



**US Army Corps
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Engineer Research and
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Physical Model Study of The Dalles Behavioral Guidance System (BGS)

Description

The Dalles Dam is located 192 miles upstream from the mouth of the Columbia River, two miles east of the city of The Dalles, Oregon. The dam extends 1.5 miles from the Oregon shore to the navigation lock on the Washington shore. Because the boundary between the two states follows the old river channel, The Dalles Dam is almost entirely in the state of Washington.



The Dalles Dam, Washington

The project consists of a navigation lock, spillway, powerhouse and fish passage facilities. Various recreational facilities are provided along Lake Celilo, the 24-mile-long impoundment behind the dam.

The federal hydropower dams on the Columbia River were designed and constructed for multipurpose use, one being the balanced use of the basin's water resources. The US Army Corps of Engineers (USACE) considers fish passage as a primary operational function.

Issue

During 2004, a decision was made to investigate a Behavioral Guidance System (BGS) in the forebay of The Dalles Dam in order to increase fish passage survival. The US Army Engineer Portland District contacted the Coastal and Hydraulics Laboratory (CHL) at the US Army Engineer Research Development Center (ERDC) to construct a BGS model in FY05. Results taken from the existing 1:80 physical model and numerical models, Computational Fluid Dynamics (CFD), and Numerical Fish Surrogate Model, will be used in determining the preliminary BGS site selection.

Sponsors

US Army Corps of Engineers, Portland District (CENWP)

Point of Contact

Mr. Glenn Davis, US Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, CEERDC-HN-HI,
3909 Halls Ferry Road, Vicksburg, MS 39180-6199
e-mail: Glenn.Davis@erdc.usace.army.mil