



Forks Creek Fish Hatchery

Fish Screening and Passage Alternatives

Willapa River, Pacific County, Washington



Forks Creek Siphon Intake and Diversion Dam

The Forks Creek Fish Hatchery is owned and operated by the Washington Department of Fish and Wildlife (WDFW). The hatchery is located on Forks Creek, a tributary to the Willapa River between Raymond and Chehalis, Washington

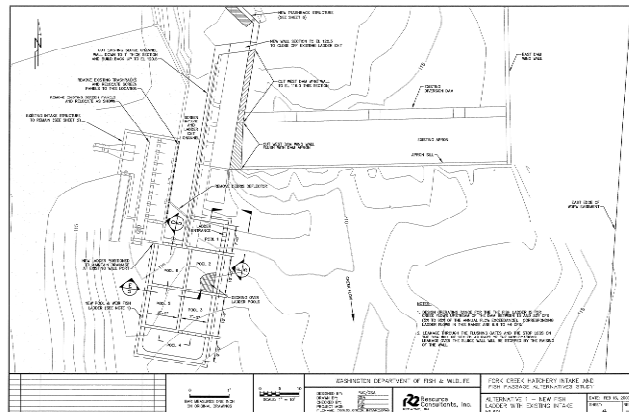
The main water source for the hatchery is a gravity/siphon intake associated with a small diversion dam on Forks Creek. Originally constructed in 1948, the intake facilities have been upgraded over the years to include an upstream fish ladder and replacement of the original diversion dam. However, the fish ladder is too small and does not contain enough pools to accommodate the drop across the dam, and fish are unable to pass upstream under many typical flow conditions. Additionally, the intake screen does not meet current agency design criteria and can trap downstream migrants in the vicinity of the screen with no means of exit downstream.

Project Elements:

- Fisheries and Hydraulic Engineering
- Fish Screening Design
- Upstream Passage Ladder Design
- Concept Development
- Cost Estimates
- Operations and Water Resource Impacts

WDFW contracted with R2 to develop three alternatives for addressing the problems associated with the intake screens and the upstream passage facilities. The three alternatives involved increasing levels of modifications to the existing facilities, and associated increased cost and benefits.

Alternative 1 involved relocating the intake screen within the existing intake structure and adding a new fish ladder to the downstream end of the intake structure.



Alternative 2 involved demolishing the existing intake structure and redesigning it to more efficiently incorporate a new fish ladder and screen orientation to meet all current applicable criteria. This alternative also represents an increase in the life expectancy of the project by replacing the 60-year-old concrete structure. Alternative 3 involved removing the existing diversion dam and replacing it with a series of seven low weirs across the creek allowing for upstream passage across the entire creek width without the need for a specific upstream passage facility such as a ladder. This last alternative represents returning the creek to as natural a condition as possible while still maintaining the functionality of the hatchery water intake.