late November 1956.[9]

Sargent Canal is 39.6 miles long with an initial capacity of 260 cfs. The Sargent Lateral System has a total of 44.6 miles of laterals with capacities ranging from 24 cfs down to 4 cfs. In addition, there are more than 30 miles of drains. The Woods Park Pumping Plant has one unit with a capacity of 6 cfs lifting against a head of 22 feet.[10]

Post Construction History

Milburn Diversion Dam, Sections One and Two of Sargent Canal, and Section One of the Sargent Lateral System were transferred to operation and maintenance (O&M) status on February 1, 1957. Water was turned into the distribution system for testing on April 1, 1957, with the first deliveries of water for irrigation taking place in early July. Section Three of the Canal and Section Two of the Lateral System were transferred to O&M on February 1, 1958. On January 1, 1959, responsibility for the operation and maintenance of the diversion and canal works was turned over to the Loup Basin Reclamation District with the Sargent Irrigation District assuming the operation and care of the distribution and drainage system.

The features of the Sargent Unit have operated without significant problems since they entered service in the late 1950s. The Middle Loup River carries a large amount of sediment, and Milburn Diversion Dam was designed to eliminate sediment from the water that enters the Sargent Canal. The sediment that passes over the dam is highly abrasive and causes significant deterioration of the dam's structure. As a result, extensive repairs have been made to the dam on several occasions to maintain the concrete at proper specifications.

Since the Unit was completed in 1959, several improvements to the system have been made. Eighteen miles of the lateral and distribution system have been placed in underground

---

9. "Project History, Sargent Unit," 1954, 1955, Vol. I, 4-5: 1956, Vol. II, 9-10; 1957, Vol. III, 10; "Project History, Sargent and Farwell Units," 1961, Vol. III, v.
10. "Project History, Sargent and Farwell Units," 1961, Vol. III, v; *Project Data*, 993; Map No. 499-700-220.

pipe increasing the efficiency of the system and reducing water loss. In 1978, the Loup Basin Reclamation District constructed Semler Reservoir for short term storage of water to help facilitate more timely deliveries of water to users in the lower reaches of the district. Semler Reservoir is named for George Semler, an early supporter of irrigation in the Loup Valley and a former official of the Loup Basin Reclamation District. Semler Reservoir is located along the Sargent Canal north of the town of Sargent.[11]

Settlement of Project Lands

Most of the lands that comprises the Sargent Unit were settled prior to 1900, and no additional lands were withdrawn for settlement in conjunction with development of the Sargent Unit. The economic stability provided by the unit helps to maintain settlement in the region.

Project Benefits and Uses of Project Water

The primary benefit derived from the Sargent Unit is a reliable irrigation supply for just under 14,000 acres of project lands. The primary crop grown on the Sargent Unit is corn, covering a little more than 10,000 acres. Alfalfa and other forage crops cover the bulk of remaining lands with a small amount of land dedicated to bean production. In 1992, 169 farm units received project water with a total crop value of just under $13,500,000. The cumulative value of crops grown on unit lands since the first project crop report was submitted in 1975 is almost $57,500,000.[12]

The Sargent Unit also provides recreational benefits to people in the area. Fishing, camping, and picnicking are popular activities at Milburn Diversion Dam. Recreational activities are administered by the Nebraska Game and Parks Commission.[13]

Conclusion

The Sargent Unit stands as a shining example of what hard work and determination can achieve. Where once there was uncertainty there is now security and prosperity. Although a

---

11. "Project History, Sargent Unit," 1957, Vol. III, 14;"Project History, Sargent and Farwell Units," 1965, Vol. VII, xvii; Aldon D. Nielsen, "Sargent Looks Ahead," *The Reclamation Era*, February 1953, 30; Information on Semler Reservoir and repairs to Milburn Diversion Dam provided by the Sargent Irrigation District.
12. United States Department of Interior, Bureau of Reclamation, *1992 Summary Statistics: Water, Land, and Related Data*, (Denver: US Government Printing Office, 1995), 59, 312.
13. *1992 Summary Statistics: Water, Land, and Related Data*, 108, 114.

small project by many standards, the success of the Sargent Unit and its sister project, the Farwell Unit, looms large among the many projects of the Bureau of Reclamation.

About the Author

William Joe Simonds was born and raised in Colorado and has a clear understanding of the importance of water in the American West and its influence on the development of that region. He attended Colorado State University where he received a BA in History in 1992 and a Masters in Public History in 1995. He lives with his wife and two children in Fort Collins, Colorado.

Bibliography

Archival Collections

National Archives and Records Administration, Rocky Mountain Region. Records of the Bureau of Reclamation. Record Group 115. "Project Histories: Pick-Sloan Missouri Basin Program, Middle Loup Division: Sargent and Farwell Units" 1959-65.

National Archives and Records Administration, Rocky Mountain Region. Records of the Bureau of Reclamation. Record Group 115. "Project Histories: Pick-Sloan Missouri Basin Program, Middle Loup Division: Sargent Unit" 1954-8.

Government Documents

United States Department of Interior, Bureau of Reclamation. *Federal Reclamation and Related Laws Annotated,* Volume II, through 1958. ed. Richard K. Pelz. Washington: U.S. Government Printing Office, 1972.

United States Department of Interior, Bureau of Reclamation, Map No. 499-700-220. "Missouri River Basin Project, Middle Loup Division, Sargent Unit." U.S. Government Printing Office, 1959.

United States Department of Interior, Bureau of Reclamation. *1992 Summary Statistics: Water, Land, and Related Data*. Denver: US Government Printing Office, 1995.

United States Department of Interior, Water and Power Resources Service. *Project Data*. Denver: U.S. Government Printing Office, 1981.

Magazine Articles

Nielsen, Aldon D. "Sargent Looks Ahead." *The Reclamation Era*, February 1953, 30-1, 45-6.

Index