2019 Cooperative Summer Field Training Program

🟠	**Project Title**:	Title: Wind River Watershed Cooperative Fish Population and Restoration Assessment; Title: Klickitat River and Rock Creek: Technical Assistance with Juvenile Salmonid Monitoring; Title: White Salmon River Salmonid Recolonization Assessment.
🟤	**Project Scientists:**	Jill Hardiman, Ian Jezorek
🔵	**USGS Center:**	Western Fisheries Research Center, Columbia River Research Lab
🟣	**Location:**	Duty station is in Cook, Washington; projects will be primarily in SW Washington's Wind, Klickitat, and White Salmon Rivers and Rock Creek

Project Description:

Background Information:
Wind River Project Description: The Wind River is a tributary of the Columbia River in the Columbia Gorge National Scenic Area in SW Washington State. The Wind River Watershed project is a collaborative effort to restore wild steelhead Oncorhynchus mykiss populations to the watershed. Wind River steelhead are considered to be part of the Lower-Columbia Evolutionarily Significant Unit, and have been listed as "threatened" under the Endangered Species Act. The four agencies forming the nucleus of this partnership include USGS-Columbia River Research Lab, the US Forest Service, Washington Department of Fish and Wildlife, and Underwood Conservation District. This partnership was established in the early 1990's and continues to conduct research, monitoring, habitat restoration, and coordination activities in the watershed. The project works at multiple levels to identify and characterize key limiting habitat factors in the Wind River, to restore degraded habitats and watershed processes, to document fish populations, life histories, and interactions, and to share information across agency and non-agency boundaries. Work conducted by USGS is designed to determine stream habitat conditions, juvenile steelhead abundance, and life-history characteristics. Most actions during the 2017 field season will focus on tagging juvenile steelhead with Passive Integrated Transponder (PIT) tags and maintaining an infrastructure of instream systems to document passage by PIT-tagged juvenile and adult steelhead.

Klickitat River and Rock Creek Project Description: The Klickitat River is the longest undammed river in Washington. Over half the watershed is located within the Yakama Indian Reservation and it supports a traditional tribal dip net fishery near it's confluence with the Columbia River, as well as a popular sport fishery for several species of salmon. The wild steelhead and spring Chinook O. tshawytscha are native to the watershed and these populations are a fraction of their historic size. They are listed as "threatened" under the endangered species act. The research being conducted with USGS assistance will characterize juvenile life-history patterns and habitat use, and identify important tributary habitat for spawning. Rock

Creek is a small tributary of the Columbia River where tribal biologists are monitoring distribution, abundance, and characterizing use of the watershed by steelhead and coho salmon O. kisutch prior to restoration actions within the watershed.

White Salmon River Project Description: The White Salmon River in Washington State is a tributary of the Columbia River which, since 1913, had been blocked at river mile 3.3 by the 125 foot tall Condit Dam. In 2011, the dam was breached, releasing over 60 million ft3 of sediment into the lower river, and allowing anadromous salmonids access to upstream portions of the watershed. Historically, the watershed supported Chinook salmon, coho salmon, and steelhead upstream of the dam site. A hands-off approach to allowing recolonization of these fish runs was enacted by management and research agencies. To date, there had been no stocking of fish in the watershed and the opportunities to learn from a natural recolonization program have not been fully realized.

Objectives:
In the Wind River, we will assess fish species assemblage and distribution, and investigate life history attributes using PIT tags and PIT-tag tracking equipment. We operate a series of six instream PIT-tag detection systems in the subbasin. The population of PIT-tagged steelhead will contribute data to help assess where steelhead rear in the river and what life-history traits result in the most successful adult returns. Additionally, data from PIT-tagged steelhead will help evaluate habitat restoration actions, including the removal of Hemlock Dam on Trout Creek, a major tributary of the Wind River.

In the Klickitat River and Rock Creek, the goal is to assist Yakama Nation biologists with instream monitoring equipment to detect PIT-tagged juvenile and adult salmonids. We will provide help with installation and maintenance of PIT-tag detection equipment in several tributaries of the Klickitat River and in Rock Creek. The Rock Creek project has the additional goals of monitoring of juvenile salmonid and Bridgelip Suckers for distribution, population assessment, and other life history information through backpack electrofishing and PIT-tagging efforts to inform decision making for restoration actions.

In the White Salmon River we will assess distribution and populations of juvenile salmonids. This is an ongoing effort at characterizing juvenile salmonid population metrics in the White Salmon River since removal of Condit Dam (breached in 2011). This sampling may involve a combination of a rotary screw trap and backpack electrofishing. We will likely be tagging juveniles with PIT tags and collecting samples for genetic analysis. These efforts will add to data collected during 2016 - 2018 to begin assessing efficacy of recolonization and to describe juvenile populations and life-history characteristics.

Proposed Intern Tasks:
The NAGT intern will work in the Wind River with personnel from USGS-Columbia River Research Lab with fish sampling by backpack electrofishing to capture juvenile steelhead and get direct measures of length, weight, and other life-history and fish health information. The intern will assist with PIT-tagging efforts to gather information on individual fish movement and growth. The intern will be trained in the use of several types of PIT-tag detectors to actively and passively track fish movement.

The intern may have some opportunity to assist with installation and maintenance of PIT-tag detection equipment in the Klickitat River and Rock Creek watersheds.

The intern and USGS-Columbia River Research Lab personnel will work in the White Salmon River on juvenile fish sampling by backpack electrofishing and screw trapping. The intern will provide assistance with collection of genetic material and capture of juvenile salmonids to get direct measures of length, weight, and other life-history and fish health information.

The intern will work with USGS-Columbia River Research Lab personnel and Yakama Nation Tribal

biologists and staff with fish sampling by backpack electrofishing to capture juvenile steelhead and get direct measures of length, weight, and other life-history and fish health information. The intern will assist with PIT-tagging efforts to gather information on individual fish movement and growth.

The intern will likely spend some time with data entry, quality control, and data summary tasks while not in the field.

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Expected Outcomes:

The intern will get a broad field experience in aquatic ecology and fisheries biology research. They will learn proper habitat assessment, fish collection, fish handling, data collection, and data management techniques. The intern will work in varied landscapes and watershed settings from temperate rainforest to arid shrub steppe. They gain exposure to state of the art electronics used in fish tagging and fish tracking. They will learn how to work within a team and how to coordinate efforts with other agencies including other Federal, State, and Tribal entities. They will learn the importance of data management and quality assurance.

Because the CRRL is a large research facility, the intern will gain exposure to a wide variety of research projects regarding fisheries issues in the Columbia River and its tributaries. They will gain professional guidance with leading experts in the field of aquatic ecology and research.

Details for Matching:

Type of Project: Field Work

Project Discipline: Ecology

Project Start Date: Mon Jul 08 2019 00:00:00 GMT-0400 (EDT)

Project Duration: 12-16 weeks

Level of Physical Demand: Level 8-2: The work requires some physical exertion such as long periods of standing, walking over rough, uneven, or rocky surfaces; recurring bending, crouching, stooping, stretching, reaching, or similar activities; or recurring lifting of moderately heavy items. The work may require specific, but common, physical characteristics and abilities such as above-average agility and dexterity.

GIS Training: Any

Special Skills and Interests: We would prefer candidates with interests in aquatic resources, stream ecology, hydrology, and/or biology.

Preferred skills include: ability to work outdoors in all types of weather and terrain, attention to detail, the ability to wade in swift water, able to carry loads up to 50 pounds over rough terrain and inclement weather, field notebook/computer skills and data management (e.g., electronic spreadsheets); and the ability to work as a team member.