**448130 Lower Granite Fish Ladder Cooling – Post Construction Evaluation**

CRFM Work Plan

June 2017

**1. Project Information**

* **Purpose/Objective**. The goal of this evaluation is to determine if the newly constructed temperature control structures reduce temperature differentials and improve passage including ladder passage delay, fallout, overnight, and fallback behaviors such as has been seen in 2013-2015 for sockeye and summer chinook salmon.

**Description**. There has been problems with delay, fallback and possible mortality of adult salmon passing Little Goose and Lower Granite dams during periods of elevated water temperature. These high temperatures typically occur in late June through early September. Snake River Sockeye who can exhibit fall back rates exceeding 25% during warm water periods appear to be most affected by low flow operations and high water temperature. Modifications to the adult ladder consisting of extended pump pipes and chimneys at the water intakes were implemented in 2016 to cool the water supply directly into the fishway exit and diffuser 14. A summer 2016 post-construction evaluation monitored physical exiting of sockeye and summer Chinook salmon via acoustic imaging methodology. Newly constructed temperature control structures may improve ladder passage; however, if fish pass the ladder and are then falling back through spill or turbines, improvements to passage may be nullified by high fall back rates. A second year of evaluation was planned for FY17, but contracting issues and costs prevented this from happening. An FY18 evaluation is planned to include acoustic imaging of fish exiting the fish ladder and enhanced PIT tag detection to determine fish movement within the ladder.

**2. Major Activities/Tasks**. Activities in FY18 will include preparation of contracting package, advertising and award of contract, coordination with Lower Granite project for field activities, data collection and analysis. FY 19 activities will include report writing and reviews.

**3. Cost Estimate**.

FY17 Final Obligations = $317,586

FY18 Budget = $20,000\* awarded in FY17

**4. Information and Issues**.