



# FISH PASSAGE CENTER

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## MEMORANDUM

TO: Tammy Mackey (COE)

*Michele DeHart*

FROM: Michele DeHart

DATE: July 11, 2023

SUBJECT: Protocols for obtaining ladder temperature data from COE Portland District

The 2023 Fish Passage Plan (FPP) requires temperature data from adult fishway entrances and exits to be sent to the Fish Passage Center (FPC) on a weekly basis. This information is then posted and made available on the FPC website for managers and the public ([https://www.fpc.org/smolt/smolt\\_queries/Q\\_ladderwatertempgraphv2.php](https://www.fpc.org/smolt/smolt_queries/Q_ladderwatertempgraphv2.php)). However, the FPC has in many cases not been receiving these data from the COE Portland District on a weekly basis, and in some cases, not at all.

Since early 2020, the south ladder at The Dalles has not reported temperature data from the junction pool and ladder entrance. Although the FPC has received temperature data from the ladder exit, the lack of data from other locations in the ladder means that ladder temperature differentials cannot be calculated. Temperature differentials in adult fishways are a metric of interest for managers and is information required for in-season management decisions. The Dalles is not in compliance with the FPP by not providing these data.

Ladder temperature data is also not regularly reported on a weekly basis by every project throughout the Portland District. With some projects reporting every week beginning in early June, other projects don't regularly report until July, and often at irregular intervals. This regularly causes issues when problems can't be identified in a timely fashion, and errors and malfunctions are very difficult to diagnose, resulting in large data losses through the years. Specifically, at John Day in 2018, no ladder temperature data exists for nearly the entire summer (June 28<sup>th</sup>-Sept 7<sup>th</sup>). Similarly, The Dalles north ladder entrance probe did not start collecting

data in 2022 until late June, in 2021, there was a ten-day gap with no temperature readings in August. While we understand that equipment malfunctions occur, our concern is that the current schema for collecting ladder temperature data is not adequately robust enough to quickly catch, diagnose and remedy problems in data collection.

The COE Walla Walla district has largely solved the issue of providing ladder temperature data by automating their temperature probes and making the data freely available and downloadable to FPC servers. While outages do still occur at these projects, problems with temperature probes reading or uploading data are easily identified and diagnosed, and temperature differentials in the adult ladders are usable in real time for in-season management decisions. We recommend the COE Portland District may want to identify the feasibility of implementing a similar program at the Bonneville, The Dalles, and John Day projects. Doing so would greatly increase compliance with the FPP and facilitate higher quality data that is usable to the basins managers and stakeholders.

c: **FPAC**  
**Ritchie Graves (NOAA)**