PACKWOOD LAKE HYDROELECTRIC PROJECT

Overview

The Packwood Lake Hydroelectric Project is located in Lewis County, Washington, in the Gifford Pinchot National Forest, approximately 20 miles south of Mt. Rainier. The project began commercial operation in 1964.

Power plant structures at the lake are limited to a small diversion dam and intake structure a short distance downstream from the outlet of Packwood Lake. A five-mile underground pipeline carries the water to the powerhouse near the town of Packwood. The 1,800-foot drop in elevation generates 780 psi of pressure at the turbine. The turbine generator operates at 360 revolutions per minute and is capable of producing up to 27 megawatts of electricity. After passing through the turbine, water is discharged to the Cowlitz River by way of a 6,670 ft tailrace canal.

The project was privately financed by a $12.5 million revenue bond, repaid by power purchases from twelve participating utilities. Under the terms of the project license, Energy Northwest releases water into Lake Creek, which is the natural outlet of Packwood Lake. The license also requires the project to maintain lake level at approximately its natural level of 2,857 feet during the recreation season from May 1 to September 15, and a minimum of 2,849 and maximum of 2,858.5 feet from September 15 to April 30.

Packwood Lake Hydroelectric Project produces an average of 94 million kilowatt-hours of electricity annually. Currently, the project power is purchased by Benton and Franklin PUDs.

Benefit to the Region

The Packwood Lake Hydroelectric Project improved public access to surrounding recreational areas through the extension of a Forest Service road up to a parking lot at the 2,800-foot elevation. The parking area includes a loading ramp for horses, space for 50 cars and five trailers, and an excellent view of Mt. Rainier.

Recreation resources within the Packwood Lake area offer a variety of back country and wilderness opportunities. Access to the lake is relatively easy by foot, horseback, mountain bike, or motorcycle/ORV. Energy Northwest reconstructed a four-mile hiking trail for public recreation access to the lake and wilderness areas beyond. This trail extends through heavily timbered areas and offers views of Mt. Rainier.

The upper portions of the Project, including the facilities at Packwood Lake, are not accessible by road, and motorized boats are prohibited on the lake. Historically, the lake has been popular for fishing and camping.

Type

Hydropower Facility

Generating Capacity

27 megawatts

Location

Packwood, Washington

Project Participants

Benton County PUD, Clallam County PUD, Clark County PUD, Ferry County PUD, Franklin County PUD, Kittitas County PUD, Klickitat County PUD, Lewis County PUD, Mason County PUD No. 3, Skamania County PUD, Snohomish County PUD, and Wahkiakum County PUD

Visiting Packwood

The public is welcome to visit the Packwood powerhouse between the hours of 8:00 a.m. and 4:00 p.m., Monday through Thursday. For information, contact Randy Crawford at (360) 494-5000.

Driving directions: From Packwood, turn east off Highway 12 onto Snyder Road. Turn right onto Powerhouse Road and follow it to the powerhouse. (See maps on reverse side.)

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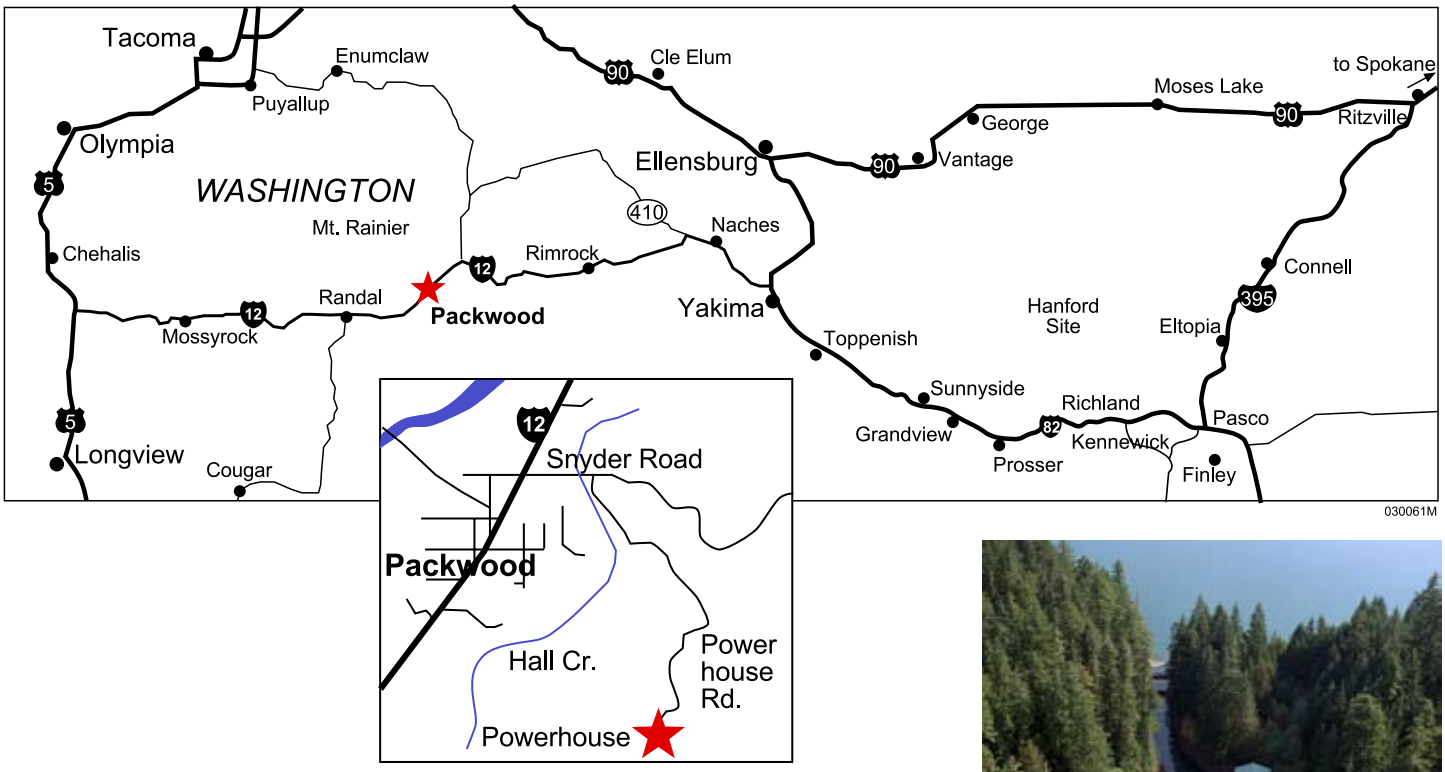

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Construction and fifty-year operating license issued.....7/1960
Construction contracts issued 9/1961
Construction started ..... Spring 1962
Plant testing and initial operation.....6/1964

Lake

Packwood Lake was formed when a large mass of soil and rock slid off Snyder Mountain and dammed Lake Creek. The lake's elevation of 2,857 feet lies approximately 1,800 feet above the powerhouse. Packwood Lake and Lake Creek are bounded on the southwest by Snyder Mountain. The lake occupies approximately 450 acres.

Intake Structure

Water enters the project facilities through the intake structure located approximately 424 feet downstream from the lake outlet. The structure houses trash racks, fish screens, and a fixed-wheel gate to control the water as it enters the 72-inch pre-tensioned concrete pipeline. The structure rises 42 feet from the foundation and 22 feet above the maximum lake water elevation.

Drop Structure

The drop structure located adjacent to the intake structure extends 80 feet in width and is tied into impervious earth fill cutoff walls on each side extending to the natural embankment. The crest of the drop structure at elevation 2,858.5 allows water to spill only by overtopping the structure at times when seasonal high flood runoff flows exceed the capacity of the project and the ability of the lake to absorb the peak discharges.

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