

Willow Creek Fish Passage Project (Huber)

Atlas Tier III, UGR4

IMPLEMENTER: Union Soil and Water Conservation District (USWCD).

Location: Willow Creek, a tributary of the Grande Ronde River, is located at the downstream and north end of the Grande Ronde valley near Imbler, Oregon. The Huber Irrigation dam is located on RM 2.28. Summer steelhead currently inhabit the mainstem and tributaries of Willow Creek. Adults typically enter Willow Creek in March through mid-June each year and some of the highest redd densities in the basin have been documented. Juvenile steelhead outmigration timing varies with the age of the fish but most often coincides with increases in stream flow during the spring and fall.

Implementation: 2022; **Contract #:** 90574

PROJECT BACKGROUND: The construction of the Huber irrigation dam in the 1950's created physical obstructions for salmonid migration into the Willow Creek Watershed. In combination with instream flow limitations during key times of the year, passage of adult salmonids upstream and juvenile salmonids downstream is potentially completely blocked as surface flow decreases. Although adult steelhead are able to pass over the dams at higher flow, spring/summer Chinook salmon adults moving into Willow Creek in the early summer months are specifically impacted by the decrease in instream flow and installation of stoplogs in the diversion structures. Fish screens were not needed at either project site since irrigation water is taken from the backwater at each dam by a set of pump intakes, which are all currently screened.

ESA ESU or DPS: Snake River spring/summer Chinook salmon ESU, Snake River summer steelhead ESU.



Project Overview Map



Pre Project Conditions



Post Project Conditions

IMPLEMENTATION ACTIONS: The project constructed a 100-foot long, 10-foot wide vertical slot fishway at the Huber Dam site. The fishway consists of 10 bays with vertical weir walls to maintain the hydraulic drop throughout a range of flows. A 4-inch orifice was constructed at the bottom of each bay wall and radius corners were built into each weir to accommodate pacific lamprey passage. In addition to the fishway, a grade control structure was constructed in the Willow Creek channel to maintain channel bed elevation at the fishway entrance. An encapsulated soil lift was constructed along the river left streambank, across from the fishway entrance to ensure bank stability and promote riparian vegetation. Approximately 700 willow stakes were planted in the encapsulated bank and all disturbed areas were seeded with site appropriate herbaceous seed mixtures.

HABITAT RESPONSE: Implementation actions opens up passage to 3.1 miles of prior inaccessible habitat within Willow Creek. Additionally, improved attractive flow through the Huber Project reach will facilitate more efficient passage into Willow Creek head waters and its tributaries.

FISH RESPONSE: The restoration actions were designed to increase passage time throughout the spring and summer migration period. Attractive flow will allow for efficient passage for steelhead and chinook into the Willow Creek basin.



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