



Final

**Bull Trout Redd Monitoring Plan for the Wallowa Falls
Hydroelectric Project**

(FERC No. P-308)

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1.0 INTRODUCTION

The United States Fish and Wildlife Service (USFWS) issued a new Biological Opinion (BiOp) for the Wallowa Falls Hydroelectric Project (Project) October 14, 2016. Monitoring elements within the new BiOp specifically pertaining to Endangered Species Act (ESA) listed bull trout (*Salvelinus confluentus*) were triggered when the Federal Energy Regulatory Commission (FERC) issued a new operating license for the Project January 7, 2017.

The USFWS listed five reasonable and prudent measures (RPM) to be undertaken in order to minimize incidental take of bull trout by Project operations. Elements within this Plan pertain specifically to RPM 4 which seeks to “*minimize the risk of adverse effects to bull trout from emergency shut-down and ramping*”. Section 8.4 4(a) of the BiOp adds specific language and actions to be taken in order to achieve RPM 4.

Resident and migratory bull trout currently inhabit the East Fork Wallowa River (Study Area) at varying densities, depending on time of year. Past redd surveys of the Study Area have revealed bull trout actively constructing redds, while no bull trout redds have ever been observed within the neighboring West Fork.

This Plan and the information contained therein, along with the necessary implementation schedule, fulfill Section 8.4 4(a) of the USFWS issued BiOp as well as actions necessary to assess abundance and spatial distribution of bull trout redds within the East Fork Wallowa River.

2.0 STUDY AREA

The bypassed portion of the East Fork Wallowa River within and near the Project area is approximately 2,800 meters (m) long from the Project diversion dam to its confluence with the Wallowa River. Gradient in this reach is high, with the upper 1,600 m averaging 19 percent and the lower 1,200 m averaging 8.5 percent. Channel morphology within most of the upper reach is dominated mainly by steep bedrock, vertical waterfalls, and cascades over boulders; though the upper reaches are steep, the lower 800 m to the confluence with the Wallowa River has a shallower gradient, consisting of numerous riffles and pools. Over the course of its length, the bypassed East Fork Wallowa River drops approximately 365 m from the dam to the confluence with the Wallowa River. The upper and lower portions are divided by a 3.7 m vertical falls, an impassible upstream migration fish barrier.

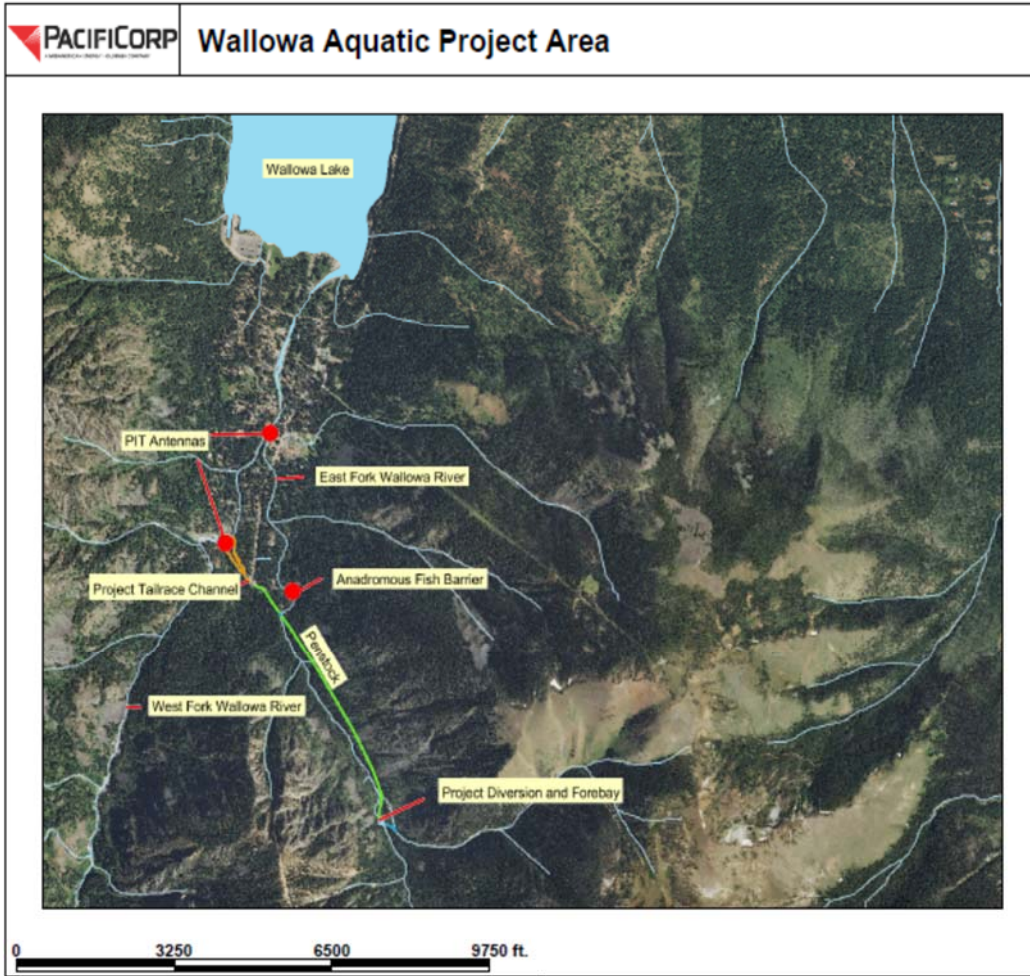


Figure 2.0.1 Wallowa Falls Hydroelectric Project.

3.0 METHODS

Section 8.4 4(a) of the BiOp states the following terms and conditions are necessary for the implementation of RPM 4, “*Conduct bull trout redd monitoring in the East Fork Wallowa River (from the upstream falls to the confluence with the Wallowa River) on an annual basis for 10 years to monitor take. FERC/PacifiCorp shall meet with the Service at the end of the 10 year period to determine whether additional years of redd monitoring are necessary GPS and map redds and photo document redds during survey. Measure the size of a redd and its location. Document bull trout observed (<6 inches in length, < 12 inches in length, <14 inches in length, and > 14 inches in length, while conducting redd count and document if bull trout occupy the redd). Note if brook trout are spawning with bull trout. Document flows during annual redd counts and during a shutdown and ramping. Conduct this redd monitoring in mid-September and October. If an emergency shutdown and ramping occurs during the spawning season, the East Fork Wallowa River spawning area will be field visited for any new redds built near the water’s edge that could be dewatered due to shut down and ramping. Notify the Service of both positive and negative findings*”.

Bull trout redd surveys of the lower portion of the East Fork Wallowa River will begin September 15 and continue on a 10-day rotation through October for a total of four redd surveys. During each survey the entire lower portion of the East Fork Wallowa River will be walked by an experienced qualified biologist, from the confluence with the West Fork Wallowa River upstream 800 m to the migratory fish barrier. Care will be taken to utilize the same experienced surveyor(s) from one year to the next. All encountered bull trout redds will be demarcated by handheld GPS, flagged for visual reference within the stream, and have a photograph taken of the redd. During subsequent surveys, previously identified redds will be revisited and assessed for visibility. Flagging will either be marked Still Visible along with the survey date if redd can still be visually identified, or taken down if redd is no longer visible. Time taken for redd to no longer remain visible within the stream will be recorded in order to assess redd life. Redd life may be utilized to adjust frequency of surveys in the future.

All fish observed in the vicinity of identified redds will be recorded to species if possible, as well as estimated for fork length.

Per Section 1(c) of the Oregon Department of Environmental Quality issued 401 Water Quality Permit, no planned Project ramping events shall be initiated from September 1 – October 31. In the event an unplanned emergency shutdown does occur that causes the headgate to close during the bull trout spawn timeframe, an immediate redd survey will be triggered and performed prior to the Project being brought back online in order to document any bull trout redds that may have been constructed high on the margin during the shutdown. Redds constructed on the margin during the Project shutdown could subsequently become dewatered when the Project is brought back online and minimum instream flows are once again restored. Redds identified high on the margin during this emergency shutdown triggered survey will be revisited after the Project is brought back online to verify if redd desiccation indeed occurred.

4.0 REPORTING

Article 412 of the FERC issued operating license for the Wallowa Falls Hydroelectric Project states “*Report on Bull Trout Monitoring and Protection Measures. The licensee must file, by March 31 of the year following the first year of bull trout redd monitoring required by Appendix C, condition 4(a), and continuing for 10 years thereafter, a report that documents the results of the prior year’s bull trout monitoring and protection measures*”. Specific to this Reporting requirement is Agency Consultation of redd survey methodology as well as documentation of prior year’s survey results.

Pursuant to Article 412 PacifiCorp shall provide a draft Report of actions contained within this Plan detailing results of bull trout redd surveys to Agency stakeholders by February 15 for a 30-day review. A Final Report detailing comments received to this redd survey Plan as well as comments received to the draft Report of the prior year’s redd surveys will be submitted to the FERC by March 31.

5.0 CITATIONS

Oregon Department of Environmental Quality. 2016. 401 Water Quality Certification for the Wallowa Falls Hydroelectric Project.

United States Fish and Wildlife Service. 2016. Biological Opinion for the Wallowa Falls Hydroelectric Project.

APPENDIX A
AGENCY COMMENTS

AGENCY	COMMENT	UTILITY RESPONSE
USFWS	Follow the Terms and Conditions (T&C) in the Biological Opinion for the project that are pertinent for bull trout redd monitoring (RPM 4, T&C 4a).	Comment noted, Plan reflects direction from RPM 4, T&C 4a within the BiOp.
USFWS, ODFW, & USDA-FS	When referring to a “qualified biologist” the plan should specify how a person will be determined to be “qualified”. To be experienced, the person conducting the redd monitoring should be trained in bull trout redd identification and have at least one season of prior bull trout redd monitoring experience.	Comment noted. Redd surveys inherently have a subjective bias unique to the individual conducting the redd survey, regardless of how much experience the surveyor may or may not have. Experience doesn’t alleviate this personal bias and error. Consistently utilizing the same surveyors does address this bias as the error then gets standardized and is comparable from one year to the next (Dunham et al, 2001, “Sources and magnitude of error in redd counts for bull trout <i>Salvelinus confluentus</i> ”). That being said, PacifiCorp will strive to consistently utilize the same experienced surveyors from one year to the next for East Fork Wallowa bull trout redd surveys.
USDA-FS	3.0 METHODS The survey area in the 2 nd paragraph is unclear regarding the portion of East Fork that will be surveyed. Please clarify if the suggestion is referring to the West Fork of the Wallowa River or the mainstem Wallowa River at Wallowa Lake.	Plan is referring to the West Fork Wallowa River, clarity added to description within Plan.