

C O N N E C T



JULY 2022

BOX CANYON IS THE PUD'S RUN-OF-THE-RIVER HYDROELECTRIC PROJECT

The Box Canyon Hydroelectric Project is located near Ione, Washington just 34.1 miles from the confluence of the Columbia and the Pend Oreille Rivers. Since 1955, the project has been operated by the PUD under a license granted by the Federal Energy Regulatory Commission (FERC). The two main parts of the project are the concrete powerhouse and the spillway structure. The project is designed as a “run-of-the-river” project, rather than the more traditional high dam hydroelectric project.

A run-of-the-river project uses the available river water with limited pooling of stored water in its reservoir. In contrast, the traditional high dam project impounds vast amounts of water in a reservoir behind its structure. Projects with large reservoirs have the capacity to respond to large peak energy demands from its customers. The run-of-the-river project produces power on existing river flows. Although power production is steady, there is little capacity to produce extra power for peak demand.

Run-of-the-river projects have advantages over the high dam projects. They generally have lower construction and maintenance costs due to smaller equipment and facilities. Another important advantage of run-of-the-river projects,

like Box Canyon, is they have a smaller environmental impact. At all times, the Box Canyon Project holds water no higher than 2 feet above the natural river elevation at Cusick. This backwater effect is steady through the reservoir to the natural river restriction at Blueslide. At Box Canyon, the water in the river is held about 41 feet higher than the natural elevation. This gives the necessary “head” pressure to push the hydraulic turbine-generator units so they can produce power.

The Box Canyon Project has the capacity to pass 32,000 cubic feet per second (CFS) of water through its powerhouse. The four hydraulic turbine-generator units in the powerhouse convert this water to over 80 megawatts of electrical energy at peak flows. Once the Pend Oreille River flow exceeds 32,000 CFS, the project must spill excess water through its four spillway bays. The amount of water spilled is based upon hydraulic modelling that considers flow and monitored river elevations. The operators must also consider other constraints, such as rate of elevation change in the river, as outlined in the project licensing documents. The project operators communicate closely with the operators of Albeni Falls Dam to respond to changes in forecasted river conditions. The operators

monitor river elevation at Cusick, which is a control point at the end of the reservoir. Keeping the river properly regulated is an art and science that relies on the experience and intuition of its operators.

The project must have all spillway gates removed when the river either reaches an elevation of 2,041 feet at Cusick, or when the river flows reach 90,000 CFS. These two conditions can happen simultaneously; however, the powerhouse is usually shut down around at 75,000 CFS due to low head differential conditions. Even though the project is within its license to run, the difference in elevation between the forebay and tailwater becomes too small to generate power. At this point, the spillway gates are removed from the river and are placed into storage slots above the spillway bays. The spillway is converted from a wall in the river to a bridge that allows the river to flow naturally. At this point the project has no impact on the natural course of the Pend Oreille River.

Surface Tours of Box Canyon Dam will be available this summer starting Tuesday, July 5th between 8:30-3:30 Monday-Friday. Tours will take approximately 15 minutes. For more information, please give us a call.

Story courtesy of PUD's Director of Power Production, Bryant Kramer.

CONNECT



Aquatic Plant Management Workshop

~ July 15, 2022 ~

Our annual Aquatic Workshop will be held Friday, July 15th from 9:00 a.m. - 4:00 p.m. The PUD is again partnering with the County Noxious Weed Control Board to organize this event and help landowners deal with aquatic plant infestation and meet the PUD's goals to minimize herbicide use in the river.

This event is FREE and open to the public. This year's workshop will take place at the Camas Center for Community Wellness in Usk, WA. You can join the workshop virtually or in person, but please do register in advance. Doors open at 8:30 for sign-in and refreshments. A free lunch will be provided for those attending in person.

For additional information or to register for the workshop, please visit this link: [2022 Aquatic Workshop Registration](#).

Seeking Photos for the PUD's 2023 Calendar

The PUD will be featuring photos of scenery, recreation and wildlife taken of our beautiful Pend Oreille County in the PUD's 2023 calendar. We invite you to submit photos you've taken in the county that could potentially be used in the calendar, on our website, or social media.

If you have photographs you'd like to share with us, please email them to communications@popud.org by August 31st. Please attach full-size photos in an image file format such as .jpg or .png and include with each photo the following information:

1. Photographer name
2. Where photo was taken
3. When it was taken
4. Anything else you'd like to share



PUD'S MASCOT, WATTSON, HAD FUN SEEING YOU ALL AT THE NEWPORT RODEO PARADE!



CONNECT WITH US!

Main Line: 509.447.3137 • North County: 509.446.3137
South County: 509.242.3137 • TDD: 800.833.6388

Commissioners:

Curt Knapp: cknapp@popud.org 509.671.1111
Ric Larson: rlarson@popud.org 509.671.2982
Joe Onley: jonley@popud.org 509.671.1312
Website: www.popud.org

