

Little Wood River Project

Idaho: Blaine County

Pacific Northwest Region
Water and Power Resources Service
(Formerly Bureau of Reclamation)

Little Wood River Project includes lands within an area 2 miles wide and 12 miles long upstream and downstream from Carey, Idaho, in the south-central section of the State. The project provides a supplemental irrigation water supply for 9,549 acres of land. The principal construction feature is the enlarged Little Wood River Dam and Reservoir that serve previously constructed diversion and distribution works. Flood control is provided by operation of the reservoir on a forecast basis.

PLAN

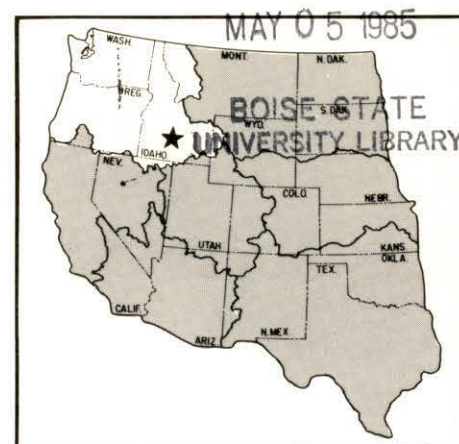
An increased water supply to meet the need of water users in the project area was provided by increasing the height of Little Wood River Dam from 77 to 129 feet. This increased the reservoir capacity from 12,100 to 30,000 acre-feet. The diversion and carriage facilities on the project remained unchanged.

Little Wood River Dam

Rehabilitation work included raising the dam crest 52 feet, extending the outlet tunnel downstream 150 feet,



Little Wood River Dam and Reservoir



and relocating the spillway. The completed structure is 129 feet high, with a zoned earthfill embankment containing about 959,000 cubic yards of material. Outlet works reconstruction included enlargement of the entrance channel to the existing intake structure, construction of a gate chamber with a connecting 6-foot-diameter access shaft and shaft house in the existing tunnel approximately 250 feet downstream from the intake structure, extension of the existing tunnel with a 150-foot-long, 6- by 8-foot conduit and a 60-foot-long, 6- by 10-foot chute, and excavation of a stilling basin in the outlet channel. The spillway consists of an inlet channel, a concrete spillway structure with uncontrolled crest, an outlet channel, and a training wall on the right side of the outlet channel beginning approximately 1,000 feet downstream from the spillway crest.

DEVELOPMENT

Early History

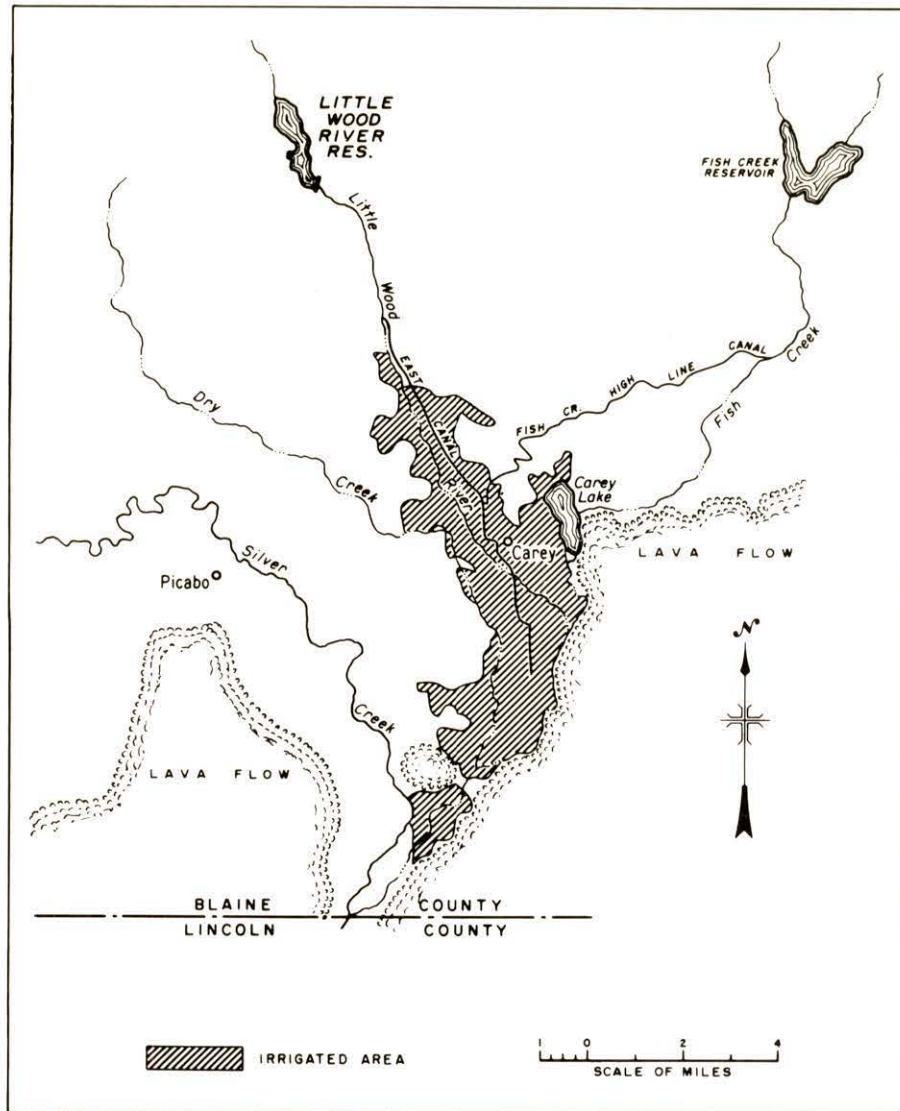
Settlement of the project area took place in the late 1800's, principally by people interested in raising livestock. Surrounding foothills and mountains to the north furnished summer grazing.

Earliest water rights have a priority date of 1880 and were granted to meet the individual needs of the early farmers. In 1893, the settlers formed a mutual association and constructed canals on both sides of the river to meet water requirements for new irrigable lands. Carey Lake Reservoir Company was formed in 1912 and obtained a license to divert and store water in Carey Lake for 2,051 acres east of Carey, Idaho. By 1923 or 1924, no water was available for storage, and since that time there has been no irrigation storage in Carey Lake. The lake was purchased by the Idaho Fish and Game Department in 1949.

Investigations

Investigation of means for regulating the flow of Little Wood River by storage was begun in the spring of 1904

Little Wood River Project



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by the Reclamation Service. A reconnaissance survey for reservoir sites on the Little Wood River and tributaries led to the conclusion that costs of storing water would be excessive. The requirement for storage of late-season supplemental water was continuously evident to Little Wood River Valley irrigators after 1940. Several proposals and sites were investigated, but financial difficulties prevented further development until 1936 when construction of the Little Wood River Dam was started by the Works Projects Administration. In 1947, the board of directors of the Little Wood River Irrigation District employed a private engineering firm to investigate the feasibility of raising the dam an additional 35 feet. Although plans and estimates were made, the enlargement proposal was defeated because some individuals were unwilling to obligate their holdings as required by the proposed financial arrangements. However, interest in the project continued and a complete investigation was made by the

Bureau of Reclamation beginning in April 1954. A report dated June 1955 was the basis for project authorization.

Authorization

The project was authorized on August 6, 1956, by Public Law 993, 84th Congress, 2d session (70 Stat. 1059).

Construction

The contract for the enlargement of Little Wood River Dam was awarded August 22, 1958, and work was completed in July 1960.

Operating Agency

The project is maintained and operated by the Little Wood River Irrigation District.

BENEFITS**Irrigation**

Principal crops are grain, hay, pasture, and potatoes.

Flood Control

Historically, the area had never been free from the threat of flood damage from periodic floodings. Flood control benefits are being achieved by operating the reservoir on a forecast basis. Flooding, except for an extremely high flood discharge, has been eliminated in the community of Carey and immediate surrounding area.

Recreation and Fish and Wildlife

Impoundment of the Little Wood River has increased opportunities for boating and lake fishing. Located far from large population centers, the reservoir has proved to be popular for camping and fishing. The Bureau of Reclamation operates a small campground, picnic area, and boat ramp near the dam. Trout and kokanee salmon are the anglers' primary catch.

PROJECT DATA**Land Areas (1977)**

Irrigable area:	
Supplemental irrigation service	9,549 acres
Number of irrigated farms	54

Area Irrigated and Crop Value

Year	Area irrigated, acres	Crop value, dollars
1968	6,824	447,510
1969	6,747	446,580
1970	7,706	562,629
1971	7,686	637,144
1972	7,745	599,689
1973	7,774	940,600
1974	7,800	968,278
1975	7,873	1,063,404
1976	7,194	1,185,705
1977	6,877	627,718

Facilities in Operation

Storage dams	1
Diversion dams ¹	1
Canals ¹	50 mi
Laterals ¹	10 mi

¹Non-Reclamation construction.

Climatic Conditions

Annual precipitation	14 in
Temperature:	
Maximum	98 °F
Minimum	-28 °F
Mean	42 °F
Growing season	123 days
Elevation of irrigable area	4800.0 ft

Settlement

Number of persons served with project water (1977):	
Farm irrigation service	174
Other water service ²	45
Total	219

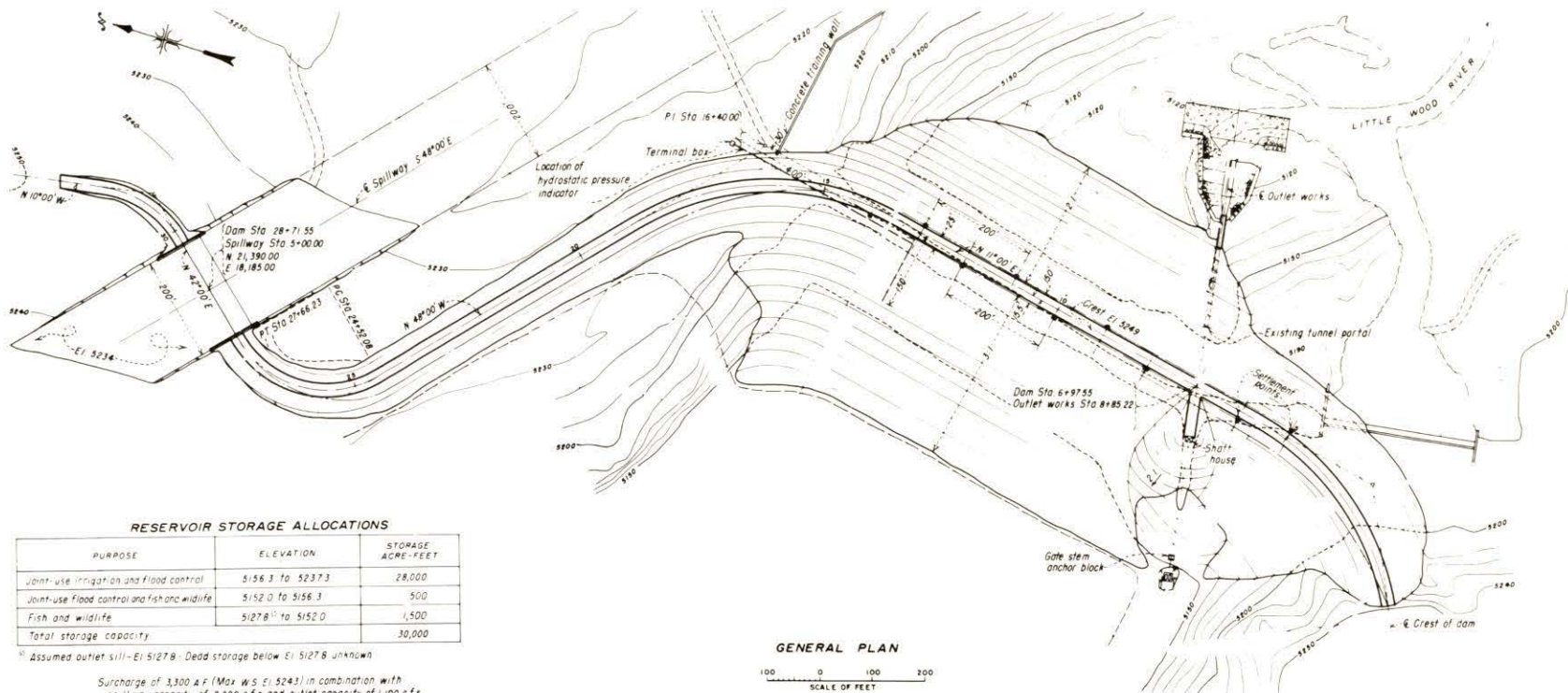
²Urban and suburban, residential, commercial, and industrial lands.

ENGINEERING DATA**Water Supply****LITTLE WOOD RIVER**

Drainage area at Little Wood River Reservoir	279 mi ²
Annual discharge:	
Maximum (1965)	257,700 acre-ft
Minimum (1977)	46,100 acre-ft
Average	141,200 acre-ft
Average annual diversions	59,000 acre-ft

Storage Facilities**LITTLE WOOD RIVER DAM**

Type: Zoned earthfill	
Location: On the Little Wood River, 11 mi northwest of Carey, Idaho.	
Construction period: 1958-60	
(Originally constructed in 1936 to about 77 ft above streambed by the Works Projects Administration.)	
Reservoir, Little Wood River:	
Total capacity at El. 5237.3	30,000 acre-ft
Active capacity at El. 5237.3	30,000 acre-ft
Surface area	572 acres
Dimensions:	
Structural height	129 ft
Hydraulic height	116 ft
Top width	25 ft
Maximum base width	635 ft
Crest length	3,100 ft
Crest elevation	5249.0 ft
Volume	959,000 yd ³
Spillway: Concrete structure on left abutment uncontrolled.	
Outlets: Tunnel and concrete conduit through right abutment, controlled by two 6- by 4-ft gates.	

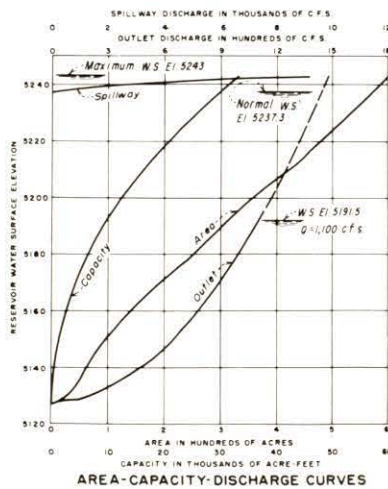


RESERVOIR STORAGE ALLOCATIONS

PURPOSE	ELEVATION	STORAGE ACRE-Feet
Joint-use irrigation and flood control	5156.3 to 5237.3	28,000
Joint-use flood control and fish and wildlife	5152.0 to 5156.3	500
Fish and wildlife	5127.8 to 5152.0	1,500
Total storage capacity		30,000

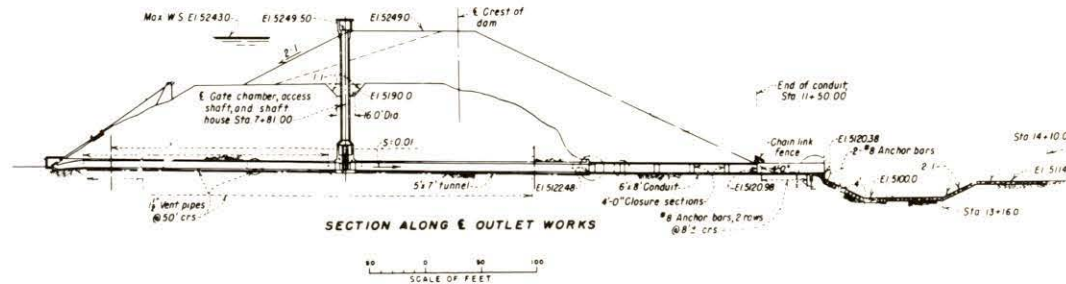
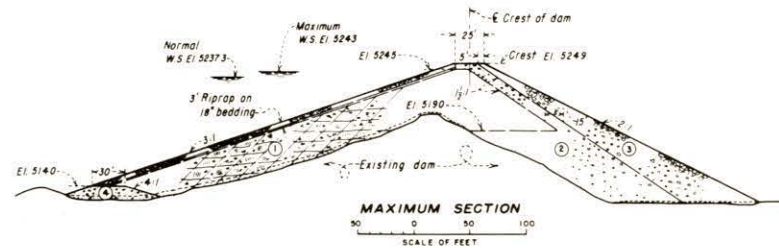
¹ Assumed outlet sill—Ei 5127.8—Dead storage below Ei 5127.8 unknown

Surcharge of 3,300 cfs (Max WS Ei 5243) in combination with spillway capacity of 8,200 cfs and outlet capacity of 1,100 cfs is provided to protect against the inflow design flood having a peak of 11,900 cfs and a 5 day volume of 28,700 a.f.



EMBANKMENT EXPLANATION

- ① Selected clay, silt, sand and gravel compacted by tamping rollers to 6" layers
- ② Selected sand, gravel, and cobbles compacted by crawler-type tractor to 12" layers
- ③ Rockfill, placed in 3' layers
- ④ Miscellaneous material



Little Wood River Dam, Plan and Sections

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