Jackson Hydro

JACKSON PROJECT STATISTICS
Generating Capacity ......................... 111,800 kilowatts
Service Capability ......................... approximately 53,200 homes
Spada Lake Reservoir Gross Area .......... 1,870 acres
Spada Lake Reservoir Gross Storage ..... 153,260 acre-feet
Service Capability ............................. approximately 53,200 homes
Tunnel Diameter .................................. varies from 10 feet to 14 feet
Spillway ............................................. Morning glory, "Ogee Crest"
Culmback Dam Composition ............... Impervious core, fine filter, gravel, rock fill
Power Pipeline Length ......................... 3.7 miles
Power Pipeline Diameter ..................... 10 feet
Tunnel Length ..................................... 3.8 miles

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FOR MORE INFORMATION
Please visit our website at snopud.com/jhp.

Henry M. Jackson Hydroelectric Project Information

The Jackson Project was dedicated in 1984 to the memory of Senator Henry M. Jackson, a Snohomish County native, who became one of the most influential senators in U.S. history. At a dedication ceremony in 1982, Senator Jackson cited this project as “an outstanding example of the combination of preservation of our great environmental resource of this area and, at the same time, providing the power and energy we need.”

Today, the Jackson Project staff meets the environmental challenges head-on. We have wildlife and fish biologists to ensure that protection and enhancement of the environment is maintained to the highest of standards. Our wildlife habitat management program preserves and enhances valuable habitats, such as old-growth forest and wetlands. Second-growth forest management includes promoting old-growth characteristics by creating snags (standing dead trees), downed logs and forest gaps (openings) for many creatures, such as birds and small mammals. Nesting structures are provided for waterfowl. Our fish management program provides river flows, conditions water temperature, monitors water quality and quantity, and provides fish spawning and rearing habitat enhancements.

This program also monitors anadromous fish populations in the lower Sultan River, resident fish populations in Spada Lake Reservoir, and macro invertebrates in the upper Sultan River. In addition to managing fish populations, the PUD also manages historical and cultural resources/historical properties as part of its license.

Due to the project’s stewardship of the environment, the Jackson Project was certified as a Low Impact Hydropower Facility by the Low Impact Hydropower Institute in 2011.

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Meeting the Environmental Challenge

Snohomish County PUD is committed to protecting the environment. When Phase II was completed in 1984, the Washington State Ecological Commission awarded this project its Environmental Excellence Award. This award was presented to the PUD because construction methods were consistent with maintaining water quality, public health, and enhancement of fish and wildlife resources — in addition to the development and implementation of environmental protection plans.

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SPADA LAKE RESERVOIR

Spada Lake Reservoir covers an area of some 1,870 acres, with a shoreline 17.3 miles in length and a normal gross storage capacity of 153,260 acre-feet. The reservoir is available to sail boats, row boats, kayaks, and boats with electric motors only. Because the lake is a water supply reservoir, inflatable boats and float tubes are not allowed. For fishing regulations, please refer to the Washington Department of Fish & Wildlife special fishing regulations.

CULMBACK DAM

Culmback Dam is an earth-and-rock-filled structure with an impervious clay core. The crest of the dam is 262 feet above the foundation and is 460 feet in length. At the dam is an intake structure where water enters the tunnel on its way to the powerhouse. Movable panels on the intake structure make it possible to draw from varying depths, thus controlling the temperatures of the water that enters the system to help fish populations in the Sultan River. Water is also released to the Sultan River to support fisheries resources in the upper reach of the river.

FISH WATER RETURN LINE

The Sultan River is a productive fisheries resource. In order to maintain river flows at sufficient levels during both the salmon and steelhead spawning and rearing periods, water is released at the powerhouse and also routed upstream to the Diversion Dam to maximize the amount of available habitat.

DIVERSION DAM

This City of Everett water-supply diversion structure was constructed on the Sultan River in 1929. It is located 9.7 miles upstream from the mouth of the Sultan River.

POWER TUNNEL

The tunnel (which is 14 feet in diameter and 3.8 miles in length) was drilled through the base of Blue Mountain by a 125-ton machine, capable of excavating 260 tons of rock per hour. The drilling took eight months to complete. While most of the tunnel is left unlined, some portions are lined with steel pipe and reinforced concrete.

POWER PIPELINE

The power pipeline consists of 379 sections of 10-foot diameter steel pipe laid over a distance of 3.7 miles. The pipe, which varies in thickness, is coated with internal and external corrosion protection and is buried its entire length. When construction was finished, the pipeline right-of-way was replanted with vegetation to enhance wildlife habitat.

POWERHOUSE

The powerhouse contains four turbine generator units, capable of producing 112 megawatts of electricity. Two of the units use vertical-shaft Pelton-type turbines that generate 47.5 megawatts each and two horizontal-shaft Francis-type units that are rated at 8.4 megawatts each. The powerhouse and Jackson Project facilities can be operated locally by the Jackson Project operators or remotely from Everett.

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