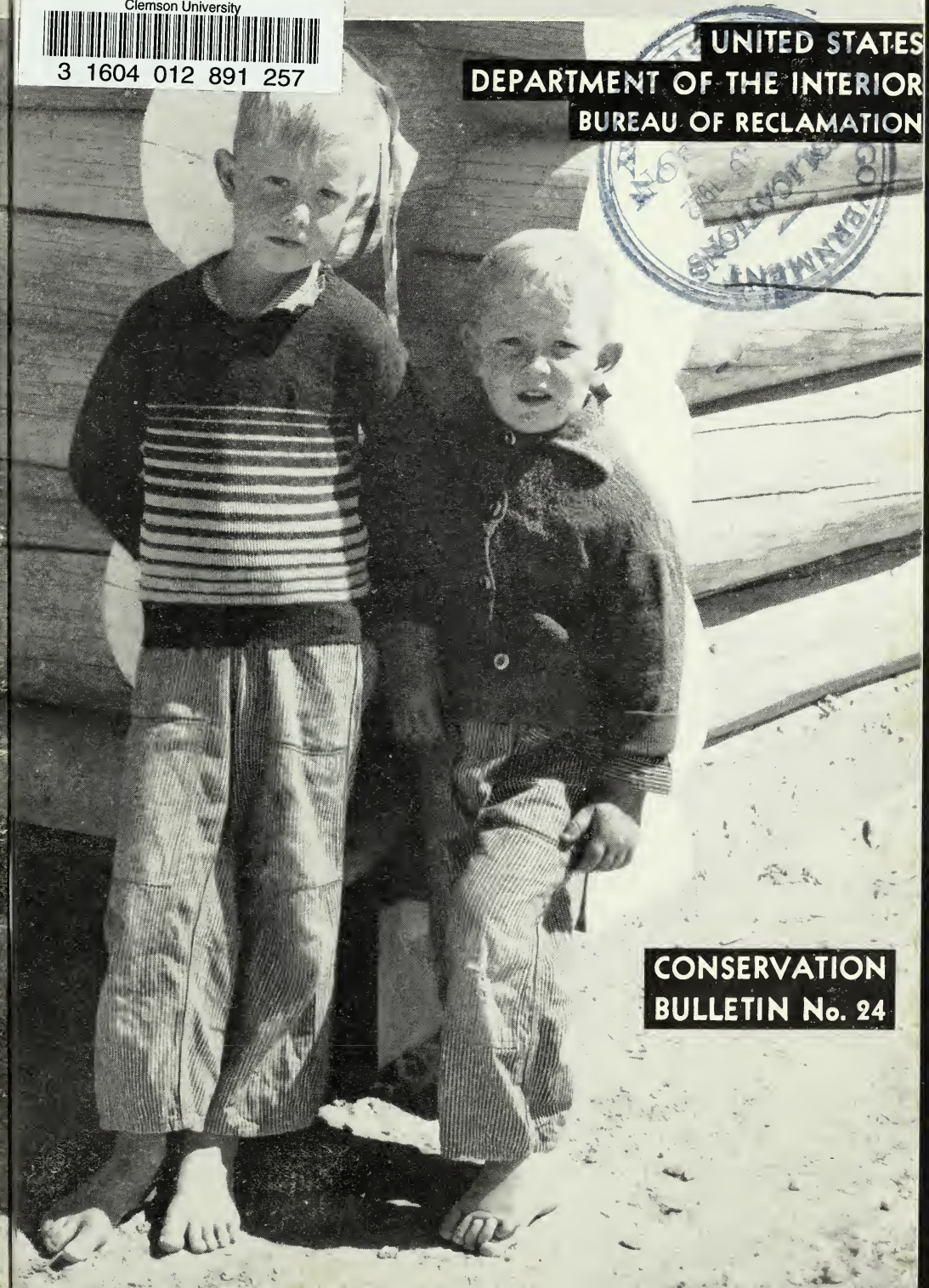
RIVERTON
RECLAMATION PROJECT



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

CONSERVATION
BULLETIN No. 24

HISTORY OF PROJECT

On March 3, 1905, Congress passed an act ratifying an agreement with the Indians of the Wind River Reservation ceding lands north of Wind River to the United States. Provisions were made for the disposal of these lands under the Homestead, Townsite, Coal, and Mineral Laws and in due course they were opened to entry and settlement.

On February 20, 1906, the State of Wyoming was granted a permit to make surveys for the development of the irrigable lands. Construction was begun by a private irrigation company in the fall of 1906 and Wyoming Canal No. 2 was placed in operation in 1908. In 1915 the irrigation works for the Riverton Valley had been completed with the construction of the Le Clair-Riverton Canal.

In 1916 and 1917 the Bureau of Reclamation conducted investigations of the higher lands of the project, involving a greater cost per acre, for the Office of Indian Affairs. All the vacant land within the project was withdrawn from entry and construction was begun on the project as an Indian irrigation project. By the Act of June 5, 1920, Congress transferred jurisdiction of the project to the Bureau of Reclamation and appropriated $100,000 for the continuation of construction.

Actual construction began on the main canal in January 1920. Construction on the Wind River Diversion Dam was started in July 1921, completed in 1923. In 1925, water was delivered to the project lands.

RIVERTON
Reclamation Project
Wyoming

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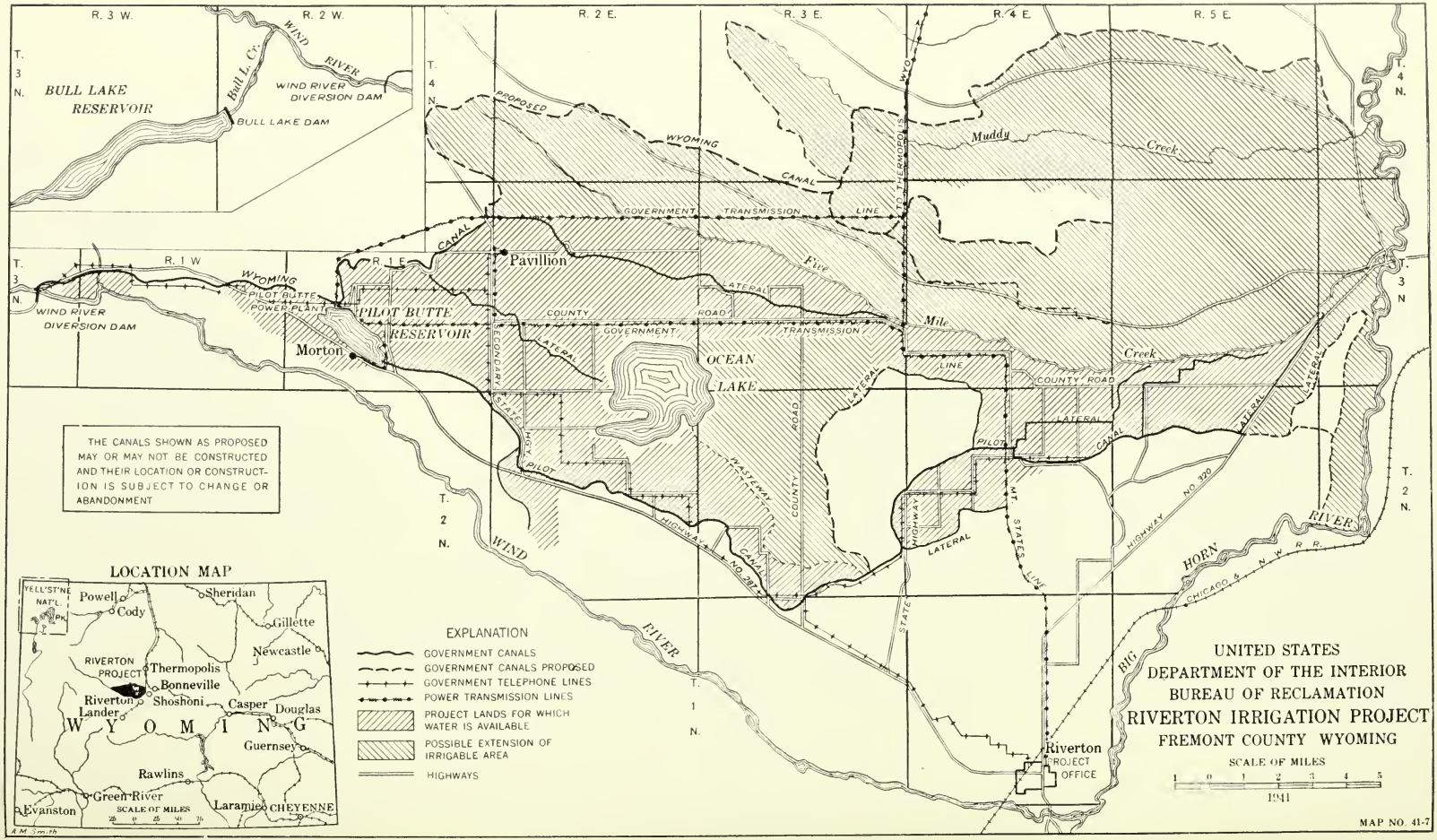
United States
Department of the Interior
Bureau of Reclamation


R. 3 W.
R. 2 W.
R. 2 E.
R. 3 E.
R. 4 E.
R. 5 E.
T. 3 N.
T. 4 N.
T. 2 N.
T. 1 N.
BULL LAKE RESERVOIR
Bull L. Cr.
WIND RIVER
WIND RIVER DIVERSION DAM
BULL LAKE DAM
PROPOSED
WYOMING
CANAL
GOVERNMENT
TRANSMISSION
LINE
TO TERRY, WYO.
Muddy
Creek
R. 1 W
R. 1 E
Pavillion
WYOMING
PILOT BUTTE
POWER PLANT
WIND RIVER
DIVERSION DAM
PILOT BUTTE
RESERVOIR
COUNTY
ROAD
LATERAL
Five
Mile
Morton
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Cody
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SCALE OF MILES
1 0 1 2 3 4 5
1941
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RIVERTON
Reclamation Project

Location and Climate

THE Riverton Project is located in Central Wyoming in Fremont County on the ceded portion of the Wind River Indian Reservation. The project land lies in the Wind River Basin and to the north of the river. At this point Wind River makes a large bend circling the project on three sides. The project land extends from Wind River on the east, westward approximately 40 miles and again meets the same stream. Southwest of the river rise the Wind River Mountains. On the north the project merges into rolling range land and the breaks of the Owl Creek Mountains. To the south and on the valley floor between the project and Wind River lie 24,000 acres of irrigated land known as the Riverton Valley, under private irrigation districts. At the southernmost apex of the valley is located the town of Riverton.

The average annual maximum temperature is 98 degrees. The average annual minimum is 28 degrees and the average mean annual temperature is about 44 degrees. The average annual rainfall of about 9 inches is insufficient for dry farming. The average date of the latest killing frost is May 9 and the earliest killing frost September 26, an average growing season of 140 days. The altitude above sea level ranges from 4,700 to 5,550 feet. The average snowfall is light and the winters are especially favorable for wintering stock.

Soil

The project lies entirely within an area of sedimentary formations. Strata underlying the soil consist of a soft sandstone and tightly compacted shale. As to origin the soil may be classed as residual, alluvial and lacustrine. A sandy soil of residual nature is usually found on the higher slopes. This grades to the heavier loams on the flatter slopes. Sandy loam to a clay loam of alluvial origin is found on the lower ground and in Five-Mile and Muddy Creek valleys.

The heavier soils usually carry a growth of a salt bush locally known as salt sage, a small plant with little root system which requires no extra work to eliminate. The lighter soil usually has a

black sage which may be broken loose with a steel rail as a drag, then raked and burned.

Some of the soil contains a small amount of soluble white alkali but seldom enough to injure crops.

Tracts which are thought to contain an excessive amount of alkali or are considered difficult to drain if they become seeped, and patches of light, sandy soil and rough, steep or rocky land are eliminated from the irrigable area.

Settlement Opportunity

Only eight homestead farms on the project were unoccupied on January 1, 1941. Additional homesteads will be opened to entry as canals are constructed. Settlers are selected by an examining board which determines whether applicants have the required qualifications of a full homestead right, physical ability to do farm work, and at least two years' experience in farming. The applicant must furnish satisfactory evidence of character and industry and have sufficient capital to give reasonable assurance of success in developing a farm. The capital required

Left—Builders.

Below—Temporary dwelling and garden.

Second-year cottage and garden.

is set at $2,000 or its equivalent in equipment. The Farm Security Administration lends approved applicants money toward this.

There is unimproved land for sale usually on favorable terms at $15 to $20 an acre. Information may be obtained by addressing the Superintendent, Bureau of Reclamation, Riverton, Wyoming. Information regarding passenger fares and freight rates may be obtained from the Division Freight and Passenger Agent of the Chicago & Northwestern Railway at Casper, Wyoming.

Living Facilities

An excellent water for domestic use is generally found throughout the project. Good, soft water is found at depths from 20 to 200 feet. Some of the shallower wells may contain a small amount of soda but seldom enough to be objectionable for household use.

Electricity is available to more than half the farms on the Riverton Project. More than one-third are electrified. The current is generated at the project's Pilot Butte power plant, and distributed over the 96 miles of Rural Electrification Administration transmission line on the project.

Pavillion and all settled parts of the project have daily mail service. Regular telephone service to all points on a toll basis is available at Pavillion and Morton.

Field of alfalfa.

Crops

Alfalfa, sweet clover, grains, potatoes, sugar beets, beans, garden vegetables and small fruits thrive. Alfalfa seed, sweet clover seed and seed beans are producing excellent yields with favorable cash returns. Alfalfa and other forage crops produce high tonnage. Wheat averages 25 to 30 bushels per acre. Oats weighing 40 pounds per bushel average 30 to 40 bushels per acre, and barley weighing 52 pounds per bushel averages about the same. Acclimated corn of suitable varieties regularly matures, with good yields. Potatoes of the highest quality are produced, often bringing a substantial premium over market quotations.

The sugar content of beets in the Riverton area is high, usually more than 17 percent. When the land has been brought into a good state of cultivation and transportation facilities are further improved sugar beets will probably be a leading crop. Two receiving stations for sugar beets have been installed on the project and beets delivered at these stations bring the same price as those delivered at Riverton.

Berries, melons, and garden vegetables, especially tomatoes, are highly successful both as to yield and quality.

Fair crops of grain, corn, potatoes, and beans can be grown on raw land depending on the local conditions and the skill with which the land is farmed. The soil, as a rule, contains little humus, and alfalfa or sweet clover should be seeded as early as possible either

Sugar beets.

with or without nurse crops. Sweet clover is recommended as the seed costs less, a stand is more easily secured, and its feeding value is nearly equal to alfalfa. After sweet clover has been plowed under the humus and nitrogen it adds to the soil greatly improves succeeding crops.

A well-rounded farming program would be based on the production of forage crops and grain for feeding milch cows, sheep, hogs, and beef cattle. Sugar beets, potatoes, beans, and seeds would be the cash crops, with poultry, bees, vegetables, and small fruits as side lines.

Experimental field of alfalfa.

Oats—43 bushels to the acre.

Beans under irrigation.

Harvesting the oat crop.

Livestock and Chickens

The project is surrounded on three sides by range land on which cattle and sheep are run. The systematic feeding of ewes, lambs, and beef over a period of years is successful. The farm flock of sheep is profitable and produces cash returns for lambs and wool. Hogs can be fattened profitably on either corn or ground grain; little trouble has been had with cholera.

Wyoming does not yet produce enough dairy products to supply its own needs. Well-equipped creameries at Riverton and Hudson

A money-making flock of registered White Leghorns.

C A N
OKANOGAN
Okanogan
GRAND COULEE DAM
Seattle
COLUMBIA BASIN
W A S H.
Tieton Reservoir
YAKIMA-ROZA
Yakima
YAKIMA
Columbia River
BONNEVILLE (ARMY ENGR'S) DAM
Salem
UMATILLA
Hermiston
McKay Reservoir
Thief Valley Reservoir
DESCHUTES
O R E G O N
Deschutes Riv.
Baker
BAKER
Snake R.
BURNT RIVER
UNITY DAM
MANN CREEK
CRANE PRAIRIE DAM
Bend
AGENCY VALLEY DAM
WICKIUP DAM
VALE
Vale
Warm Springs Res.
OWYHEE
Owyhee Res.
Cascade Res.
Deadwood Reservoir
Boise
BOISE
Anderson Ranch Reservoir
Arrowrock Reservoir
American Falls Reservoir
Snake River
Burley
MINIDOKA
I D A H O
Sherburne Lake Reservoir
Fresno Reservoir
Havre
Milk
MILK RIVER
Malta
FT PECK (ARMY ENGR'S) DAM
Missouri
Gibson Reservoir
SUN RIVER
Fairfield
Great Falls
FRENCHTOWN
BITTER ROOT
Hamilton
Como Lake Reservoir
M O N T A N A
HUNTLEY
Ballantine
Yellowstone
Tongue
Powell
SHOSHONE
Shoshone Reservoir
ISLAND PK. DAM
UPPER SNAKE RIV.
GRASSY L. DAM
JACKSON L. DAM
Bull Lake Reservoir
W Y O M
RIVERTON
Riverton
KENDRICK
Seminoe Reservoir
EDEN
KLAMATH
Klamath Falls
GERBER DAM
Clear Lake Reservoir
SHASTA DAM
Redding
Red Bluff
ORLAND
Orland
CENTRAL VALLEY
Stony Gorge Res.
Sacramento R.
BOCA DAM
TRUCKEE STORAGE
L. Tahoe
Sacramento
San Francisco
San Joaquin Riv.
FRIANT DAM
PINE FLAT DAM
Fresno
KINGS RIVER
Kings Riv.
Kern Riv.
Bakersfield
C A L I F O R N I A
Los Angeles
Indio
Salton Sea
COACHELLA C.
San Diego
ALL-AMER. CANAL
P A C I F I C O C E A N
Humboldt River
HUMBOLDT
RYE PATCH DAM
Lovelock
Reno
NEWLANDS
Fallon
Lahontan Res.
Carson City
N E V A D A
Las Vegas
Boulder City
BOULDER DAM
LAKE MEAD
HYRUM
NEWTON
Hyrum Res.
GREAT SALT LAKE
Ogden
OGDEN RIV.
Pine View Res.
Echo Res.
Salt Lake City
PROVO RIVER
DEER CR DAM
Provo
Moon Lake Res.
MOON LAKE
STRAWBERRY V.
GOOSEBERRY
SANPETE
Spring City
Ephraim
U T A H
Green River
Estes
GRANBY DAM
Glenwood Sprs.
GRAND VALLEY
Spring Cr. Res.
PAONIA
Beaver Cr. Res.
Grand Junction
FRUIT GROWERS DAM
Montrose
UNCOMPAHGRE
Wagon Wheel Gap Res.
PINE RIVER
VALLECITO DAM
San Juan
MANCOS
River
Platora Res.
Colorado
Little Colorado
Kingman
Lake Havasu
PARKER DAM
Earp
Parker
Williams R.
A R I Z O N A
Verde R.
BARTLETT DAM
Roosevelt Reservoir
PARKER DAM POWER
IMPERIAL DAM
Phoenix
Gila
SALT RIVER
Riv.
Yuma
YUMA
GILA
Albuquerque
NEW
Rio Grande
Elephant Butte Reservoir
Caballo Res.
El
M E X I C O
W. L. LUCAS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

WESTERN PART OF THE UNITED STATES
SHOWING LOCATION OF

FEDERAL RECLAMATION PROJECTS

Scale of Miles

50 0 50 100 150

Map No. 39-5

April 1941

offer a cash market for all cream produced. They pay for the transportation.

Chickens and other poultry do well if given proper shelter. Chickens housed for winter egg production also pay good dividends. Local production fails to supply the Wyoming demand.

Many carloads of turkeys are shipped annually from Fremont County. These turkeys grade high and command top prices.

Bees are a profitable side line. Alfalfa and sweet clover blooms give a heavy production of excellent quality honey.

Every new settler should have a few chickens and at least one milch cow as soon as he establishes residence and additional cows, pigs, chickens, and turkeys as soon as forage is available. Successful farmers on the Riverton Project, as elsewhere, produce most of their living from their own farms and grow cash crops to take care of necessary cash expenses and for profit.

Markets and Transportation

The usual wholesale markets are Omaha and Denver. The local prices of grain and corn are governed by local conditions. They are seldom much under the Omaha quotations. Fat livestock may be shipped to Casper, where there is a modern packing plant, or to Omaha or Denver. Large numbers of cattle and sheep are shipped annually from the surrounding range to feeders in eastern Wyoming, Colorado, and Nebraska. Local feeding of this stock absorbs surplus forage. The railroad, oil, and mining towns of central and southern Wyoming offer a large market for dairy and poultry products and vegetables.

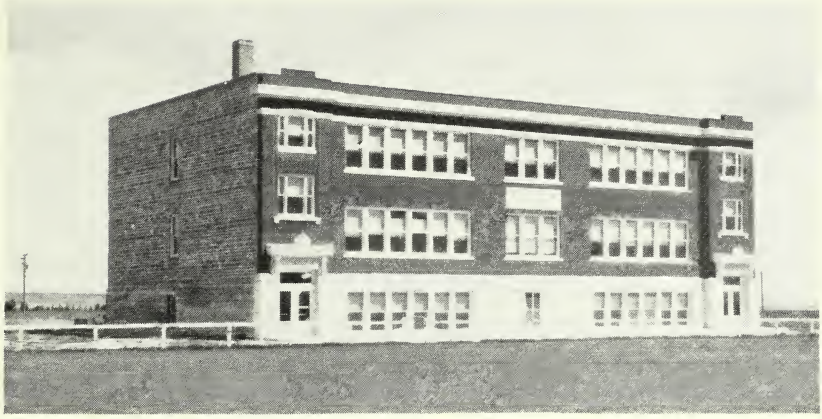
The shipping outlet for the project is via the Chicago and Northwestern Railway through Riverton and Shoshoni. Some sugar beets are trucked to Bonneville, 7 miles from the east end of the project, and to the Chicago, Burlington and Quincy Railroad there.

Hard surface highways provide excellent connection to all parts of Wyoming. State Highway No. 320 with oil surface connects Riverton with Shoshoni and traverses the southeast corner of the project. Highway 287 extending from Riverton to Jackson Hole and the southern entrance of Yellowstone Park runs along the southwest boundary of the project. Seven miles of excellent oiled road connects Pavillion with this highway. State Highway No. 320 extends to the southwest from Riverton to Lander where it connects with U. S. Highway No. 287 to Rawlins and the southern part of the State. Other roads traverse the project and connect with the highways to Riverton.

Towns

Fremont County, in which the Riverton Project is located, increased in population from 10,490 to 16,095 during 1930–40, a gain of 53 percent.

Riverton, population 2,540, is located about 8 miles south of the project. It is the principal trading center. Here are located elevators, lumber yards, a local packing house and other enterprises



Riverton high school.

essential to farm community development. Riverton has good schools and operates busses into the southern part of the project. Some of the other districts that have only a grade school send their children to Riverton for high school. The town has many fine churches representing a number of denominations.

The Riverton Project office is located in Riverton, and the field office, camp and repair shops are at Pavillion.

Pavillion, population 176, with several business enterprises, is located in the north central portion of the project. Pavillion has a grade school and an accredited high school. There are two churches in the town and other churches elsewhere on the project.

At Morton, in the western part of the project, is a grade school and general store.

Children living in the eastern part of the project are taken by bus to Shoshoni, population 226, where there are grade and high schools.

Adobe church at Pavillion.

Operating Costs

Under a contract between the Government and the Midvale Irrigation District, which will eventually embrace the entire project, the cost of construction (water rights) will be repaid in 40 annual installments. The date of the first installment has not yet been determined. This installment will be 1 percent of the total cost, gradually increasing up to the 40th payment which will be 5 percent of the total. As the project is not yet completed the exact cost can not be stated, but settlers will be required to pay to the Government only the actual cost of construction without interest. It is estimated that the cost will be about $90 an acre, including drainage.

The minimum water rental or operation and maintenance charge for 1941 is $1.10 per irrigable acre whether or not the water is used. A new homesteader pays this amount at the time a farm is assigned to him. Payment entitles the user to 2.2 acre feet of water per acre. Additional water, if desired, will be delivered at a cost of $0.50 per acre. The Government will continue to operate the project until it is turned over to the Midvale Irrigation District.

The project land was formerly a part of the Wind River Indian Reservation and each entryman must pay $1.50 per acre to the Land Office for the Indians. Fifty cents is paid at the time of making entry and 25 cents each year thereafter for 4 years.

The necessary drainage system for the land is being constructed as a part of the irrigation system, as the need arises.

Farmers' Organizations

To obtain the best returns from many crops such as potatoes, beans, vegetables, fruits, and poultry, it is necessary to concentrate on a few standard varieties and practice systematic and rigid grading.

One of the farmers' cooperatives.

For this purpose cooperative marketing associations are desirable. Farmers' cooperative organizations in the Riverton area have an important part in the marketing of cream, turkeys and wool. These organizations have been instrumental in materially increasing net prices to the growers, in improving quality of produce, in enforcing standard grading, and in finding markets for individual growers.

The Fremont County Dairymen's Cooperative Marketing Association at Hudson has built up a strong organization. Their trucks cover the project and pick up cream directly from the farms.

Granges have been organized in the various localities in the interest of the farmer.

The local employees of the Bureau of Reclamation at Pavillion are always glad to cooperate with the settlers in promoting their welfare. The County Agricultural Agent at Lander, with regular office dates at Riverton, is available for consultation and assistance, and the services of the technical staff of the University Extension Service are also available.

Recreation

The two project reservoirs, Bull Lake and Pilot Butte, have attractive lake shores and are well stocked with fish. One of the

The beautiful shore of Bull Lake Reservoir.

Bull Lake Creek above the reservoir—good fishing.

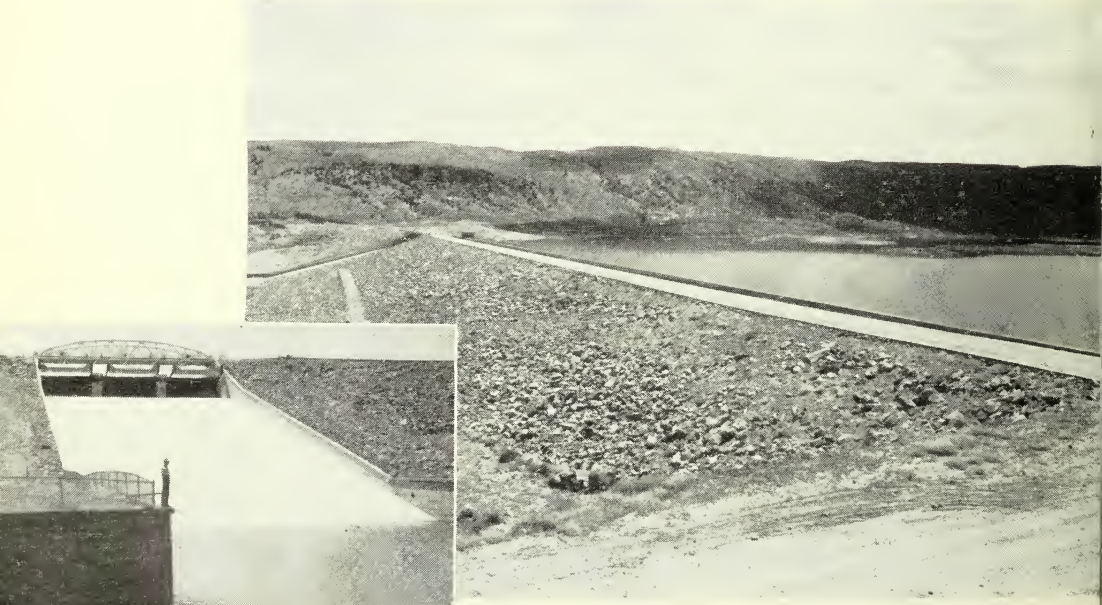
most popular winter sports is line fishing through the ice.

Ocean Lake, a natural body of water of 4,500 acres, is located in the central part of the project. It is frequented by waterfowl. Duck hunters never lack for sport.

To the west of the Wind River Valley rise the Wind River Mountains, high and rugged, with many peaks and glaciers. On the slopes of these mountains is the Washakie National Forest, 394,000 acres of primitive scenic beauty. Wildlife abounds. The lakes and streams are full of trout.

Farmers' fields on the project offer excellent cover for the propagation of game birds.

Yellowstone National Park is 175 miles to the northwest.



Above—Bull Lake Dam, spillway in background.
Left—Spillway.

Wind River Diversion Dam.

Water Storage

An adequate and dependable water supply is obtained from the natural flow of Wind River which holds up unusually well during the late summer. Sources are the perpetual snow banks, glaciers, and natural lakes of the Wind River Mountains, supplemented by two storage reservoirs, Bull Lake and Pilot Butte.

Bull Lake Dam, located on Bull Lake Creek 3 miles above its mouth, is about 7 miles above Wind River Diversion Dam and 40

The Lower Falls, Bull Lake Creek—high water reaches this point.

miles northwest of Riverton. The dam is the principal storage unit of the project, with a capacity of 155,000 acre feet. It is an earth- and rock-fill structure about 3,400 feet long 73 feet above stream bed. Water is released from the reservoir through two 8-foot concrete conduits controlled by high pressure slide gates. An overflow spillway equipped with automatically operated radial gates provides a 10,000 cubic feet per second capacity for flood discharge.

Pilot Butte Dam consists of three earth-fill structures which create an off-stream reservoir of 31,550 acre-feet capacity. It is located 9 miles below the Wind River Diversion Dam.

Irrigation System

Water is diverted from Wind River into the Wyoming Canal at Diversion Dam about 4 miles below the mouth of Bull Lake Creek. Diversion Dam is of a concrete spillway or weir 651 feet long across the main channel of Wind River, with a sluiceway, logway and canal headworks at the north end and an earth embankment 1,634 feet long connecting the south end of the spillway with the river bluff. The structure was designed for a maximum capacity of 40,000 cubic feet per second.

Wyoming Canal

The distribution system consists of approximately 250 miles of canals and ditches with such necessary structures as siphons, checks, drops, turnouts and bridges. The canals range in capacity from 2,200 cubic feet per second for the feeder canal (Wyoming Canal, 1st division), down to farm delivery ditches.

The first division of the Wyoming Canal, extending from Diversion Dam to the Pilot Butte power plant, supplies water for power as well as irrigation. The canal is operated throughout the year for power. A drop from the Wyoming Canal to Pilot Butte Reservoir provides a head of 100 feet for the power plant. Secondary storage in Pilot Butte Reservoir may then be used for irrigation or turned back into the river through a wasteway. Water for irrigation is supplied to the lands through two main canals, the Wyoming Canal, second division, continuing on above the power drop and the Pilot Canal with headgates at the lower end of the Pilot Butte Reservoir.

Electrical energy is generated at the Pilot Butte power plant to supply government and the local commercial market. Power is developed at a drop from the Wyoming Canal into Pilot Butte Reservoir. The plant consists of two 1,200-horsepower vertical hydraulic turbines, each directly connected to a 1,000-kilovolt-ampere, 2,300-volt, 60-cycle alternating current generator, operating under an average head of 100 feet.

Transmission lines connect the plant with Pavillion, Shoshoni, Riverton, and Thermopolis. At Thermopolis the line hooks in with the Federal transmission network connecting the Riverton Project with North Platte Project, the Kendrick Project, the Colorado-Big Thompson Project and, by an interchange arrangement with the local power company, the Shoshone Project. The combined generating capacity of Reclamation project power plants on the network totals 45,600 kilowatts.

Irrigable Area

The irrigable area of the entire project will exceed 100,000 acres, of which 70 percent is public land. In 1940 water was available for 42,000 acres, of which about one half is private land. The irrigation system will be extended and additional land opened to homestead as funds are made available for construction.

DEVELOPMENT DATA

	1930	1935	1938	1939	1940
Irrigable acreage	20, 000	32, 000	32, 000	38, 000	42, 500
Irrigated acreage	1, 207	14, 947	25, 905	28, 975	34, 715
Number of water users	22	226	376	410	465
Farm population	65	815	1, 357	1, 530	1, 705
Value of crops	$10, 300	$185, 700	$471, 800	$642, 400	$715, 909
Value of livestock	$27, 500	$111, 800	$190, 000	$270, 000	$325, 519
Value of farm equipment	$19, 000	$124, 300	$239, 000	$292, 000	$346, 873

At home on the Riverton Project.

321874° GPO