

VIA ELECTRONIC FILING

April 12, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Mail Code: DHAC, PJ-12
888 First Street, N.E.
Washington, D.C. 20426

**RE: Priest Rapids Hydroelectric Project No.2114-164
License Compliance Filing – Article 401(a)(10) and (25) – Bull Trout Monitoring and
Evaluation Plan 10 Year Status Report**

Dear Ms. Bose,

Please find enclosed the for the Federal Energy Regulatory Commission's (FERC) approval, Public Utility District No. 2 of Grant County, Washington's (Grant PUD) Bull Trout Monitoring and Evaluation Plan (BTMEP) 10-Year Status Report consistent with the Requirements of Article 401(a)(10) and Article 401(a)(25) of the Priest Rapids Hydroelectric Project License and Appendix C, "Biological Objectives and Implementation Measures", of the Washington Department of Ecology 401 Water Quality Certification.

On June 4, 2009, FERC issued an order approving the BTMEP which was developed with PRFF consultation and approval, and the implementation of the BTMEP was initiated.¹ On September 19, 2009, Grant PUD filed its Bull Trout Hydrologic and Water Quality Study Plan (BTWQP) required by License Article 401(a)(25) and requested that its reporting requirements be combined with the BTMEP. On February 17, 2010, FERC issued an order modifying and approving the BTWQP and ordered Grant PUD to include the water quality monitoring results in the annual BTMEP reports required under the June 4, 2009 order which modified and approved the BTMEP.²

Under the April 4, 2009 Order, Grant PUD is required to file an updated BTMEP with FERC by April 17, 2014. On April 10, 2014, Grant PUD submitted the updated BTMEP. FERC's October 23, 2014³ issuing order requires Grant PUD to submit an updated BTMEP by April 17, 2019. The plan is to include Grant PUD's monitoring and evaluation plan for the subsequent five-year monitoring period, including a description of any apparent trends in bull trout abundance or frequency of occurrences in the Priest Rapids Project and any technological or methodological advances that may allow evaluation of project effects on bull trout.

¹ 127 FERC ¶ 62,188.

² 130 FERC ¶ 62,141.

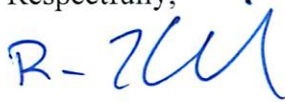
³ 149 FERC ¶ 62,050.

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On March 1, 2019, Grant PUD prepared and disseminated the draft BTMEP 10-Year Status Report for a thirty day comment period to members of the Priest Rapids Fish Forum including the Washington Department of Ecology (WDOE), U.S. Fish & Wildlife Service (USFWS), Washington Department of Fish & Wildlife (WDFW), Colville Confederated Tribes, Yakama Nation, the Columbia River Inter-Tribal Fish Commission, Bureau of Indian Affairs, and the Confederated Tribes of the Umatilla Indian Reservation. No comments were received. On April 1, 2019, WDOE approved the updated BTMEP which is included in Appendix A of the attached report.

FERC staff with any questions should contact Tom Dresser at 509-754-5088, ext. 2312.

Respectfully,



Ross Hendrick
Manager – License & Environmental Compliance

Cc WDOE
PRFF

Priest Rapids Project
Bull Trout Monitoring and Evaluation Plan 10 – Year Status Report
FERC Article 401(a)(10)(25)

Public Utility District No. 2 of Grant County
PO Box 878
Ephrata, Washington 98823

April 2019

Executive Summary

A 401 Water Quality Certification (401 WQC) was issued by the Washington State Department of Ecology (WDOE) on April 3, 2007 to the Public Utility District No. 2 of Grant County, Washington (Grant PUD), and amended March 6, 2008, for the operation of the Priest Rapids Project (Project), FERC License No. 2114 (License). The License for the Project was issued by Federal Energy Regulatory Commission (FERC) on April 17, 2008 (FERC 2008). Under FERC License Article 401(a)(10) and the 401 WQC 6.2 (3)(b), Grant PUD was required, in consultation with the Priest Rapids Fish Forum (PRFF), to develop and submit for approval a Bull Trout (*Salvelinus confluentus*) Monitoring and Evaluation Plan (BTMEP) within one year of issuance of the License to achieve the Biological Objectives for bull trout identified in Appendix C of the 401 WQC. On June 4, 2009, FERC issued an order approving the BTMEP which was developed with PRFF consultation and approval, and the implementation of the BTMEP was initiated.¹ On September 19, 2009, Grant PUD filed its Bull Trout Hydrologic and Water Quality Study Plan (BTWQP) required by License Article 401(a)(25) and requested that its reporting requirements be combined with the BTMEP. On February 17, 2010, FERC issued an order modifying and approving the BTWQP and ordered Grant PUD to include the water quality monitoring results in the annual BTMEP reports required under the June 4, 2009 order which modified and approved the BTMEP.

The two biological objectives for bull trout identified within 401 WQC Appendix C were the following:

- 1). Rearing and migration: No negative effects by the Project or Project Operations, and
- 2). Rearing and migration: Identify and mitigate any unavoidable Project effects on bull trout rearing or migration.

Appendix C of the 401 WQC requires that the BTMEP be updated, in consultation with the PRFF, every five years following the issuance of the New License. The updated plan should describe any trends in bull trout abundance or frequency of occurrence in the Project and shall address technological or methodological advances that may allow evaluation of project effects on bull trout.

The goal of this plan is to monitor and evaluate bull trout presence in the Project, to identify potential Project-related impacts, collect and analyze hydrologic and water quality data related to Project operations and to specify a basis for identifying measures Grant PUD will implement to address any adverse effects on bull trout determined to result from operation of the Project.

¹ 127 FERC ¶ 62,188

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1.0 Introduction

A 401 Water Quality Certification (401 WQC) was issued by the Washington State Department of Ecology (WDOE) on April 3, 2007 to the Public Utility District No. 2 of Grant County, Washington (Grant PUD), and amended March 6, 2008, for the operation of the Priest Rapids Project (Project), FERC License No. 2114 (License). The License for the Project was issued by Federal Energy Regulatory Commission (FERC) on April 17, 2008 (FERC 2008). Under FERC License Article 401(a)(10) and the 401 WQC 6.2 (3)(b), Grant PUD was required, in consultation with the Priest Rapids Fish Forum (PRFF), to develop and submit for approval a Bull Trout (*Salvelinus confluentus*) Monitoring and Evaluation Plan (BTMEP) within one year of issuance of the License to achieve the Biological Objectives for bull trout identified in Appendix C of the 401 WQC. The two biological objectives for bull trout identified within 401 WQC Appendix C were the following:

- 1). Rearing and migration: No negative effects by the Project or Project Operations, and
- 2). Rearing and migration: Identify and mitigate any unavoidable Project effects on bull trout rearing or migration.

To achieve the two biological objectives, the 401 WQC Appendix C identified three tasks that were incorporated into the BTMEP:

Task 1: Continue operating the Project's adult upstream fishways and downstream juvenile bypasses.

Task 2: Identify any adverse Project effects on adult and sub-adult bull trout passage through monitoring and evaluation.

Task 3: Identify and implement appropriate measures to modify the upstream adult fishway, downstream juvenile bypass, or Project operations if adverse impacts on bull trout are identified.

On June 4, 2009, FERC issued an order approving the BTMEP which was developed with PRFF consultation and approval, and the implementation of the BTMEP was initiated.²

On September 19, 2009, Grant PUD filed its Bull Trout Hydrologic and Water Quality Study Plan (BTWQP) required by License Article 401(a)(25) and requested that its reporting requirements be combined with the BTMEP. On February 17, 2010, FERC issued an order modifying and approving the BTWQP and ordered Grant PUD to include the water quality monitoring results in the annual BTMEP reports required under the June 4, 2009 order which modified and approved the BTMEP.³ In summary, as of February 17, 2010, the annual reports of the BTMEP incorporated the reporting requirements of FERC Article 401(a)(10), License Article 401(a)(25), 401 WQC 6.2(3)(b), and 401 WQC Appendix C to collectively report Grant PUDs efforts to achieve the two biological objectives for bull trout as described in 401 WQC Appendix C.

² 127 FERC ¶ 62,188

³ 130 FERC ¶ 62,141

2.0 Summary of 2014 – 2018 Bull Trout Monitoring and Evaluation Plan Implementations

Grant PUD has monitored bull trout observations and water quality at its facilities and within the Project to achieve the two biological objectives and the three tasks within 401 WQC Appendix C. Grant PUD summarized the statuses of the biological objective implementations annually as required by FERC. In the annual reports, the BTMEP reported the following:

- 1) Bull trout observations within the Project,
- 2) Nason Creek and White River bull trout observations and handling, and
- 3) Water quality evaluation within the Project,

2.1 Bull Trout Observations within the Project

According to the 401 WQC Appendix C Task 1 and the Bull Trout Biological Opinion for the Project (USFWS 2007; Terms and Conditions 1 and 2), Grant PUD continues to provide adequate year-round passage conditions for bull trout at Project facilities and reports bull trout moving through Wanapum and Priest Rapids dams between April 15 and November 15 of each year. Grant PUD maintains video adult fish counting equipment at Priest Rapids and Wanapum dams and full duplex PIT-Tag detection equipment at Priest Rapids Dam. The adult video fish-counting season runs from April 15 through November 15, annually, which is also in accordance with Terms and Condition 1.22 of the Biological Opinion for Upper Columbia River (UCR) spring-run Chinook (*Oncorhynchus tshawytscha*) and Upper Columbia River steelhead (*Oncorhynchus mykiss*) (NMFS 2008). The adult fishway PIT-tag detectors are operated year-round.

In 2010, Grant PUD in consultation with the PRFF and National Marine Fisheries Service (NMFS) installed new fish counting stations in the ladders of Priest Rapids and Wanapum dams. The installation of these new fish counting stations also included known distance identifiers to assist with the life-history identification of returning adult fish. In 2018, Grant PUD reviewed all available bull trout video data to document the life history of bull trout observed in the Project (i.e., juvenile, sub-adult, or adult). The modifications of the fish ladders improved the BTMEPs implementation of the 401 WQC Appendix C Task 1, Task 2 and Task 3 by providing the means for bull trout life stages to be identified at the adult fishways.

Grant PUD observed a total of 28 bull trout in the adult video fish-counting stations from 2014-2018. This is comparably fewer than the 64 bull trout counted in the adult video-fish count stations the previous 5 year period (2009-2013). Grant PUD also incorporated another 16 bull trout observed at the previous fish counting stations from 2007-2009 to provide additional information to better understand the presence of bull trout in the Project over an extended period of time (Table 1). Grant PUD analyzed the available photographs from bull trout observed within the fish counting stations to provide information on the size and life-stage of bull trout observed in the fishways of Wanapum and Priest Rapids dams. Twenty-eight of the 28 bull trout observed from 2014 to 2018 had digital photographs collected during the fish counting period (Grant PUD, 2014 – 2018). The measurement lines in the fish counting windows identified lengths of 12-inch, 22-inch, and 24-inches. Grant PUD staff applied a proportional stoichiometric calculation to generate a total length for the bull trout observed in the fish counting windows when photographs were obtainable from 2014 through 20118. Bull trout 5-13 inches in total length were classified as sub-adult and bull trout greater than 13 inches in total length were classified as adults (USFWS 2007). Of the 28 total bull trout counted from 2014-2018, 26 bull

trout observed in the fish-counting windows at Priest Rapids and Wanapum dams were classified as adults, while only 2 were classified as sub-adults.

Grant PUD continues to operate the downstream fish bypass at Wanapum Dam, has completed the installation of advanced turbines at Wanapum Dam, and is constructing the downstream fish bypass at Priest Rapids Dam through the implementation of the Biological Opinion for UCR spring-run Chinook and steelhead through coordination with the Priest Rapids Coordinating Committee (PRCC). Grant PUD is implementing the 401 WQC Appendix C Task 3 through the continual efforts and operations of the Project in compliance within the Biological Opinion for UCR spring-run Chinook and steelhead (NMFS 2008).

Grant PUD also reports PIT-tagged bull trout that are detected within the Project. During 2009 - 2013, only three bull trout were detected within the Project with PIT tags (i.e., 3D9.1C2C54FAE0 on July 5, 2009, 3D9.1C2C513E3F on November 21, 2009, and 3D9.1C2CCD42DD on May 24, 2012 (Grant PUD, 2013). There were no PIT tagged bull trout detected passing through the PIT tag detection facilities at Priest Rapids or Wanapum dams during 2014 – 2018.

From 2014 to 2018, two sub adult and one adult bull trout were incidentally collected during normal fish collection activities within the Project. On April 29, 2016 Grant PUD's juvenile salmonid gateway dipping crew collected a sub-adult bull trout at Priest Rapids Dam. Grant PUD and Blue Leaf Environmental staff collected the appropriate biological data in accordance with the BTMEP prior to its release up-stream of Wanapum Dam that consisted of a fork length of 270mm, an age classification of sub-adult and a PIT tag number 3DD.00776D72CC. On May 11, 2017, a single sub-adult bull trout was collected at Wanapum Dam during juvenile salmonid gateway dipping activities. The appropriate biological data was collected in accordance with the BTMEP prior to its release up-stream of Wanapum Dam. The sub-adult bull trout was 247 mm in length (fork length) and was untagged. Both bull trout were quickly returned to the Columbia River to reduce harm. On May 14, 2018, one adult bull trout was collected in upper Wanapum reservoir (River Mile 441) during Northern pikeminnow predator control efforts via set line as a mortality. It was scanned for a PIT tag and length was recorded. A brief explanation was provided via email to the USFWS office in Wenatchee, Washington concerning the incident and preventative measures taken to reduce the potential for mortality in the future. The adult bull trout was 47 cm in length (fork length) and was untagged.

No other incidental collections of bull trout occurred during northern pikeminnow removal efforts, juvenile bypass activities, gateway dipping, turbine maintenance activities, fishway maintenance activities, Hanford Reach Fall Chinook Protection Program, hatchery activities, or any other activities in the Priest Rapids Project.

Table 1 Number of bull trout passing Priest Rapids Dam, Wanapum Dam, and Rock Island Dam from 2007 to 2018.

| Year | Priest Rapids Dam | | Wanapum Dam | |
|---|-------------------|------------|-------------|------------|
| | Left Bank | Right Bank | Left Bank | Right Bank |
| 2007 | 0 | 1 | 1 | 0 |
| 2008 | 2 | 3 | 0 | 0 |
| 2009 | 5 | 1 | 3 | 0 |
| 2010 | 5 | 2 | 5 | 2 |
| 2011 | 5 | 3 | 9 | 3 |
| 2012 | 4 | 1 | 2 | 1 |
| 2013 | 9 | 1 | 10 | 1 |
| 2014 | 1 | 2 | Unknown* | Unknown* |
| 2015 | 1 | 3 | 6 | 0 |
| 2016 | 3 | 0 | 6 | 0 |
| 2017 | 0 | 0 | 1 | 2 |
| 2018 | 1 | 0 | 2 | 0 |
| Note:* The fish count station at Wanapum Dam was inoperable. | | | | |

2.2 Nason Creek and White River Bull Trout Observations and Handlings

Grant PUD monitors screw traps on the White River and Nason Creek through Yakama Nation contract staff as part of Grant PUD’s spring Chinook hatchery supplementation program. Bull trout are incidentally collected during the operation of the screw traps on the White River and Nason Creek. Due to the very few numbers of bull trout incidentally collected from 2009 -2014 on the White River, the USFWS and PRFF agreed to discontinue PIT tagging efforts to reduce any tagging effects to the few fish collected during these activities. The USFWS and PRFF agreed that if there were a significant increase in the number of bull trout collected, Grant PUD will collaborate with the USFWS to re-examine the need for PIT-tagging and DNA collection. A summary of annual collection is included in the BTMEP annual reports and included in Table 2.

The Yakama Nation encountered a total of 87 bull trout during the screw trap operations on the White River and Nason Creek from 2014 to 2018 (Table 2). DNA samples were also collected on fish that were PIT-tagged; however, not every bull trout that was PIT-tagged received a DNA sample due to the size and/or condition of individual fish, or the availability of DNA sample supplies. The annual numbers of juvenile/sub-adult bull trout collected at the White River and Nason Creek did not exceed the annual non-lethal take threshold of juvenile/sub-adult bull trout listed in the Biological Opinion (i.e., incidental take statement for non-lethal take of juvenile/sub-adult bull trout is 95 bull trout per year [USFWS 2007]). None of the juvenile and sub-adult PIT-tagged bull trout (from Nason Creek or White River screw trap operations) have been detected within the Project. Grant PUD will continue monitoring PIT-tag detections of juvenile and sub-adult bull trout to assess bull trout biological objectives associated with rearing and migration of bull trout of all life stages.

Table 2 The number of bull trout PIT-tagged and encountered during the screw trap operations on the White River and Nason Creek 2014 to 2018.

| Year | Nason Creek | | White River | | Total | |
|-------|--------------|----|--------------|----|--------------|----|
| | # PIT-tagged | n | # PIT-tagged | n | # PIT-tagged | n |
| 2014 | 16 | 20 | 0 | 13 | 16 | 33 |
| 2015 | 8 | 9 | 0 | 9 | 8 | 18 |
| 2016 | 0 | 1 | 0 | 5 | 0 | 6 |
| 2017 | 0 | 1 | 0 | 7 | 0 | 8 |
| 2018 | 0 | 1 | 0 | 21 | 0 | 22 |
| Total | 16 | 32 | 0 | 55 | 0 | 87 |

2.3 Water Quality Data

In accordance with the BTWQP, hydrologic and water quality data were included in annual reports (Grant PUD, 2014 – 2018). The water quality parameters in the annual reports were total dissolved gas (TDG, % saturation), temperature, forebay water level elevation and total discharge or outflow. The water quality data of TDG and temperature were taken from the Priest Rapids and Wanapum dam forebays, in accordance with Grant PUD’s fixed-site water quality monitoring program (Hendrick 2009).

2.4 Monitoring and Acclimation Site Discharge

Grant PUD previously conducted annual spring Chinook acclimation activities in the White River basin during the implementation of the BTMEP. During 2014 to 2018, Grant PUD did not conduct hatchery activities that qualified for acclimation facility discharge monitoring in known bull trout spawning or rearing habitat.

3.0 U.S. Fish Wildlife Service Bull Trout Biological Opinion Requirements

The USFWS issued a Biological Opinion, in accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), on the effects of the Priest Rapids Hydroelectric Project Relicensing on bull trout and critical habitat on March 14, 2007. The Opinion contains Reasonable and Prudent Measures (RPM) intended to minimize the impacts of take of bull trout during the new license term for the Priest Rapids Project, including development of a Bull Trout Monitoring and Evaluation Plan (BTMEP) containing specific elements. This BTMEP has been prepared to address the plan requirement identified in the Biological Opinion. Those elements are reflected in the RPMs set out in italics below.

RPM 1. FERC shall require Grant PUD, in coordination with the Service, to provide adequate year-round passage conditions for bull trout at Project facilities.

RPM 2. FERC shall require Grant PUD, in coordination with the Service, to design and implement a bull trout monitoring program that will adequately detect Project impacts, including those caused by hydrologic modifications and changes in water quality, on adult and sub-adult bull trout.

RPM 3. *FERC shall require Grant PUD, in coordination with the Service and the PRCC, to implement the Hanford Reach Fall Chinook Protection Program Agreement within the limitations of the existing agreement in a manner that incorporates the conservation needs of the bull trout.*

RPM 4. *FERC shall require Grant PUD, in coordination with the Service, to minimize the effects of the White River Spring Chinook Supplementation Program to all life stages of bull trout.*

As described in the Biological Opinion, in order to be exempt from the prohibitions of Section 9 of the Endangered Species Act, FERC and Grant PUD must comply with specific non-discretionary terms and conditions to implement the RPMs. The USFWS has determined that these terms and condition are necessary and appropriate to minimize the impacts of take of bull trout during the term of the new Priest Rapids Project license. The Priest Rapids Project license was issued on April 17, 2008. The terms and conditions USFWS has identified as necessary are:

1. *To implement RPM 1, FERC shall require Grant PUD, in coordination with the Service, to continue operating the existing adult upstream fishways at Project dams year-round. These facilities shall be operated according to criteria agreed to in the Priest Rapids Salmon and Steelhead Settlement Agreement and/or Grant PUD's annual Fishway Operating Plans. During winter maintenance activities, only one fishway shall be closed at any one time at each Project facility to ensure that bull trout passage is possible at all times.*
2. *To implement RPMs 1 and 2, FERC shall require Grant PUD to develop and implement a bull trout monitoring plan, including the counting and reporting of all bull trout life stages moving past Wanapum and Priest Rapids dams between April 15 and November 15 of each year, for an experimental period of five years. The plan shall be develop in coordination with and shall be approved by the Service within one year of the Commission's issuance of a new operating license to Grant PUD. The monitoring plan shall include provisions for adaptive management to address changing conditions, assess on-going adverse effects, and investigate potential corrective actions. This may include evaluating the efficiency of upstream and downstream passage for all life stages of the bull trout (e.g., fishway water velocity impacts to sub-adults), development of survival standards for bull trout, development of a genetics baseline(i.e., using non-lethal means such as fin clips), and investigation of potential corrective actions for project-related water quality degradation. Annual reports regarding observations, effects, or monitoring results specific to bull trout shall be prepared and submitted by Grant PUD to the Service. In addition, FERC shall require Grant PUD, in coordination with the Service to develop or identify an appropriate forum to address the issues raised in these reports.*
3. *To implement RPM 2, FERC shall require Grant PUD, in coordination with the Service, to record and report bull trout occurrences during the following activities: fish counting at fishways; juvenile bypass activities, gatewell dipping, turbine maintenance activities, fishway maintenance activities, hatchery activities, and northern pikeminnow control activities. Bull trout detections shall be reported to the Service per the reporting requirements above under term and condition 2.*
4. *To implement RPM 2, FERC shall require Grant PUD, in coordination with the Service, to PIT tag sub-adult bull trout whenever they are incidentally captured during on-going*

PIT tagging efforts conducted for anadromous and other fish management activities. Bull trout detections shall be reported to the Service per the reporting requirements above under term and condition 2.

- 5. To implement RPM 2, FERC shall require Grant PUD, in coordination with the Service, to report incidental take as precisely as possible. In order to accomplish the monitoring of take, the Service suggests the use of empirically collected data including PIT-tagging, radio-telemetry, or other appropriate technology.*
- 6. To implement RPM 2, FERC shall require Grant PUD, in coordination with the Service, to collect genetic samples of all bull trout over 70 mm handled as part of ordinary Project operations. This may provide valuable information on the conservation status and genetic relationships between bull trout populations in the Columbia Basin. This is consistent with the existing permit for the operation of the screw trap collection.*
- 7. To implement RPM 2, FERC shall require Grant PUD, in coordination with the Service, to develop and implement a plan to collect data for evaluating the effect of hydroelectric variations and water quality impacts on all bull trout life stages within Project reservoirs. The plan shall include provisions for adaptive management to address changing conditions, assess on-going effects, and to investigate potential corrective actions. These data shall be reported annually to the Service per the reporting requirements above under term and condition 2.*
- 8. To implement RPM 3, FERC shall require Grant PUD, in coordination with the Service and the PRCC, to implement the Hanford Reach Fall Chinook Protection Program Agreement within the limitations of the existing agreement in a manner that incorporates the conservation needs of the bull trout.*
- 9. To implement RPM 4, FERC shall require Grant PUD to minimize impacts to bull trout redds. Disturbance of or impacts to bull trout habitat shall be minimized during all activities associated with the White River Spring Chinook Supplementation Program. Grant PUD shall take precautions so as to avoid stepping in/on areas that may be potential redd locations for resident or fluvial/adfluvial bull trout (i.e., small gravel deposits behind boulders, under overhanging vegetation, near wood debris or logs, or areas of hydraulic influence such as confluences of tributaries, springs, seeps, pool tailcrests, or edges of pools), since redds of resident and small fluvial/adfluvial bull trout at these locations may be difficult to see due to their small size.*
- 10. To implement RPM 4, FERC shall require Grant PUD to avoid disturbance of spawning bull trout. Any purposeful take of bull trout that are spawning or near spawning is prohibited. Grant PUD shall minimize activities near actively-spawning bull trout as well as post-spawned bull trout that appear to be in a weakened condition.*
- 11. To implement RPM 4, FERC shall require Grant PUD to monitor traps (i.e., redd caps and minnow traps) at least 1 time daily. Traps should be checked more frequently (at least 2 times a day) when any bull trout are captured or if crowding produced by an increasing catch rate results in a higher probability of injury or death to bull trout being held in the live box.*

12. *To implement RPM 4, FERC shall require Grant PUD to conduct all seining during the daylight hours, excluding the first hour after sunrise and the hour prior to sunset. This should minimize the exposure of juvenile and sub-adult bull trout to accidental capture.*
13. *To implement RPM 4, FERC shall require Grant PUD to avoid hydraulic sampling of Chinook eggs where redd superimposition is suspected (i.e., areas where individual Chinook and bull trout redds directly overlap). The primary reach of concern is from the Napeequa River to Panther Creek. This should minimize the likelihood of direct removal of bull trout eggs or fry from the substrate.*
14. *To implement RPMs 2 and 4, FERC shall require Grant PUD, in coordination with the Service, to conduct water and sediment sampling related to the discharges of degrade water from acclimation facilities. This information will provide a metric to quantify effects to the bull trout and state water quality standards, and may be used to develop or refine the anticipated level of incidental take.*

4.0 Monitoring and Evaluation Plan Objectives and Strategies

Through the implementation of this plan, Grant PUD will monitor bull trout by implementing the following measures, which are intended to minimize any negative impacts or take of bull trout during the term of the Project's operating license.

- 1). Grant PUD, in coordination with the USFWS, will provide adequate year-round passage conditions for bull trout at Project facilities;
- 2). Grant PUD, in coordination with the USFWS, will design and implement a bull trout monitoring and evaluation program that will adequately detect Project impacts, including those caused by hydrologic modifications and changes in water quality, on adult and sub-adult bull trout. This plan will be re-evaluated every five years and will be amended to describe any apparent trends in bull trout abundance or frequency of occurrences in the project area and will address technological or methodological advances that may allow evaluation of project effects on bull trout;
- 3). Grant PUD, in coordination with the USFWS and the Priest Rapids Coordinating Committee (PRCC), will implement the Hanford Reach Fall Chinook Protection Program Agreement within the limitations of the existing agreement in a manner that incorporates the conservation needs of the bull trout; and
- 4). Grant PUD, in coordination with the USFWS, will minimize the effects of the White River Spring Chinook Supplementation Program to all life stages of bull trout.

Information in this section describes the objectives and strategies that Grant PUD will implement to meet the Terms and Conditions of the Opinion, through the remainder of the Priest Rapids Project FERC license to adequately monitor and minimize any incidental take of bull trout consistent with Section 7 of the ESA and the USFWS' BiOp.

4.1 Objective 1

Provide adequate year-round passage conditions for bull trout at Project facilities.

4.1.1 Strategies for Objective 1

Grant PUD, in coordination with the USFWS, will continue operating the existing adult upstream fishways at Project dams year-round. These facilities will be operated according to criteria agreed to in the 2006 Priest Rapids Salmon and Steelhead Settlement Agreement (109

FERC ¶62,216) and Grant PUD's annual Fishway Operating Plans. During winter maintenance activities, only one fishway will be closed at any one time at each Project facility to ensure that bull trout passage is possible at all times.

Grant PUD will continue the counting and reporting of all bull trout life stages moving past Wanapum and Priest Rapids dams between April 15 and November 15 of each year, for an additional period of five years. Following the five year period, the USFWS, in coordination with the Priest Rapids Fish Forum, will discuss whether or not to continue the counting and reporting of all life stages moving past Wanapum and Priest Rapids dams beyond year five for the duration of the new license.

4.2 Objective 2

Design and implement a bull trout monitoring and evaluation program that will adequately detect Project impacts, including those caused by hydrologic modifications and changes in water quality, on adult and sub-adult bull trout.

4.2.1 Strategies for Objective 2

- 1). Grant PUD will obtain date of catch, length, and age classification of all bull trout which are collected by the screw traps located at Nason Creek and White River or collected during ordinary Project operations. If there is a significant increase in the number of bull trout collected, Grant PUD will collaborate with the USFWS to re-examine the need for PIT-tagging and DNA collection. This data will be incorporated into the BTMEP annual report.
- 2). Grant PUD will monitor and maintain water quality standards consistent with those defined in the 2006 Priest Rapids Project Salmon and Steelhead Settlement Agreement (109 FERC ¶62,216), 2004 Hanford Reach Agreement (109 FERC ¶62,216), and the State of Washington Department of Ecology 401 certification ORDER NO. 4219.
- 3). Grant PUD, in coordination with the USFWS, will record and report bull trout occurrences during the following activities: fish counting at fishways, juvenile bypass activities, gatewell dipping, turbine maintenance activities, fishway maintenance activities, hatchery activities, and northern pikeminnow control program activities. Bull trout detections shall be included in the BTMEP annual report each year.
- 4). Grant PUD, in coordination with the USFWS, will PIT-tag sub-adult bull trout whenever they are incidentally captured during on-going PIT-tagging efforts conducted for anadromous and other fish management activities. Bull trout detections will be included in the BTMEP annual report and will include queries of the PTAGIS data base for records of any bull trout moving past Priest Rapids or Wanapum dams, including date and location.
- 5). Grant PUD, in coordination with the USFWS, will report incidental take as precisely as possible through the use of empirically collected data including PIT-tagging, radio-telemetry, or other appropriate technology. Grant PUD will continue to report incidental take of bull trout passing through Wanapum and Priest Rapids dams.
- 6). If information shows that incidental take of bull trout occurs due to hydrologic variation impacts based on observations from on-going fish sampling programs (i.e., Northern Pikeminnow Removal Program set line or beach seining collection, gate-well collection, resident fish sampling, fishway maintenance), Grant PUD in coordination with the USFWS, will develop a collaborative plan to minimize the effect (where reasonable and

feasible) of such incidental take. If negative water quality effects are identified, Grant PUD, in cooperation with the USFWS, will use adaptive management to address changing conditions, assess on-going effects and investigate potential corrective actions. This data will be reported annually to the USFWS.

- 7). Grant PUD, in coordination with the USFWS, will monitor water and sediment sampling related to the discharges of degraded water from acclimation facilities within the Project area or activities associated with the Hanford Reach Fall Chinook Protection Program and/or the White River Spring Chinook Supplementation Program to determine effects to the bull trout and state water quality standards, and may be used to develop or refine the anticipated level of incidental take.
- 8). Grant PUD, in coordination with the USFWS, will monitor changes in Project elevation (ft), discharge (kcfs), temperature (°C) and total dissolved gas (TDG). Daily averages of these parameters will be included in the BTMEP annual report. If the number of bull trout observations increases significantly throughout the Project; Grant PUD will coordinate with the USFWS and reassess the potential for a statistical analysis of these parameters.

4.3 Objective 3

Implement the Hanford Reach Fall Chinook Protection Program Agreement within the limitations of the existing agreement in a manner that incorporates the conservation needs of the bull trout.

4.3.1 Strategies for Objective 3

Grant PUD, in coordination with the USFWS, will implement the Hanford Reach Fall Chinook Protection Program Agreement within the limitations of the existing agreement in a manner that incorporates the conservation needs of the bull trout within the Project area and at Grant PUD facilities.

4.4 Objective 4

Minimize the effects of the White River Spring Chinook Supplementation Program to all life stages of bull trout.

4.4.1 Strategies for Objective 4

Grant PUD will minimize any disturbance or impacts to bull trout habitat during all activities associated the White River Spring Chinook Supplementation Program. Grant PUD will take precaution to avoid stepping in/on areas that may be potential redd locations for resident or fluvial/adfluvial bull trout (i.e., small gravel deposits behind boulders; under overhanging vegetation; near wood debris or logs; or areas of hydraulic influence such as confluences of tributaries, springs, seeps, pool tail crests, or edges of pools), since redds of resident and small fluvial/adfluvial bull trout at these locations may be difficult to see due to their small size.

Grant PUD will avoid disturbance of the White River Spring Chinook Supplementation Program and during routine Project operations. Grant PUD will minimize activities near actively-spawning bull trout as well as post-spawned bull trout that appear to be in a weakened condition.

5.0 Adaptive Management

Changes or modifications to this plan will be made through an adaptive management process that will assess on-going effects and potential corrective actions. As stated in the WDOE 401 Water Quality Certification, the adaptive management process is intended to improve the management

of natural resources affected by the Project in order to achieve desired objectives as effectively and efficiently as possible. Grant PUD will continue to participate in regional forums and meetings that pertain to the sustainability of bull trout throughout the Project.

6.0 Reporting

In order to monitor the impacts of incidental take, Grant PUD will prepare an annual report that will meet the requirements of the BTMEP and the USFWS permit number TE02743-5. The report, which will be submitted to the Central Washington Field Office annually on or before February 1, will list and describe the work that was completed and the number of bull trout, if any, observed or incidentally taken during the course of Project operations.

Upon locating a dead, injured, or sick endangered or threatened species specimen, initial notification must be made to the nearest USFWS Law Enforcement Office (Spokane, Washington; telephone 509.928.6050). Care will be taken in handling sick or injured specimens to ensure effective treatment and care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

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Appendix A
WDOE Letter Approving the Priest Rapids Project Bull Trout Monitoring and Evaluation Plan.



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

April 1, 2019

Mr. Tom Dresser
Fish, Wildlife, Water Quality Manager
Grant County PUD
PO Box 878
Ephrata, WA 98823

RE: Request for Ecology Review and Comment – *Draft Bull Trout Monitoring and Evaluation Plan 10 – Year Status Report*
Priest Rapids Hydroelectric Project, FERC No. 2114

Dear Mr. Dresser:

The Department of Ecology (Ecology) has reviewed the *Draft Bull Trout Monitoring and Evaluation Plan 10 – Year Status Report* sent via email to Ecology and the Priest Rapids Fish Forum group on March 1, 2019.

Ecology has no comment on the *Draft Bull Trout Monitoring and Evaluation Plan 10 – Year Status Report*.

Please contact me at (509) 575-2808 or breean.zimmerman@ecy.wa.gov if you have any questions.

Sincerely,

Breean Zimmerman
Central Region Hydropower Projects Manager
Water Quality Program

cc: Debbie Firestone, Grant County PUD