

Seedskadee Project

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The Seedskadee Project

In December 1928, primarily to pave the way for construction of Hoover Dam, Congress approved the Colorado River Compact. The Compact, originally drafted in 1922, allocated the waters of the Colorado River among the states that lie in the Colorado River Basin: Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. The Compact, the first of its kind, separated the basin into two groups, the Upper Basin states (Colorado, New Mexico, Utah, and Wyoming), and the Lower Basin states (Arizona, California, and Nevada). Of the seven states, Arizona was the most reluctant to ratify the Compact, because of its concerns California would take the majority of the lower basin's allocation of water. Arizona's concerns only increased after the discovery that the river's flow had been over-estimated.

After the passage of the Compact by Congress in 1928, the Upper and Lower Basin states faced the difficult task of allocating their share of water amongst themselves. The Lower Basin states had to address concerns regarding California's ever-growing need for water. Meanwhile, most of the Upper Basin allocation went to the more populous states of Colorado, New Mexico, and Utah, leaving Wyoming a smaller share of the water. Concern for its share of the Colorado River led Wyoming to campaign in Congress for its own Reclamation Projects. In the early 1950s, Wyoming saw her chance to retain her share of the allocation with the introduction of the Colorado River Storage Project (CRSP) to Congress.¹

The Colorado River Storage project was designed to regulate the flows of the Colorado River between the Upper and Lower Basin states. With the construction of the dams proposed in CRSP, the upper basin states could consistently meet the flow requirements at Lee's Ferry,

1. Norris Hundley, jr, *The Great Thirst: Californians and Water, 1770s-1990s*. (Berkeley: University of California Press, 1992) 209-19; Carl Abbott, "The Federal Presence," *The Oxford History of the American West*, (New York: Oxford University Press, 1994) 475.

Arizona, while at the same time using the Colorado River to its fullest extent.²

Wyoming was not concerned necessarily with the project benefits of CRSP, rather her leaders were concerned that the lower basin states, namely California, and to some extent even the Upper Basin states, would appropriate her portion of the Colorado River leaving Wyoming without her share of the Colorado River. Wyoming's reasoning behind inclusion of the Seedsdakee Project in CRSP was similar to the reasoning Los Angeles used when diverting water from the Owens Valley. There did not have to be a current use for the water, it merely needed to be held on to so that another state could not use it.³ In the case of Los Angeles, William Mullholand chose to irrigate the San Fernando Valley instead of building a reservoir to store the water he was appropriating from Owens Valley. Wyoming took the more traditional approach and called for building a dam on the Green River.

Project Location

Located in Southwestern Wyoming, the Seedsdakee Project lies within the Green River Basin, a part of the Colorado River Basin. Sweetwater County contains most of the project, but the northwestern tip extends into Lincoln County. Project lands extend along a thirty-five mile strip between the towns of LaBarge and Green River, Wyoming, along both sides of the Green River. Additional lands lie on each side of Big Sandy Creek near the creek's confluence with the Green River. Towns in the vicinity of the project include, Green River and Rock Springs, southeast of the southern end of the project, LaBarge northwest of the project's northern end, and Kemmerer about 35 airlines miles west of the area.

The vicinity of the project looks like a typical western desert, broken only by a narrow

2. United States Department of Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws Annotated*, Volume II of IV, 1943-58, eds. Richard K. Pelz (Washington, D.C.: U.S. Government Printing Office, 1972), 1248.

3. Hundley, 209-19; Abbott, 475.

strip of green bottom land along the Green River and Big Sandy Creek. Lands, originally thought to be irrigable by the project, lie on the arid benches adjacent to the bottom land and range in elevation from 6,590 feet at its northern portion to 6,180 feet in the southern portion. The benches have an average width of about one mile with an elevation difference between them of 120 feet or less. Rock broken badlands bottled by buttes flank the bench areas to the east of the river. Elevation of most of the lands ranges between 6,300 feet and 6,400 feet.⁴

Seedskadee, a participating project in the Colorado River Storage Project, provides storage and regulation of the flows of the Green River for power generation, municipal and industrial use, fish and wildlife, and recreation. The basin contains vast mineral resources of coal, oil and gas, oil shale, and trona which provide the basis for extensive existing and potential industrial development. Fontenelle Dam, Powerplant, and Reservoir comprise the principal features of the project. Municipal and industrial water use, power production, flood control, and a downstream fishery and wildlife refuge provide the basis for Reservoir operation.⁵

The Dam, Reservoir and Powerplant take their name from Fontenelle Creek which enters the Green River near the Damsite. The Creek was named after Lucien Fontenelle, an early French fur trader and trapper. Fontenelle worked for the American Fur Company in the 1820s and 1830s.⁶

Historic Setting

Wyoming has long been a land of have nots—no water, gold, people, or outposts of

4. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. I, 1959, 1960, and 1961, 7. (For this project, the Project histories were consulted at the Upper Colorado Regional Library, located in Salt Lake City, Utah.)

5. United States Department of Interior, Water and Power Resources Service, *Project Data* (Denver: U.S. Government Printing Office, 1981), 1143.

6. "Seedskadee Project Construction Camp Named," Press Release, March 20, 1961, Correspondence files--Seedskadee Project, Upper Colorado Regional Office, Salt Lake City, Utah. (Hereafter referred to by document title, Correspondence files.)

civilization; location, resource limitations, high elevation, and aridity have combined to impede its growth. Early westward travelers and explorers revealed it as a land of little water, making Wyoming into an obstacle and not a place with its own unique attributes. Few on their cross-country travels appreciated the beauty of the unusual state, all they saw was the hot dry prairie that they had to cross to reach the civilization, waters, and gold of California, Oregon and Washington; an attitude replicated by many cross-country travelers even today.⁷

Prehistoric Setting

Sparsity of population has been characteristic of Wyoming since primitive times. Paleo-Indian hunters and gathers, who may have come to North America from Siberia, were the first known human beings in the region more than 20,000 years ago. Archeological sites indicate mammoth hunters near Worland over 11,000 years ago. Additional archeological evidence of continuous human habitation dating from approximately 9,000 years ago, has also been discovered. Beginning about 4,500 years ago the early inhabitants abandoned the region, possibly due to climatological change. Eventually small nomadic hunting bands returned to Wyoming, mostly Shoshone and Crow Indians later joined by the Arapaho and Cheyenne. It is believed that the nomadic Indian population numbered no more than 10,000 when the first Anglos arrived. Even the arrival of the Anglos did not result quickly in permanent settlement; the early hunters and trappers merely took what they needed off of the land before moving on. Many passed through Wyoming, but few chose to stay.

Historic Setting

In spite of the lack of a substantial population, Wyoming harbors many myths of the West: Lewis and Clark crossed her lands, as did George Armstrong Custer; the Oregon trail

7. T. A. Larson, *Wyoming: A Bicentennial History*, (New York: W. W. Norton and Company, Inc., 1977), 3, 5.

passed through her borders; and cowboys ruled the territory. As one drives through Wyoming on Interstate 80, signs announce to drivers and passengers alike opportunities to visit mythic Wyoming: one can stop at the Territorial prison outside of Laramie and visit Butch Cassidy, Calamity Jane, and other notorious outlaws who were incarcerated in the prison—Wyoming carries the distinction of being the only state to successfully imprison the bank robbing Butch Cassidy. One can even journey north to the Tetons and then on to Yellowstone, the first National Park.

Ultimately however, it was the mountain men, that became central to Wyoming's history. More than any other state, Wyoming has been identified as rendezvous country and home of the mountain men. The fact that the freedom, independence, and self-reliance of the trappers' life have been exaggerated, as have the economic importance, the color, and the romance of the annual gatherings which took place from 1825-1840, has had little effect on the overall perception of the mountain men in Wyoming.

Jim Bridger, the most famous mountain man of them all, owned a trading post in the southwest corner of Wyoming. Bridger ranks as one of Wyoming's six outstanding deceased citizens, while historians rate his fort second only to Fort Laramie in terms of importance.

Though the mountain men are the most romantic figures in Wyoming's history, her state motto "The Equality State" proclaims her greatest claim to fame. In 1869, Wyoming became the first government to grant women the right to vote. Considerations of justice notwithstanding, the majority of the legislature passed the suffrage bill because of its public relations value; they thought that it would advertise the territory and attract population. An additional argument for suffrage was that the opportunity to vote would attract women from the east to balance out the dominantly male population. The suffrage bill did not attract population, but it did give the state

a distinction which lives on. In fact, in 1955 the Wyoming Legislature proclaimed Esther Morris, the first woman judge, the outstanding deceased citizen.⁸

Though a land of many legends, Wyoming has always had a scarce population and a lack of water. The Federal Government has attempted to address these two features of Wyoming with projects such as Seedskaadee. At the same time, there will always be those who prefer the pristine nature of the state.

Project Authorization

The Bureau of Reclamation initially investigated the Seedskaadee Project as a part of a plan for the development of the Upper Green River Basin; the 1946 report on the Colorado River Basin documented this plan. Reclamation subsequently carried out investigations of the Seedskaadee as an independent project. In November 1950, the Bureau prepared a feasibility report, issued as a supplement to the December 1950 report on the Colorado River Storage Project (CRSP)--a project located within the five adjacent states of Arizona, Colorado, New Mexico, Utah, and Wyoming.

In October 1953, a third supplement brought construction costs and project benefit estimates up to date. The latter supplement, after being submitted to Congress, provided the basis for project authorization. Congress authorized the Colorado River Storage Project with the Act of April 11, 1956--initial units included Glen Canyon, Flaming Gorge, Curecanti⁹, Navajo, and eleven other projects. This act included authorization for the Seedskaadee Project, one of the initial group of participating projects in CRSP.¹⁰

The definite plan report for the Seedskaadee Project was prepared in April 1959, and

8. Larson, 3, 5, 38, 55, 76, 78, 84.

9. The Curecanti Unit was renamed the Wayne N. Aspinall Unit in October of 1980.

10. "Annual Project History, Colorado River Storage Project," Vol. VI, 1971, 1.

modified in February 1961 to provide for future municipal and industrial water needs. In 1959, under the Title III Water Supply Act of 1958, the Wyoming Natural Resource Board requested an additional 60,000 acre feet of storage capacity be added to Fontenelle Reservoir for future municipal and industrial purposes, thus increasing the total capacity of the reservoir to 345,400 acre-feet, with 150,500 acre-feet of active capacity. The Secretary of the Interior Fred Seaton, approved the additional 60,000 acre-feet March 19, 1960. The increased reservoir capacity made a powerplant feasible; the reservoir releases for municipal and industrial purposes are available for the generation of power. The Commissioner of Reclamation, Floyd E. Dominy approved the addition of a 10,000 kilowatt powerplant on Fontenelle Dam, August 11, 1961.¹¹

On May 21, 1962, Dominy issued a stop-order suspending construction of irrigation features of the Project until a general review of Wyoming projects could be accomplished. Subsequently, experimental crops were grown on 512 acres using border dike, contour flooding, and circular sprinkling method, to seek solutions to the serious financial and economic problems encountered on high-altitude irrigation projects, and to provide guidelines for land development and water management. Fontenelle Dam, originally conceived as an irrigation storage dam, evolved toward storage of water for cities, industry, and fish and wildlife, as a result of these experimental farm studies and irrigation development was deferred indefinitely.¹²

Construction History

Fontenelle Dam sits on the Green River twenty-four miles southeast of La Barge, Wyoming. A zoned earthfill structure, the Dam looms 139 feet high with a crest length of 5,421 feet, and a volume of 5,265,000 cubic yards of material. An uncontrolled crest, open chute, and

11. *Project Data*, 1143-4; "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. I, 1959, 1960, and 1961, 5-6.

12. *Project Data*, 1143-4.

stilling basin, with a design capacity of 20,000 cubic feet per second, comprise the spillway. Fontenelle Powerplant is located adjacent to the toe of the dam, while the power penstock branches the river outlet works. The Powerplant consists of one 16,000-horsepower hydraulic turbine and one 10,000-kilowatt generator. The Reservoir, with a surface area of 8,058 acres, has an active capacity of 150,500 acre-feet and a total capacity of 345,400 acre-feet. When full, the lake is twenty miles in length with a shoreline of approximately fifty-six miles.¹³

The Discovery of Trona

Technically known as sodium sesquicarbonate and the most common of the sodium carbonate minerals found in nature, Trona ($\text{Na}^2\text{CO}^3 \text{ NaHCO}^3 2\text{H}^2\text{O}$) is used to produce soda ash or sodium carbonate. Glass manufacturing requires nearly one-half of the sodium carbonate produced; chemicals consume one-quarter; and the remainder goes to pulp, paper, soap, detergent and aluminum production, water treatment, and other miscellaneous uses.

In 1959, drilling by the Stauffer Chemical Company indicated a minable deposit of trona located in the southern or lower end of the project. They discovered that the southern part of the Green River Basin in southwestern Wyoming overlays the largest known deposit of trona in the world, about 1,400 square miles. The Wilkins Peak Member of the Eocene Green River Formation contains about sixty-seven billion tons of trona in twenty-four beds more than three-feet thick. In a 1,400-square mile area in the Green River Basin these beds lie at depths of 400 to 3,500 feet. In the southern part of the area fourteen beds, more than three-feet thick, contain another thirty-six billion tons of mixed trona and halite.¹⁴

On January 14, 1960, after Stauffer's discovery, the Wyoming Natural Resource Board

13. *Project Data*, 1143.

14. "The Trona Industry Of Southwestern Wyoming: Its Economic Significance and Associated Water Requirements," November 1969, Correspondence Files.

arranged a meeting with the officials of the Union Pacific Railroad Company, Stauffer Chemical Company, and representatives of the Bureau of Reclamation; representatives from the Bureau of Mines, Bureau of Land Management (BLM), and the U.S. Geological Survey (USGS) also attended. The Wyoming Natural Resource Board unanimously passed a resolution, at the conclusion of the meeting, recommending Reclamation continue to seek Congressional appropriations for the Seedskadee Project with the confidence that the interested parties would work out the issue surrounding the mining of trona on potential project lands. The project plan was modified, after much discussion, deferring the development of the area underlain by trona until a suitable solution to the conflict between mining and irrigation could be reached. To facilitate a decision, the Stauffer Chemical Company began mining a deposit east of the Green River outside the project area. Planning to determine the pattern and extent of surface subsidence as mining operations proceeded, officials thought that a suitable solution of mining and irrigation could be worked out with the findings of these studies.¹⁵ The lack of irrigation on the Project later made the concerns regarding the coexistence of mining and irrigation irrelevant.

Construction

Construction on the Seedskadee Project began in 1961 and continued through 1968. Several private contractors completed all the work while under contract to Reclamation. Work began with the Fontenelle Community and subsequently moved to the Dam and Reservoir, the Powerplant, and finished with the Seedskadee Development Farm.

Fontenelle Community

On April 10, 1961, construction of Fontenelle Community, Wyoming, (the government camp to serve the Seedskadee Project) began with the award of the contract for streets and

15. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. I, 1959, 1960, and 1961, 5-6.

utilities to Witt Construction Company of Provo, Utah. The contract for ten operation and maintenance houses was awarded on May 8, 1961, to D. H. Butcher Construction Company of Salt Lake City, Utah. The contract for the permanent headquarters and service buildings was awarded to Witt Construction Company June 19, 1961. Accepted as substantially complete October 20, 1961, the camp utilities were placed in operation. Reclamation accepted, in November 1961, construction of the ten permanent houses as substantially complete. Occupation of the administration building and service buildings occurred in December 1961, although the other contracts were not fully completed.¹⁶

The following year, 1962, eight two-bedroom Transa houses, acquired by non-appropriation transfer, were installed along First Avenue. Kit Manufacturing Company supplied five dual trailers placed in the trailer court. De Rose, Inc. furnished ten three-bedroom relocatable residences erected along Fifth and Sixth Avenues. To accommodate the units along First, Fifth, and Sixth Avenues, the contractor extended utilities and streets and installed garages to serve the temporary housing units. Construction of alleys occurred in every block.¹⁷

During 1963, after the completion of landscaping by Western Garden Center of Salt Lake City, Utah, and after the delivery and erection of eight 3-bedroom relocatable residences from Transa Structures, Inc., of Fullerton, California, Reclamation accepted construction of Fontenelle Community as complete. Also in 1963, Lincoln County completed surfacing of the access road from U.S. Highway 189 to Fontenelle Community, under a negotiated contract with Reclamation.¹⁸

16. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. I, 1959, 1960, and 1961, 5-7.

17. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. II, 1962, 1-2.

18. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. III, 1963, 1,2, 4-6.

Fontenelle Dam and Reservoir

On June 13, 1961, the contract for construction at Fontenelle Dam, was awarded to Folley Brothers, Inc. and Holland Construction Company of St. Paul, Minnesota. Actual construction commenced June 30, 1961. Initial work consisted of structural excavation; excavation for the dam embankment, including stripping for the dam foundation; the start of grouting operations; and excavation for the diversion channel and outlet works.¹⁹

Work continued as planned in 1962. During the first two-thirds of the year, design and right-of-way data for Fontenelle Reservoir was completed. Reclamation and the Wyoming State Highway Department negotiated a contract for the relocation of U.S. Highway 189. In December, the Highway Department issued specifications for the relocation. Reclamation prepared and issued specifications for Fontenelle Powerplant and Switchyard. Construction of Fontenelle Dam, by Folley Brothers, Inc., and Holland Construction Company of St. Paul, Minnesota, continued as planned throughout the year.²⁰

As the 1963 construction season began, Fontenelle Dam, was approximately 60 percent complete. The contractor had essentially completed the dam by the end of 1963. The successful diversion of the Green River through the river outlet works on August 6, permitted completion of the embankment. Finally in late 1963, the contractor initiated installation of the various control gates and completed them early in 1964.²¹

In 1964, construction work on Fontenelle Dam consisted of rip-rap placement on the upstream face of the dam, minor concrete work and the installation of gates, gate controls, and

19. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. I, 1959, 1960, and 1961, 5-7.

20. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. II, 1962, 1-2.

21. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. III, 1963, 1,2, 4-6.

related electrical and mechanical machinery in the outlet works. On April 24, 1964, Reclamation accepted the Dam as complete.²²

In early summer 1964, Fontenelle Reservoir filled rapidly with the high river flows and in June the spillway operated for the first time. The National Park Service completed the recreation area in the spring. Subsequently, outdoor recreation developed on the reservoir.²³

Fontenelle Powerplant

On February 6, 1963, in Rock Springs, Wyoming, Reclamation opened bids for the construction of Fontenelle Powerplant and Switchyard. The contract was awarded on April 8, 1963, to E-W Construction Co. and L. D. Shilling Co., Inc., of Creswell, Oregon. Work commenced in early June. By the end of 1963, approximately twenty-percent of the work had been completed. Work to date consisted largely of excavation for the Powerplant and tailrace channel, as well as placement of concrete in the lower levels of the Powerplant and tailrace channel walls.²⁴

During the calendar year 1964, the prime contractor, performed an additional 55% of the work on the Powerplant and Switchyard. They completed framing of the powerplant substructure and superstructure, installed the roof and began the application of metal siding. Early in the year, the hydraulic turbine, the 100-ton traveling crane, the 8.5-ft. x 8.5-ft river outlet works control gate, and the draft tube bulkhead gates, all furnished under different supply contracts, were delivered to the job site. By the end of the year, the prime contractor completed concrete placement for the river outlet works gate house. Subcontractors installed the penstock

22. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. IV, 1964, 1-2.

23. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. V, 1965, 1-2.

24. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. III, 1963, 1,2, 4-6.

and surge tank and the electrical subcontractor erected the major switchyard structures. The prime contractor also installed the crane and the gates, and began preparing the spiral case of the turbine to be embedded in second-stage concrete.²⁵

In the spring of 1965, E-W Construction Company and L. D. Shilling Company, Inc., of Creswell, Oregon, installed the hydraulic turbine spiral case turbine runner and shaft. Concurrently, the generator erection contractor assembled the generator stator and rotor and then installed them under the direction of the manufacturer's erection engineer. The summer saw continued work on powerplant piping, electrical wiring, and switchyard construction. The 69-KV powerline, constructed between the powerplant and Bridger, Wyoming by the Bridger Valley Rural Electric Association energized the switchyard by August. Essentially complete by September, the powerplant was ready for operational testing.

In early spring 1965, Reclamation opened bids for the construction of a control cable line between the Powerplant and the downstream river gaging station. However, a leak at Fontenelle Dam disrupted access to the work site, leaving the contract un-awarded. The leak did not disrupt Powerplant construction and the contractor completed all work on the Powerplant, except for replacement of inadequate heating and ventilating controls, by the end of the year.²⁶

In January 1968, the Montrose Power Operations Office assigned a powerplant electrician and one assistant to Fontenelle Powerplant. May 24, 1968, the powerplant went "on line" beginning production of hydroelectric power. Also, in January 1968, the Power Operations Office at Montrose, Colorado, assumed operation of Fontenelle Powerplant, making Fontenelle a part of the CRSP power system. They transferred the Powerplant to Operation and Maintenance

25. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. IV, 1964, 1-2.

26. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. V, 1965, 1-2.

(O&M) status July 1, 1968.²⁷

All Powerplants contained within CRSP, including Fontenelle Powerplant are administered by the Colorado River Storage Project power system, which includes dams, hydroelectric powerplants, switchyards, substations, and transmission lines. The CRSP system, adjacent Federal systems, and systems of the public and private preference customers comprise a large interconnected power system.

The Power Operations Center, Montrose, Colorado, (established April 15, 1963,) location of CRSP headquarters, provides administrative, storage, vehicle service, machine shop, and warehouse facilities and equipment necessary for the efficient conduct of maintenance activities for the CRSP power system. Located approximately in the geographical center of the CRSP, the Power Operations Center also administers the activities for Region 4 (later renamed the Upper Colorado Region) and serves as the control center for the operation of all power facilities within CRSP.²⁸

Seedskadee Development Farm

Bureau of Reclamation employees, personnel of the University of Wyoming and other interested parties met with the Wyoming Reclamation Projects Survey Team, to discuss the development of the Seedskadee Project, during the first months of 1963. Subsequently, the Survey Team held several public meetings in April and May throughout southwestern Wyoming to obtain public views of the Project.

Joe Bud, an alternative member of the Colorado River Commission called a public meeting in Kemmerer on May 6, 1963, to review the report of the meeting held by the Survey

27. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. VIII, 1968, 1.

28. "Consolidated Annual Project History, Colorado River Storage Project, Power Operations," Vol. VII, 1972, 1.

Team. In addition, Bud vigorously pointed out the dangers of losing Wyoming's share of the Colorado River water to the lower states. The Wyoming Resource Board as well as industry and stock interests in the area also expressed the desire to maintain Wyoming's share of the Colorado River waters. Overall the general public's sentiments appeared to support the reports of the survey team.

In their report dated, June 30, 1963, the Wyoming Reclamation Projects Survey Team recommended that a pilot farm program be established immediately for the purpose of determining the necessary components of a successful irrigation operation; the Farm would be operated by the Bureau of Reclamation in cooperation with the Agricultural Research Service of the Department of Agriculture and the University of Wyoming. After making these examinations a request could be sent to Congress requesting legislation authorizing the Secretary of the Interior Stewart Udall to act in accordance with the evidence as it relates to unit size. Awaiting information from the operation of the Development Farm, construction of the project irrigation distribution system was deferred indefinitely, beginning the last of March.²⁹

Preparation of design data for the Seedskaadee Development Farm began August 26, 1963, under the recommendation of the Wyoming Reclamation Projects Survey Team. Located approximately eleven miles downstream from the Dam, the site selected for the Farm represents the project's soils and topography. In October, topography maps were completed and a collection of design data for the various features initiated.

The Bureau initiated construction, in accordance with general recommendations of the Advisory Committee, during the spring of 1964 and completed the Farm in the summer of 1965. Summer of 1964 saw establishment of crops, while fall brought the addition of livestock. The

29. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. III, 1963, 1,2, 4-6.

Agricultural College of the University of Wyoming supervised the Farm Operations directly, under the general supervision of the Advisory Committee. Reclamation financed operations directly with appropriated funds. The Agricultural College scheduled the submission of a report of findings late in 1966.³⁰

Reclamation awarded the contract, for the construction of a farm access road, fencing, pumping plant, and buildings, to Landon Construction Company of Casper, Wyoming, beginning Farm construction. The contractor moved his equipment in on March 27, 1964, and began work March 30. Also on March 30, an additional contract, for the construction of earthwork and structures for laterals, drains, and land leveling, was let to Benson Construction Company of Grace, Idaho. Work began April 16. Until completion in early August, work continued steadily. After leveling and completing the laterals, individual fields were turned over to the University of Wyoming for seeding and initial irrigation. All nine fields of the upper bench had been seeded by mid-August. Landon Construction Company moved a 2-bedroom relocatable house to the farm from Fontenelle Community, to serve as quarters for farm help and experimental workers.

On September 1, 1964, the College of Agriculture of the University of Wyoming assumed operation of the Development Farm, with funds advanced by the Bureau of Reclamation. Former Manager of the University of Wyoming Pilot Farm at Farson, Wyoming, Mr. E. E. Buckendorf was selected as Resident Manager of the Development Farm. The Farm manager erected minor improvements such as fencing and a large pole shed for livestock in the fall. The fields of the upper bench were seeded with alfalfa, oats, and various grasses. The oats started remarkably well without fertilizer, according to observations in early summer. The earth

30. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. III, 1963 , 3-4.

distribution system and the river pumping plant functioned well.³¹

In 1965, the Farm completed its first year of operation. The State of Wyoming through the University of Wyoming, successfully operated the Farm for the next four years, 1966-69. In 1970, the five year contract made between Reclamation and the State of Wyoming expired and the Farm reverted to Reclamation control.³² Beginning January 1, 1972, Reclamation advertized for lease, the Seedskadee Development Farm, including approximately 740 acres near Green River Wyoming.³³ These lands lie fallow, as no one ever purchased the Farm.

Post-Construction History

Failure of Fontenelle Dam

A funny thing happened on Dave Crandall's [newly appointed Director of Region 4] way to work a few weeks ago—a dam started leaking.

The safety margin built into Bureau of Reclamation structures was amply demonstrated in September 1965, when seepage developed into a major leak around the right abutment of Fontenelle Dam on the Green River in southern Wyoming.

This is the story of the dramatic events which surrounded the emergency at Fontenelle Dam. It demonstrated once again the value of good men, talented in their various fields and with an esprit de corps which welds them into an effective team of which I am very proud. At one critical instant during the emergency, the thickness of material between the reservoir water and the eroded downstream edge of the dam was no more than 45 feet, 15 of which was impervious core material. This extra width of impervious core put in by Bureau designers and dam builders provided that critical extra margin, this vital safety factor, which counteracted the hazard of the leak. Thus, our record of construction of more than 200 major storage dams without a failure was preserved. -Floyd Dominy³⁴

On May 27, 1964, a slide occurred in the pervious backfill on the east side of the river outlet works stilling basin. Carrying a portion of the backfill and the overlying armor rock into

31. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. IV, 1964, 2-3.

32. "Annual Project History, Colorado River Storage Project, Seedskadee Participating Project, Wyoming" Vol. VI, 1966, 1; Vol. VII, 1967, 1; Vol. VIII, 1968, 1; Vol. IX, 1969, 3.

33. "Seedskadee Development Farm Offered for Lease," September 16, 1971, *The Kemmerer Gazette*, Correspondence Files.

34. David L. Crandall, "A Troubled Dam," August 28, 1968, Regional Library.

the stilling basin and the outlet channel immediately downstream from the concrete structure, the slide occurred at the time the outlet gates were shut. Dropping the downstream water level too rapidly probably caused the slide. Reclamation scheduled remedial work for the summer of 1965.

The spring runoff began impoundment of enough water in the reservoir to cover the river outlet works trashracks. Gradually accumulation of the spring runoff above the trashracks was released through the outlet works. The reservoir level was maintained at the top of the trashracks during the summer. To prevent further damage to the back fill slide area releases were cut somewhat in October. The retention of an additional ten feet of water filled the reservoir to approximately 10% of capacity, by the end of the year.

Seepage ponds developed in Borrow Area “B” immediately downstream from the dam, with initial impoundment of water in the reservoir. Additional seepage emerged along the base of the escarpment between Borrow Area “B” and the river. In October, a surface drain was cut to the edge of the river bench, and a measuring flume installed to measure the amount of seepage. Approximately three-fourths of a mile downstream from the Dam seepage was observed flowing from the shale outcroppings along the east edge of the river. The amount of seepage bore a close relationship to the level of the reservoir throughout the year.³⁵

Saguaro Contracting Company of Phoenix, Arizona, was awarded the contract on July 6, 1965, to repair damage to the river outlet works resulting from the backfill slide of May 1964. A backfill slide occurred at the west side of the structure on July 24, as the contractor began to unwater the stilling basin. This slide equaled in magnitude the slide of the previous year. Excess hydrostatic pressure in the backfill probably caused the slide and roughly doubled the

35. “Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming” Vol. IV, 1964, 4.

work to be performed. The contractor removed a substantial amount of slide material from the stilling basin, during the month of August, while excavation and underwatering had approached to within 10' of the floor of the structure. To permit emergency releases from the reservoir, the river outlet works gates were opened on September 4, flooding out the contractor's work area. Construction on the river outlet works ceased for the remainder of 1965.³⁶

On September 3, 1965, a serious leak occurred at the west abutment of Fontenelle Dam causing a partial washout of the dam embankment; seepage from the rock abutment entered the downstream zone of the dam and saturated the material. Roughly 10,000 cubic yards of embankment sloughed down and into the spillway stilling basin on the evening of September 3. A substantial flow of water exited through the slide cavity. The leak, initially estimated at 15-20 cfs, measured 5.7 cfs on September 6. So that the outlet works could be used to lower the level of the Reservoir, Saguaro Contracting Company was directed to abandon their work on the outlet stilling basin. To help stabilize the sides of the cavity against further sloughing Reclamation directed the company to haul riprap from the stockpiles at the east and west ends of the dam and dump it into the slide cavity. On September 4, releases of water from the reservoir began through the River Outlet Works while the East and West Canal Outlet gates were opened on September 5.

After discovering the leak Reclamation alerted local authorities of the emergency and began 24-hour surveillance of the dam. The watch continued until the falling reservoir level decreased the leak flow to about 1.5 cfs. Reservoir releases continued in the maximum amount possible until flow from the leak dropped below 1.5 cfs. Until the Reservoir reached elevation 6,435, the rate of reservoir drop was reduced to 2' per day. Valley storage in the Green River

36. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. V, 1965, 1-2.

Valley kept the maximum flood flow at Green River city to 17,000 cfs, even though maximum releases from the dam exceeded 18,000 cfs. Reclamation kept a close watch on the river to prevent danger to lives and property.

September 6, 1965, at about 4:45 p.m., a sudden and alarming incident occurred. “A 15' x 20' area on the upstream half of the crest road on the dam adjacent to the spillway bridge suddenly and completely collapsed. This collapsed area was referred to as the ‘sink hole.’” Project Construction Engineer Hatch and his men made an immediate inspection of the sink hole. They decided to fill the cavity immediately with a bulldozer which simply pushed nearby riprap from the face of the dam into the sink hole. Filling the hole stabilized the area and prevented further collapse.

The danger was that further collapsing could bring about the beginning of a breach in the dam; the water surface level was about 11 feet higher than the bottom of the 30-foot sink hole, and only 45 feet of undisturbed embankment stood between the sink hole and the water surface of the reservoir. The collapsing, which formed the sink hole, did not affect the discharge from the leak, as far as could be observed. By filling the sink hole, Reclamation averted disaster and on September 12, 1965, nine days after the disaster began, Dave Crandall, lifted the alert.³⁷

Despite Reclamation’s efforts: “A number of ranches, businesses, and homeowners along the river from the dam to Green River suffered flood damage to their lands, irrigation diversions, pumping plants, and homes.”

Throughout the crisis, State and County officials maintained close cooperation, particularly when the threat of failure of the Dam seemed imminent. Green River City officials took steps to alert and evacuate people from the lower areas of the city if it became necessary. In

37. “Report on Leak at Fontenelle Dam Seedsdakee Project, Wyoming,” September 1965, Correspondence Files.

addition, the Lincoln County Sheriff's office accompanied Bureau personnel in a continuous watch at the Dam, and provided short wave radio contact between the central dispatching offices and the Bureau.

When the emergency occurred, the Chief Engineer's office, located in Denver, Colorado, began immediate preparation of designs and specifications for repairs to the Dam. Within two weeks after the leak occurred, Reclamation amended the construction contract with Saguaro Contracting Company to provide for excavation of the dam embankment materials to expose the leaking abutment, and to remove of deposited materials from the spillway stilling basin and discharge channel. The contractor essentially completed removal of embankment material to expose the abutment in November, while December saw the clean-out of the stilling basin and the discharge channel substantially complete.

Also, during the two weeks following the emergency, specifications for a foundation grouting program were completed. Reclamation conducted prospective grouting contractors over the worksite. Shortly thereafter, contractors submitted bids, in person to the Chief Engineers's office. Shortly thereafter, the low bidder, Boyles Brothers Drilling Company and Reclamation negotiated a contract. On November 23, 1965, grouting began along the crest road. Work during the following month concentrated on blanket grouting of the abutment face. The contractor drilled holes in the spillway floor slab and assembled an underdrain flushing system before beginning to grout. In addition, to permit inspection of the abutment rock with a borehole TV camera, they drilled three, three-inch holes along the dam center line.

Anticipating a number of flood damage claims, Reclamation established a temporary office in Green River to deal directly with the affected persons. At the same time, several members of the Regional Office Irrigation Division met with citizens to advise them of claim

procedures and to make prompt appraisals of flood damage. By the end of the year they approved six claims, amounting to \$3,531.53 in payment.³⁸

Calendar year 1966 saw major progress on Fontenelle Dam repairs, necessitated by the September 1965 leak. In May, the contractor completed the last phase of removal of materials washed into the spillway outlet channel. Throughout the year foundation grouting continued. Completion of the embankment replacement at the right abutment occurred in December.

Until assurance of embankment replacement, Reclamation held storage in Fontenelle Reservoir low. In the fall, after completion of the embankment replacement, storage gradually increased, leading to sufficient storage for partial evaluation of grouting effectiveness in the spring of 1967.³⁹

During calendar year 1967, final repairs to Fontenelle Dam were completed. On June 23, foundation grouting was completed and the river outlet works repairs were finished on December 3. On March 28, Reclamation raised the level of Fontenelle Reservoir to a maximum elevation of 6458.87 to evaluate grouting results. They then lowered the Reservoir prior to spring runoff. During repairs to the river outlet works, downstream river flow was released through the penstock and turbine spiral case with the generator and turbine runner removed. To study underground water levels and seepage at the Dam, the Region's drill crew drilled 23 observation wells.⁴⁰

With completion of the project, Reclamation closed the Fontenelle Project Office on January 26, 1968. The Upper Green River Projects Office in Rock Springs, Wyoming

38. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. V, 1965, 3-4.

39. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. VI, 1966, 1.

40. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. VII, 1967, 1.

administered minor construction throughout the year. Contract work consisted of removal of debris which had floated against the dam and east abutment as well as the start of construction of a cable-type guard rail along both sides of the crest of the Dam. During the summer of 1968, Reclamation filled Fontenelle Reservoir, for the first time since performing grouting and other repairs after the September 1965 leak.⁴¹

“Dam For Sale”

In their 1983, Safety Evaluation of Existing Dams (SEED) Report, Bureau of Reclamation officials assigned the second lowest safety rating (poor), to the Fontenelle Dam on the Green River because of increased, unexplained seepage. The study indicated that the seepage problem appeared to be similar to conditions that led to a “near failure” of the dam in 1965. At that time, two years after completion of the earthen dam, Reclamation drained the reservoir under “emergency” conditions and averted a “catastrophic” situation.

“Fontenelle’s ‘poor’ indicates a condition ‘which currently does not significantly affect the safety of the dam’ but could lead to partial or complete dam failure, the SEED said.

“BuRec regional engineer Mike Thomas said the condition is cause for concern but that the agency is ‘on top of the problem. We think we have things under control,’ he said.

“‘I’m damn concerned,’ Thomas said. ‘However, I’m not panicking.’

“He said Fontenelle is instrumented well and connected by computer to regional offices for continued monitoring.

“‘We are not taking any imprudent risks,’ Thomas said.”⁴²

A lot of flooding occurred in 1983, due to an extremely wet year for the entire Upper Colorado Region. Increased seepage at Fontenelle, brought worries of dam failure potentially causing considerable damage to communities below the dam. To allow for continued monitoring

41. “Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming” Vol. VIII, 1968, 1.

42. “BuRec assigns Fontenelle Dam low safety rating over mystery seepage,” May 23, 1983, *Casper Star Tribune*, Correspondence Files.

of the dam and subsequent planned remedial work, Reclamation maintained elevation of the reservoir at approximately 6,480 to 6,482 feet above sea level. Inflows and releases equaled about 4,000 cubic feet per second.⁴³

After flooding, the poor SEED report and worries of a potential failure of Fontenelle Dam in 1983 because of increased seepage, Bureau engineers decided early in 1984 to build a 600-foot long test section of a concrete wall around the east canal outlet works.

“If the 600-foot test section stops seepage from the east end of the structure, the wall would be extended through the remainder of the mile-long dam, Bureau of Reclamation Public Affairs Technician Tom Mitchell said.”⁴⁴

In 1985, before completion of the 600-foot concrete wall, Reclamation began emergency draining of Fontenelle Reservoir when its instruments showed the dam was “in very serious distress.” The emergency draining of the Reservoir caused a slump to appear on the upstream face of the Dam about 2 a.m. May 7, 1985, leaving a scarp nearly 12 feet high. Located approximately 150 feet east of the spillway and extending approximately 95 feet toward the east, the slump was not considered dangerous. Additionally, a minor crack extended an additional 1,000 feet eastward near elevation 6,463. The slump was the natural result of water pressure within the right abutment and embankment being eased as the reservoir level dropped. When the decision to rapidly lower the Reservoir occurred, officials considered minor slumping a potential.⁴⁵

“‘I don’t think there’s a need to excessively alarm the folks,’ Al Harris said. ‘They’ve

43. “Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming” Vol. XVI, 1983, 5.

44. “Engineers make decision on repairs for Fontenelle,” December 18, 1984, *Green River Star*, Correspondence Files.

45. “Bureau Of Reclamation Declares Slump On Dam Left Scarp,” May 14, 1985, *Rock Springs Daily Rocket-Miner*, Correspondence Files.

lived in the shadows of that dam for 20 years and I don't think it's a real surprise to anyone living along the Green that that dam is unsafe.”⁴⁶

Local residents of downstream Green River took a lighthearted view of all of the problems associated with their leaky dam in 1985. One correspondent even went so far as to take out a want ad soon after the events of 1985. “*FOR SALE: One slightly used, mile-long dam prone to seepage. Made of finest and leakiest material federal government can afford. Good view of river. Located just past Fontenelle gas station. Price range unlimited. Best offer accepted.*”⁴⁷

In response to the local concerns, Reclamation drained the Reservoir and in September 1985, work began on a concrete wall designed to prevent such disasters as the one that almost occurred in May of 1985. The ultimate objective was construction of a 2-foot wide concrete diaphragm wall through the middle of the dam to provide a seal against excess seepage. An American firm owned in part by Solentanche of France, RECOSOL, Inc., (developer of the Hydrofraise) won the contract for a test section, two units totaling 850 feet long.

“Slowly the operator lowers the cutting bits, referring constantly to the inclinometer, where the needle wavers between “gauche” and “droite,” “avant” and “arriere” (left, right, to the front, to the rear). Then the operator radios a message, in French, that the Hydrofraise is beginning another grinding descent through Fontenelle Dam.”

The 20-ton Hydrofraise has been methodically cutting the 150- to 300-foot deep, 2-foot wide trench through the embankment and into the shale foundation of the Dam, since mid-September 1985. “The “fraise,” has four cutting wheels with replaceable teeth on the bottom of

46. “Emergency draining of Fontenelle begins: BuRec official says dam ‘in very serious distress,’” May 2, 1985, *Casper Star Tribune*, Correspondence Files.

47. “Drawing the Line. FOR SALE: one slightly used dam,” February 12, 1985, *Green River Star*, Correspondence Files.

a massive weight. Sensitive instruments on the fraise measure any deviations from an absolutely vertical descent.”⁴⁸

In 1986, because of structural instability in the foundation, Fontenelle Reservoir was kept low. Hit with near-record runoff down the Green River the reservoir began to fill; unfortunately, open outlet tubes discharged only a portion of the surging inflow. Though lower in 1986 than the previous three years, spring runoff into Reclamation reservoirs in general was still above normal. Specifically, runoff into Fontenelle Reservoir was 167 percent of normal. These events generated high interest in the surrounding communities, the media, and within the Bureau.

Runoff waters carried massive amounts of debris, especially tumbleweeds, into the reservoir. The tumbleweeds and water-logged wood collected against the outlet works trashracks, restricting planned releases. Reclamation Operation and Maintenance crews from Utah Projects and Uinta Basin Construction Offices and Flaming Gorge Field Division rigged a temporary log boom to surround the debris in the reservoir near the inlet, before Cross International Divers arrived. The logs corralled the trash in coves to keep it away from the inlet structure. While the reservoir was shut down several hours on two different days in June, divers from Cross Commercial Diving, Inc., working in 70-foot deep murky water, cleared the trashracks of the debris. Cross Crews, using special work boats, continued to contain the larger amounts of floating logs and debris on the reservoir for future disposal. Subsequently, Cross Crews installed a rectangular shaped log boom over the inlet area, enclosing about 90,000 square feet of reservoir area. To capture and deflect floating tumbleweeds and sagebrush before it reached the inlet trashracks, a six-foot chain link fence hung from the boom into the water. Concrete weights, placed by the Cross Crews, anchored the boom to the floor of the Reservoir.

48. “Upper Colorado Region Construction Progresses,” November 29, 1985, Correspondence Files.

Fontenelle Reservoir held back much of the high runoff, preventing flooding in Green River, Wyoming. The Reservoir level began to drop with the receding inflows and the trashracks partially cleared.

Also, in 1986, RECOSOL, Inc., continued minor items of work on the Fontenelle Dam concrete diaphragm wall test section. They completed segment 1, which constituted 660 feet of wall around the emergency spillway and into the right abutment, by the end of June, bringing the total completed wall length to 840 feet of test section. “Only when the dam has been repaired completely by installation of a full-length diaphragm wall, can Reclamation officials feel that Fontenelle Dam is entirely safe.”⁴⁹ In the 1992 SEED Report, Reclamation officials found no additional problems and the concrete wall appeared to have solved the leakage problem.

Settlement of the Project

Fontenelle Reservoir provides no irrigation water, even though 58,775 acres exist that could be irrigated.⁵⁰ Other than the years the State of Wyoming controlled the lands used by the Seedskaadee Development Farm, Project lands have never left Reclamation control. During 1998, Reclamation began the process of revoking its withdrawal of just under 150,000 acres of project lands. This action returns the lands to the jurisdiction of the Bureau of Land Management.

Uses of Project Water

Fontenelle Dam and Reservoir was originally conceived of as an irrigation Project. However, its true usefulness has become power production, municipal and industrial water, recreation, and wildlife preservation.

49. “Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming” Vol. XIX, 1986, 14-5.

50. “Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming” Vol. XVI, 1983, 5.

Municipal and Industrial

In 1968, the Natural Resource Board, on behalf of the State of Wyoming, signed a 30-year contract with the Sun Oil Co. for the use of 25,000 acre feet of industrial water from the Fontenelle Reservoir in Southwestern Wyoming. The oil firm used the water to develop coal production in the area, which still continues.⁵¹

Under the contract of June 14, 1962, initial deliveries of municipal and industrial water to the State of Wyoming began in 1974. Fontenelle also provides water to Stauffer Chemical Company for the mining of trona and other industries in the general vicinity of the Project. The Powerplant provides power to Bridger Valley Electric. Other nearby towns which receive power from the project include Fort Bridger, Granger, Lyman, and Mountain View.

Recreation

The main recreation area, located on the west shore of the reservoir near Fontenelle Creek, is appropriately named Fontenelle Creek Campground. Recreation facilities include sites for camping and picnicking, a boat ramp, parking, sanitary facilities, and drinking water. There is a day use area at the north end of the reservoir across from Names Hill where Mountain man Jim Bridger supposedly signed his name to a rock outcropping. This area attracts rafters leaving the Green River and people stopping on their way to the Yellowstone/ Grand Tetons area. From the northern part of the reservoir south to below the dam, other recreational use areas include Holden Hill, Holden Hollow, Tailrace Campground, Tailrace Picnic Area, Weeping Rock Campground, State Creek Campground, and Old Ford Camp. All recreation areas are open to the public. Recreational use throughout the reservoir area averages about 12,000 visitors annually.

51. "First State Industrial Water Sold to Sun Oil," June 20, 1968, *Rock Springs (Wyoming) Daily Rocket-Miner*, Correspondence Files.

The Reservoir contains a substantial fishery, as does the river between Fontenelle and Flaming Gorge Reservoirs. Both the river and Reservoir are stocked with rainbow and brown trout. Kokanee salmon, another important sport fish, spawn in the Green River below the dam, while the river below the Reservoir sustains a whitefish population, a result of natural spawning.⁵² Chubs and suckers can also be found in both the river and the reservoir.

Late in fiscal year 1973, the Secretary of the Interior Rogers C.B. Morton established a recreation precedent at Fontenelle Reservoir. For the first time in the history of the Upper Colorado Region the Bureau of Reclamation assumed responsibilities for the administration of the recreation resources (formerly administered by the National Park Service, NPS) at a CRSP project. On June 8, 1973, agreements transferring administrative responsibilities from the NPS to Reclamation were signed. Reclamation planned to expand existing recreation and public information facilities, in addition to handling routine operation and maintenance. A full-time employee was hired in 1974, to supervise operation and maintenance and construction of the additional facilities. To assist in this effort, a Youth Conservation Corps camp was established in the spring of 1974. Also, beginning in 1974, the CRSP Operations office in Montrose began administering recreation at Fontenelle, relieving the regional office of the responsibility.⁵³

In the summer of 1983, when the level of Fontenelle Reservoir was intentionally drawn down to below the boat ramp, boaters had limited access to the reservoir. However, those with smaller, carry-on boats could still launch from the shoreline while the boat ramp was not functional. All other campground facilities were open and fully operational.⁵⁴

The Montrose office of Reclamation had responsibility for administration and

52. *Project Data*, 1145.

53. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. XI, 1973-4, 5.

54. "Annual Project History, Colorado River Storage Project, Seedskaadee Participating Project, Wyoming" Vol. XVI, 1983, 5.

development of the recreation facilities until 1989, at which time Reclamation and BLM signed an interagency agreement transferring management of Fontenelle Recreation Area to BLM on an interim basis for fiscal years 1990 and 1991. In 1990, BLM contracted a campground host stationed permanently at Fontenelle Creek Campground to oversee the entire recreation area. Part of the original agreement included a provision to transfer the recreation area to BLM permanently beginning in 1992. In 1995, Reclamation and BLM signed an interagency agreement transferring operation and maintenance of recreation facilities to the BLM. Reclamation's plans to revoke their withdrawal of most of the project lands include the permanent transfer of the recreation facilities to BLM. Reclamation plans to complete this process during fiscal year 1998.

The Seedskadee Wildlife Refuge

"It [the Seedskadee Wildlife Refuge] will provide fine opportunities to observe, photograph, and hunt waterfowl as well as to fish and engage in other forms of outdoor recreation . . . we hope to initiate actual on-site development next summer."⁵⁵

The Fish and Wildlife Service established the Seedskadee National Wildlife Refuge in 1965. The refuge, providing habitat for waterfowl, lies along thirty-five miles of the Green River, approximately six miles below Fontenelle Dam and twenty miles northwest of the town of Green River. Reclamation acquired about 13,250 acres of Federal and private land and planed to bring the refuge to a total of about 22,000 acres.⁵⁶

Providing high quality nesting and migration habitat for the Great Basin Canada geese, ducks and other migratory birds, remains the primary objective of Seedskadee Wildlife Refuge.

55. "Cost of Seedskadee Wildlife Refuge Set Near \$1.5 Million," February 9, 1967, *Green River Star*, Correspondence Files.

56. *Project Data*, 1145.

Development of marsh-meadow habitat raises over 15,000 geese and 25,000 mallards and other ducks annually; antelope, mule deer, sage grouse and other wildlife also benefit.

The refuge has been developed and managed to provide outstanding outdoor recreation. Facilities and programs exist for hunters, fishermen, float-boaters, and others who appreciate a wild area. However, most of the refuge lies where hunters, fishermen, and others can enjoy the peace and solitude of a natural river environment.⁵⁷

Conclusion

The Seedskadee Project began as a simple earthen dam designed to hold water for irrigation. As construction began on the project, those initial uses fell by the wayside as new ones emerged. Instead of storing water for irrigation, Fontenelle provides water for municipal and industrial use in the nearby communities. The availability of water, and by extension power, encouraged companies such as Sun Oil and Stauffer Chemical to mine the mineral rich lands that lie in the vicinity of the project. The new companies moving into the area provided jobs to local residents while also boosting the local economy. The Reservoir also provided residents with new recreational opportunities. The most important use of Fontenelle Reservoir, at least to the residents of Wyoming, however, is the storage of waters of the Colorado River.

In its own way, Fontenelle Dam and Reservoir has become a part of mythic Wyoming. Averting two almost failures, Fontenelle Dam still sits across the Green River. In some way it must have been meant to be. Originally conceived for irrigation purposes, the most important use of Fontenelle has become storage of a part of Wyoming's share of the Colorado River as allocated by the Colorado River Compact.

About the Author

57. "Seedskadee National Wildlife Refuge Is One of Newest Units," October 19, 1968, *Rock Springs (Wyoming) Daily Rocket-Miner*, Correspondence Files.

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