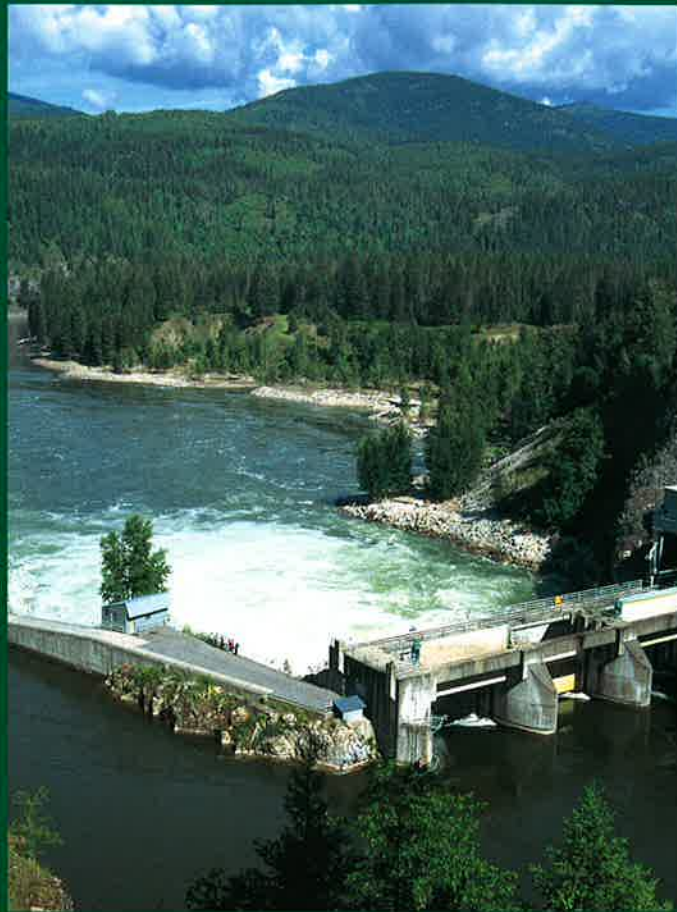




# Box Canyon Hydroelectric Project



**Public Utility District No. 1 of Pend Oreille County**



## ION

Height of Dam: 62.4 Feet to top of gates  
 Head of Water: 46 Feet maximum  
 Type of Turbines: Kaplan  
 Number of Turbines: 4  
 Type of Dam: Concrete Gravity  
 Completion Date: 1956



Public Utility District No. 1  
 Pend Oreille County  
 Newport, WA 99156

**N**estled in the Selkirk Mountain Range in the northeast corner of Washington State, the Box Canyon Hydroelectric Project produces low-cost electricity from water, a clean and renewable energy source. Flanked by steep rock cliffs and situated in a narrow portion of the state's second largest river, the Pend Oreille (Pond-er-ray), Box Canyon operates in a "run-of-the-river" mode, using water as it is available.

**T**he Box Canyon Hydroelectric Project is owned by the people of Pend Oreille County and operated by Pend Oreille Public Utility District

Construction of the project began in 1952 and was completed in 1956. Pend Oreille Public Utility District was the first public utility district (P.U.D.) in the state to build its own dam. There were no local, state or federal tax dollars used in its construction.

**T**oday, as it has since generation first began in 1956, the Box Canyon Hydroelectric Project provides its customers with clean, reliable and competitively priced energy. Power from Box Canyon is transmitted along Pend Oreille P.U.D.'s transmission line for distribution to its customers.

... beauty of the Pend Oreille River.  
 ... reservoir between Newport and  
 ... way for visitors to enjoy the  
 ... al wonderland.

... at Box  
 ... les a beautiful  
 ... ing and other  
 ... travelers and  
 ... asts. Boat



... visitors.

... on, swans,  
 ... an geese and  
 ... often be seen  
 ... Oreille P.U.D.  
 ... an Tribe have  
 ... provide goose  
 ... es. An abundance of wildlife  
 ... g forests. It's not unusual for  
 ... mpse of deer, elk and even an  
 ... bear.

**A**s part of its continuing stewardship and commitment toward preserving the health and beauty of the river, Pend Oreille P.U.D.

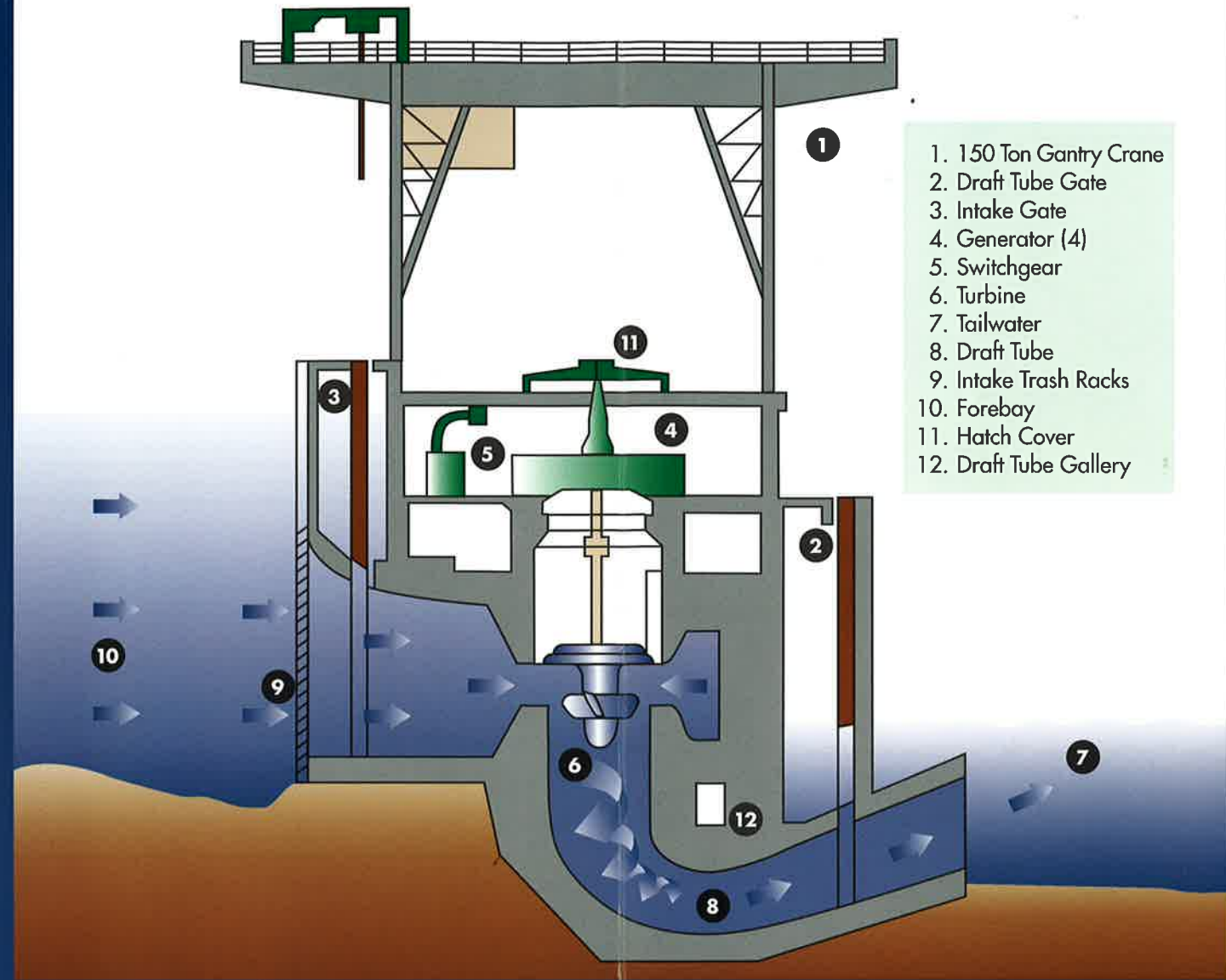
participates in many environmental efforts, including fish net pens located at Blue Slide, where over 45,000 trout are released into the river each year; and the Milfoil Control Project, the goal of which is the eradication of milfoil near boat ramps and

swimming areas and to provide pathways in other areas to provide varied habitat for fish.

**H**ydropower is an environmentally clean and renewable source of electrical energy. Snow and rain that fall in the mountains are the sources of the power that we manage. Our relationship with nature is much more than its utilization as a resource; it is an important stewardship. We are proud to

work with the river, the cycle of the seasons and human ingenuity to produce hydroelectric energy for our customers.

## CROSS SECTION OF BOX CANYON POWERHOUSE



1. 150 Ton Gantry Crane
2. Draft Tube Gate
3. Intake Gate
4. Generator (4)
5. Switchgear
6. Turbine
7. Tailwater
8. Draft Tube
9. Intake Trash Racks
10. Forebay
11. Hatch Cover
12. Draft Tube Gallery

**T**he creation of hydroelectricity begins at the dam, where the power plant converts the force of water into electricity. Water from the river flows through the intake trash racks located in the upstream side of the dam structure. The water then flows over

is turned by the force of water pushing against the turbine blades. Generators connected to the turbine's shaft rotate as the turbine moves, producing electricity. The same amount of water that entered the hydro project returns to the river unchanged. Water not used for power production is released over the spillways