

PROJECT CHARTER

Charter No 2017 - 2

1. General Information:

Project Title: BON/JDA/TDA Forebay Temperature Monitoring

Program: Columbia River Fish Mitigation/FCRPS WS BiOps

Program Manager: Ian Chane

Authority: WS (1938, 1950 and 1960 Flood Control Acts; Water Resources Development Act (WRDA) 1990, WRDA 1996, WRDA 1999)

FCRPS (1933 Federal Emergency Administration of Public Works; 1935, 1945 and 1950 River and Harbor Acts; 1937 Bonneville Project Act; 1938, 1948, 1950 and 1954 Flood Control Acts; Water Resources Development Act (WRDA) 1986, Section 906(b)(1); WRDA 1996, Section 511(a), as amended by WRDA 1999, Sec. 582 and WRDA 2007, Sec. 5025, Consolidated and Further Continuing Appropriations Act, 2015)

2. Project Description:

There is regional interest in more rigorous monitoring of water temperatures in the forebays and within the fish ladders of the three Lower Columbia River (LCR) Dams - John Day, The Dalles and Bonneville. This stems from concerns regarding fish ladder water temperature differentials and subsequent delayed migration of adult salmonids. A water temperature data collection effort is currently being carried out by the Walla Walla District to monitor conditions at the lower four Snake River Dams and McNary Dam; efforts should be standardized across both Districts to the extent possible.

3. Project Justification:

This is a requirement of the 2014 FCRPS BiOp and is included in the Adaptive Management Implementation Plan (AMIP).

4. Project Objectives:

There has been a resurgence in tracking forebay water temperatures, especially as they relate to potential water temperature problems within the fish ladders at the LCR dams. For that reason, additional water temperature probes will be added to the entrances and exits of each fish ladder located at Bonneville, The Dalles and John Day dams. These instruments will be deployed, maintained and downloaded by project staff. Data will be submitted to the Fish Passage Center (FPC) for upload onto their publically accessible website (http://www.fpc.org/river/Q_ladderwatertempgraph.php).

The forebay water temperature monitoring is expected to be more involved and may be contracted out depending on final scope and resource availability and shall be determined by the PDT. To date, NWP has not decided the location/frequency of data collection, thus a range of forebay water

temperature monitoring scopes are provided below:

5. Project Scope:

The exact scope of this work will be determined through coordination with the FCRPS BiOp Fish Passage Operations and Maintenance (FPOM) regional team. Three options will be provided to FPOM for discussion and are listed below.

Option 1 – At Dam (Real-time) Data Collection

Suspend one real-time templine (NexSens® or similar) off of each dam, near the forebay FMS gauges, to collect water temperatures in the forebays of John Day, The Dalles, and Bonneville dams (Table 2, Figure 1). Water temperature data shall be monitored at 1 ft, 5 ft, 10 ft, 20 ft, 40 ft, 60 ft, and 80 ft from surface, on an hourly time interval. Data will be collected real-time and broadcasted via GOES satellite to the Portland District's Corps Water Management System (CWMS) database that is maintained by the Portland District Reservoir Regulation & Water Quality Section.

Data transmission equipment, including the DCP, GOES link, and antennae will be provided by Portland District, however, deployment, programming and ensured functionality will be the responsibility of the Contractor. Water temperature equipment shall be checked and calibrated at least twice during the year, preferably in the fall and again in the spring before the spill season begins. All services to the templines should be completed on site, as feasible, as these are permanent temperature monitoring locations.

In addition to the templines, one set of back-up thermistors (Onset Hobos® or similar) shall be deployed alongside the real-time templines in case of failure. This will ensure that water temperature data is continuously being monitored. Thermistor strings will be downloaded manually by the Contractor in the fall and again in the spring when the templines are being serviced. Temperature data that is transmitted to the Portland District via GOES will be shared with the FPC for upload onto their publically accessible website; this is the District's responsibility. Any data manually downloaded by the Contractor should be emailed to both the FPC and the Portland District water quality staff for upload onto respective websites. All field notes and meta data such as site location, site name and latitude/longitude shall also be emailed as well.

All necessary equipment required for the deployment of water temperature equipment - including boats, trailers and deployment materials (stainless steel cables, cable clamps, buoys, etc.) - shall be supplied by the contractor.

All visits to reservoirs and thermistor deployment locations shall be coordinated with the respective project staff. All safety training and requirements shall be completed prior to deployment of equipment.

Option 1 Estimated Cost: \$120,000

Option 2 – At BRZ (Real-time) Data Collection

Contractor shall install permanent water temperature monitoring equipment in the forebays of John Day, The Dalles and Bonneville dams using real-time water temperature equipment (NexSens® or similar), along with one set of back-up thermistors (Onset Hobos® or similar) in case of templine failure. Water temperature instrumentation will be deployed on platform buoys built by the Contractor and deployed immediately upstream of boat restricted areas of the reservoirs.

Water temperature data shall be monitored at 1 ft, 5 ft, 10, ft, 20 ft, 40 ft, 60 ft, and 80 ft from surface, on an hourly time interval. Data will be collected real-time and broadcasted via GOES satellite to the Portland District's Corps Water Management System (CWMS) database that is maintained by the Portland District Reservoir Regulation & Water Quality Section.

Data transmission equipment, including the DCP, GOES link, and antennae will be provided by Portland District, however, deployment, programming and ensured functionality will be the responsibility of the Contractor. Water temperature equipment shall be checked and calibrated at least twice during the year, preferably in the fall and again in the spring before the spill season begins. All services to the templines should be completed on site, as feasible, as these are permanent temperature monitoring locations. Thermistor strings will be downloaded manually by the Contractor at the same time the templines are being serviced.

Temperature data that is transmitted to the Portland District via GOES will be shared with the FPC for upload onto their publically accessible website; this is the District's responsibility. Any data manually downloaded by the Contractor should be emailed to both the FPC and the Portland District water quality staff for upload onto respective websites. All field notes and meta data such as site location, site name and latitude/longitude shall also be emailed as well.

All necessary equipment required for the deployment of water temperature equipment - including boats, trailers and deployment materials (stainless steel cables, cable clamps, buoys, etc.) - shall be supplied by the contractor.

All visits to reservoirs and thermistor deployment locations shall be coordinated with the respective project staff. All safety training and requirements shall be completed prior to deployment of equipment.

Option 2 Estimated Cost: \$170,000

Option 3 – At BRZ (Manual) Data Collection

Deploy and maintain two manual forebay thermistor strings (one main string, one back up) suspended from ball buoys located upstream of the boat restricted areas in the forebays of John Day, The Dalles, and Bonneville dams. Water temperature data shall be monitored at 1 ft, 5 ft, 10, ft, 20 ft, 40 ft, 60 ft, and 80 ft from surface on an hourly time interval. Thermistor strings shall be downloaded once per month, from 01 February 2016 – 31 January 2017 (total of 12 months).

Temperature data shall be e-mailed to the Fish Passage Center for upload onto their publically accessible website. Data should also emailed to the Portland District water quality staff for upload onto the Corps' Water Temperature String Reports website. All field notes and meta data such as site location, site name and latitude/longitude shall also be included in excel spreadsheets as well.

All necessary equipment required for this data collection effort - including boats, trailers and deployment materials (stainless steel cables, cable clamps, buoys, etc...) - shall be supplied by the contractor.

All visits to reservoirs and thermistor deployment locations shall be coordinated with the respective project staff. All safety training and requirements shall be completed prior to deployment of equipment.

Option 3 Estimated Cost: \$75,000

6. Customer and Project Sponsor:

NA

7. Stakeholders:

All fisheries agencies, tribes, and other FCRPS BiOp stakeholders.

8. Constraints and Assumptions:

Assumed development and installation in FY17

9. Initial Project Risk Assessment:

PDT Size: Small (One or two technical disciplines and a few support elements)

Technical Difficulty: Low (Work that is fairly routine and been done successfully in the past)

Project Duration: Short (1 year or less)

Number of External Stakeholders: Several (Supportive of the project)

Other: Small (Few , if any, other potential; risks)

Overall Risk Assessment: Low (Routine in nature with few stakeholders, well supported)

10. Project Management Plan Requirements:

The Project Management Plan (PMP) shall be prepared in accordance with USACE and Portland District Project Management Business Processes and shall meet NWD Quality Management System standards. The PMP shall also be routed for PDT and Resource Provider review and endorsement prior to approval.

11. Project Manager Assignment:

James Adams has been assigned as the Project Manager.

12. BPMG Review:

This project charter has been reviewed and recommended for approval by the BPMG.

13. Approval:



Kevin Brice
Deputy District Engineer
Planning, Programs and Project
Management Division