



## Fish Passage

More information available at: <http://www.co.chelan.wa.us/natural-resources/>

### PROJECT DESCRIPTION

Passage improvement needs have been identified at Leavenworth National Fish Hatchery (LNFH) and in Upper Icicle Creek. Icicle Work Group (IWG) has proposed several potential projects that would improve upstream fish passage at these locations.

LNFH has two operational points that could be rehabilitated or redesigned to improve fish passage: Structure 2 and Structure 5.

**Structure 2:** Structure 2 is a headgate located at RM 3.8 designed to control flow into the hatchery canal. The IWG proposes to improve Structure 2 (or replace with a passive structure) to allow for improved fish passage while retaining the ability to split flows between the hatchery canal and historic channel in a way that maintains the existing Tribal Fishery conditions at the plunge pool, improves ecosystem health of the historic channel, and meets the LNFH's operational needs.

**Structure 5:** Structure 5 is a bridge structure with removable pickets for brood stock collection located at RM 2.8. Modifying or replacing this structure could improve fish passage when brood stock is not being collected. Opportunities to improve passage at Structure 5 will be evaluated in coordination with changes at Structure 2.

In addition to operational and infrastructure changes the LNFH, modifications to the boulder field located at RM 5.6 would provide passage and access to approximately 26 miles of upstream, mainstem habitat. A passage assessment at the boulder field has been completed and passage improvement locations identified.

The estimated costs of implementing these projects is approximately \$6 million.

### PROJECT BENEFITS

- Improve fish passage while maintaining flows
- Increase fish access to habitat

### GUIDING PRINCIPLES

- Enhances Icicle Creek habitat and passage
- Supports a sustainable LNFH

### POTENTIAL ISSUES/DATA GAPS

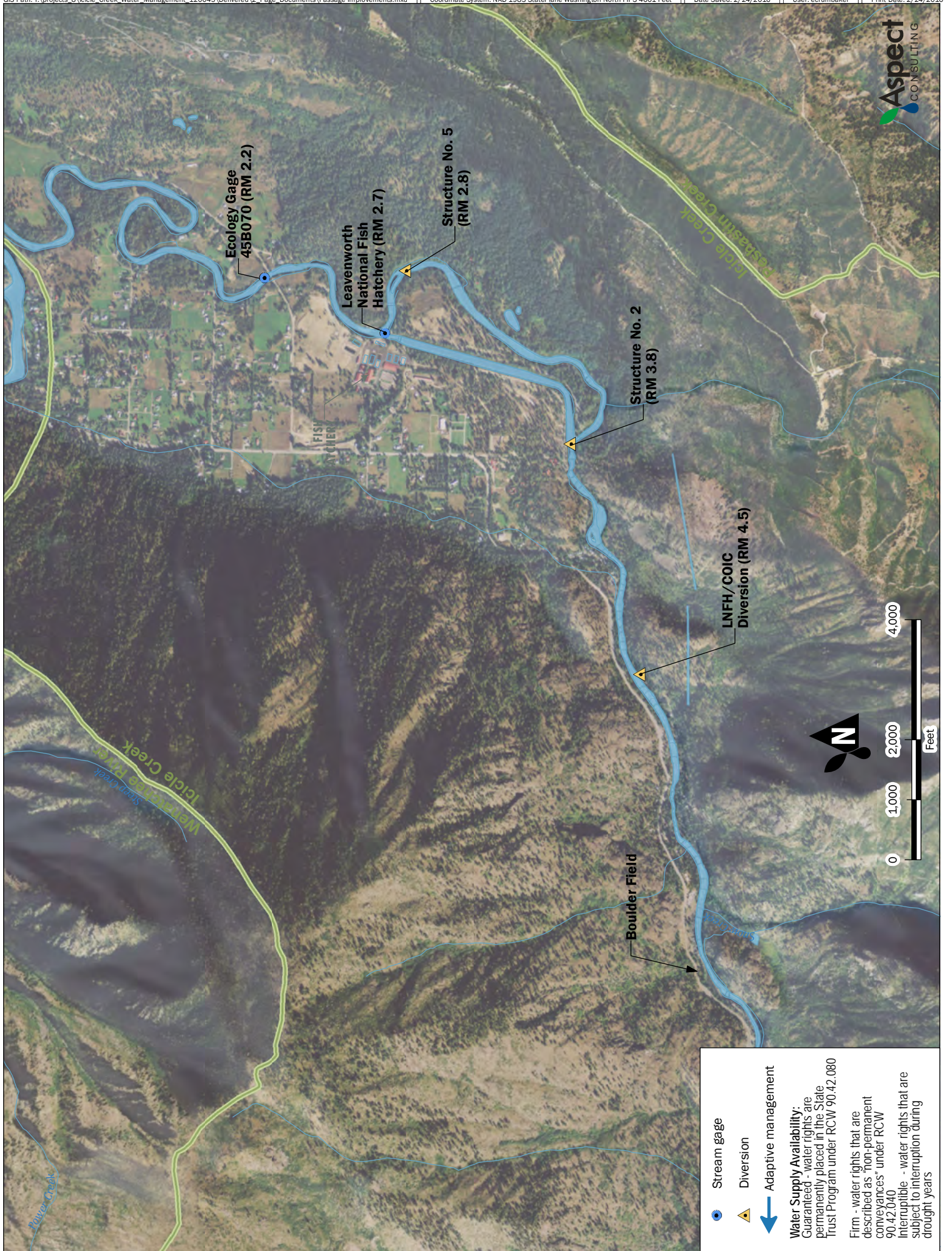
- Coordinate Structure 2 and Structure 5 projects with all other potential LNFH improvements and NEPA review
- Protection for historic tribal fishery
- Access for residence across creek at Structure 2 and 5
- Requires study of sediment transport and hydrogeology
- Need to maintain the hatchery groundwater supply




### TIMELINE TO IMPLEMENT

<b>2013</b>	Passage Assessment Reports
<b>2016</b>	Sediment Transport and Hydrogeologic Study
<b>2016</b>	Environmental Review (SEPA)
<b>2017</b>	Environmental Review (NEPA)
<b>2018</b>	Project Implementation and Construction

### EXISTING AND ONGOING STUDIES

- Icicle Creek Boulder Field Fish Passage Assessment, 2013, EcoAssets and Associates
- Icicle Creek Fish Passage Evaluation for LNFH, 2013, US Fish and Wildlife Service (USFWS)
- Icicle Creek Instream Flow and Fish Habitat Analysis for LNFH, 2013, USFWS



-  Stream gage
-  Diversion
-  Adaptive management

**Water Supply Availability:**  
 Guaranteed - water rights are permanently placed in the State Trust Program under RCW 90.42.080  
 Firm - water rights that are described as "non-permanent conveyances" under RCW 90.42.040  
 Interruptible - water rights that are subject to interruption during drought years

