**334888 Lower Granite Performance Verification Monitoring**

CRFM Work Plan

June 2017

**1. Project Information**

* **Purpose/Objective**. The scope of this project is to determine if Lower Granite Dam is meeting fish survival performance standards as called for in the 2008 FCRPS Biological Opinion. This study is also planned to serve as a post-construction evaluation of the new Lower Granite Juvenile Bypass System. Evaluations will consist of active tag (acoustic) studies to determine the concrete survival of yearling and subyearling Chinook salmon and juvenile steelhead. Products will consist of research reports detailing testing and results of planned evaluations.
* **Description**. The 2008 FCRPS Biological Opinion (BiOp) calls for performance standards for juvenile fish survival at Lower Snake and Lower Columbia River hydroelectric dams. These standards are 96% concrete survival for spring migrants (yearling Chinook and juvenile steelhead) and 93% concrete survival for summer migrants (subyearling fall Chinook). Concrete survival is the composite survival of fish through multiple dam passage routes from the face of the dam through the immediate tailrace. This project will encompass all aspects of performance verification monitoring of Lower Granite Dam to determine if it meets the BiOp survival standards. Acoustic telemetry is the preferred method for performance verification monitoring. Fish will be implanted with small tags that emit acoustic signals. These fish will be tracked as they approach and pass the dam and selected points downstream to determine survival. Release points will include several km above the dam and one or more reference releases below the dam. Exact study design details are being developed through regional forums involving other Federal agencies, state agencies and tribes.

**2. Major Activities/Tasks**. Current plans call for obligating MIPR funding in FY17 for conducting a study. Activities in FY18 will include purchasing acoustic transmitters as well as all field work required to conduct the study, contract and MIPR administration, coordination of activities with Lower Granite project, review of preliminary results. Field studies such as there are typically repeated because of interannual variability across many factors. However, at this time, the probability of studies beyond FY18 is uncertain at this time and depends on funding and regional priorities.

**3. Cost Estimate**. Assuming that the study costs are obligated in FY17, the FY18 costs will consist of transmitter purchases, in-house labor, vehicle, travel and other miscellaneous costs. If field work is continued in FY19, costs will include funding for a MIPR, transmitter purchase and in-house. If no field work is conducted in FY19, costs will consist of in-house labor for report review, MIPR administration and other miscellaneous costs.

FY17 Final Obligations - $3,131,464

FY18 Budget - $1,500,000

**4. Information and Issues**. This study is being designed to have lower costs than the previous performance standard studies. Sample sizes are being reduced and the dam survival estimates are unlikely to be within 1.5% of the actual.