

Weber Hydroelectric Project
FERC No. 1744
Comments on Preliminary Draft Fisheries Technical Report
Submitted to the Fisheries Working Group for 30-day Review 12/22/2016

Technical Report	Commenter (initials/ agency)	Section Title/ Paragraph	Comment	Resolution
Fisheries	KL/UDWQ	N/A	DWQ has no comments and approves the Draft Fisheries Technical Report.	N/A
	PT/UDWR	N/A	The Utah Division of Wildlife Resources has reviewed the Draft Fisheries Technical Report Weber Hydroelectric Project Relicensing FERC NO. 1744. We feel that the document outlines and adequately reports on the project findings outlined in the Fisheries Study Plan. We feel this plan is ready to be filed with FERC and opened for public comment.	N/A
	PT/UDWR		Study One: Upstream Fish Passage Conceptual Design Study. - We have been extremely pleased with the results from Study One: Upstream Fish Passage Conceptual Design Study. The Fisheries Work Group has functioned well and with PacifiCorp and Kleinschmidt, a fishway design was developed that will allow the two target fish, bluehead sucker and Bonneville cutthroat trout, adequate opportunities for upstream movement past the Weber Facility.	N/A
	PT/UDWR		Study Two: Fish Migration Downstream of the Project. We also have been pleased with the progress of this project outlined in the Fisheries Study Plan. - Study Two Phase I: Turbine Mortality Field Study was a success with more fish recaptured than what most believed would be. Even with fewer smaller fish being recovered, we feel that we observed a fairly accurate representation of what would happen to the three target trout sizes used in the study. - Study Two Phase II: Turbine Entrainment Visual Assessment. The thought behind this portion of Study Two was sound, but sometimes information is more difficult to collect in the field. That was the case with this study, but we feel confident that the Fisheries Work Group moved forward in a positive manner with recommending the literature review (Phase III). - Study Two Phase III: Turbine Entrainment and Survival Literature Analysis. The authors have done a thorough job researching and reporting on fish entrainment specifics at hydroelectric plants across the West and ultimately how that information translates to entrainment risk with the target fishes at the Weber Facility. We agree that there are many aspects to the Weber Facility that would minimize entrainment risk to the target fishes, especially since the population densities of these two fish are relatively low at present in the Weber River. Pursuing some form of screening at the Weber Facility does not make sense at present. As fish passage projects, like the one outlined at the Weber Facility, and other habitat improvements are made for	N/A

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			the two target fishes, we believe that population densities for these two fish will improve in the Weber River. At that time, we will need to determine how detrimental fish entrainment is for these fishes and prioritize screening projects where the highest entrainment rates occur. In the future, if it is determined that the Weber Facility happens to be a high risk for bluehead sucker and Bonneville cutthroat trout entrainment, we will work cooperatively to address the problem at that time.	
	PT/UDWR	Page 7, bottom of page	Change endemic to native. Endemic implies that these fish only occur in the Weber River and nowhere else. Same comment for use of the word endemic throughout the document (e.g., pages 10, etc.)	Change made per the commenter's suggestion.
	PT/UDWR	Page 8, first sentence under methods	Finish parenthesis around UDWR [e.g., change UDWR) to (UDWR)]	Change made per the commenter's suggestion.
	PT/UDWR	Page 14	The average size of fluvial BCT in the Weber is not 300 mm. I don't believe we have attempted to get an average size for the fluvial BCT in the Weber because the lower size range is not static. Generally we consider a BCT in the Weber to be fluvial if they are 300 mm TL or larger.	Thank you for the information. The document will be edited to reflect: This species can achieve considerable size in the Weber River. Biologists working on the area consider BCTs in the Weber to exhibit a fluvial life history when they exceed 300 mm in total length.
	PB/TU	N/A	Thank you for the opportunity to review and comment on this Draft Technical Report. Paul Thompson has submitted comments, and in an effort to improve efficiency I reviewed his comments and they are consistent with the comments that Trout Unlimited Staff have on this draft plan. I appreciate the collaborative effort put forth by PacifiCorp and the members of the Fisheries Working Group effort to produce this report. Trout Unlimited Staff recommends moving this report forward for public review with the recommended changes in Paul Thompson's email. Thank you.	N/A
	GW/USFWS		I have no comments on the fisheries technical report at this time	N/A

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	FR/SS	Page 3	<p>“The Weber hydroelectric facility includes the following components: (3) a 3-foot by 18-foot non-operative fish passage structure (used however to pass the minimum flow through the calibrated slide gate opening);”</p> <p>In the documents prepared by PacifiCorp, I cannot locate any discussion of the history of the “non-operative fish passage structure”. Obviously, when this was constructed, it was designed with care and a sincere desire to protect fish populations on the Weber. Can information be provided regarding the design of this “fish passage structure”, the reasons for its failure, and the legal history regarding its construction? Conversely, there is a question raised later in this document that some fish might actually be able to use it under certain operational conditions.</p>	<p>No information regarding the legal history of the historic fishway is available. The fishway is clearly marked on the original plans (circa 1910), likely before any criteria were available to ensure it was planned/built ‘correctly,’ but other details appear to be lost to the passage of time. PacifiCorp understands the intent was appropriate, but was likely never functional for fish given its dimensions and water volume unless possibly at certain high flows.</p>
	FR/SS	Page 17, Table 2	<p>Population Estimates with 95% Confidence Intervals of Bonneville Cutthroat Trout</p> <p>It appears that there is a difference in the population estimates for Bonneville Cutthroat Trout in the 3 river segments. Is this in fact the case? If so, is there an explanation for the differences?</p> <p>This Table only includes data for Bonneville Cutthroat Trout. When the sampling was done, was data also collected for whitefish and brown trout?</p>	<p>The work cited in Budy et al. 2014 reported population estimates that were indeed different between sections. It should be noted that the river sections were sampled at different times of the year which could affect population size estimates. In addition, the authors state that sampling effort varied between the study sections which could also affect estimates. Budy, et al. 2014 did make some estimates of brown trout population sizes in sections 2 and 4 that PacifiCorp did not report since the focus of this fisheries report centered on BCT and bluehead suckers.</p>

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	FR/SS	Page 18	<p>Discussion of movement of Bonneville Cutthroat Trout</p> <p>The documentation that in fact Bonneville Cutthroat Trout somehow are able to move past the diversion dam is interesting and perhaps a critical element in understanding the survival of this population. However, your explanation is hard to understand. If I understand the forebay operations correctly, the low-flow gate on the south side would only be a possible route past this dam, if the forebay were drawn down in a low flow situation. If the power plant is operational and the forebay is full, this would not be a possible path into the upper river. Consequently, combining the observation of trout movement past the diversion dam with information on the operational state of the power plant is important. The observation states that these fish moved past the diversion dam during spawning period seems to indicate that this movement occurred in the spring when the forebay would have been full meaning that the south side route would not have been available.</p>	<p>Your observations are correct, although there was a time period of over a year when the plant was offline and the low level was open—PacifiCorp believes that is the most likely time that fish have been able to move past the diversion structure. A camera was placed to get video footage of fish attempting to move past the spill gates, and an attempt was made to put a pit tag antenna in the low-level opening. However researchers could not get it functional during the critical time period. Neither method yielded positive information regarding fish movement. PacifiCorp believes that the most likely physically possible and logical movement for fish to pass upstream of the Weber diversion dam is through the low level gate when it is open.</p>
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	FR/SS	Page 39	<p>Average monthly flow at Gateway & Weber Hydroelectric Project FERC No. 1744 Pre-Application Document May 2015, page 33 - Table 3.2-1 Average monthly flow data for USGS gaging station - No. 10136500</p> <p>The flows on the Weber seem to be lower in recent years. One factor that might be partially responsible is the construction of Jordanelle Reservoir. Has this in fact affected flows on the Weber River? Due to the construction of Jordanelle and water agreements, it is probable that increased diversions to the Provo from the Weber have decreased flow conditions on the Weber.</p> <p>The 1990 Settlement Agreement on Olmsted between PacifiCorp, the Bureau of Reclamation, and the Central Utah Water Project led to decreased PacifiCorp power generation on the Provo. Is there ongoing compensating revenue coming to PacifiCorp as part of this settlement? For lost revenue on either River system?</p>	<p>All of the diversions on the Weber River (including the trans-basin Provo diversion) have affected Weber River flows, including Echo, Jordanelle, Deer Creek, and related water storage projects in the Weber and Provo watersheds. PacifiCorp received compensation for the 1990 Central Utah Project condemnation of the Olmsted Project, but that is not 'on-going.' Lost generation on the Weber River resulted from both the 1965 and 1938 agreements with US Bureau of Reclamation. The 1938 agreement does not result in compensation revenue, but in replacement power from US Bureau of Reclamation's Deer Creek project. PacifiCorp does receive financial compensation per the 1965 agreement.</p>
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	FR/SS	Overall	<p>From the meetings and this document, it appears that PacifiCorp intends to reconstruct a fishway as a main mitigation measure for this project. The Weber Hydroelectric Project seems to represent only a small portion of PacifiCorp's power production. Does FERC and the company have guidelines regarding the amount of funds they consider appropriate to dedicate to mitigation expenses related to this Project or as part of re-licensing in general?</p>	<p>The FERC relicensing process promotes a balance between the use of a public resource for the benefit of society (clean renewable power) with impacts of that use on environmental, social and cultural resources. Through the Weber River relicensing, fish passage has been identified as a significant impact that should be addressed. While FERC has no guidance on level of mitigation required, they will consider economic investment in establishing the term of a new license. Accordingly and given this significant investment to construct a new fishway, PacifiCorp will be requesting a new license period of 50 years, the maximum period that FERC may grant in a new license. This period will allow the project to responsibly recover its investment.</p>
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PAD	FR/SS	Page 8	<p>This page discusses investments made in the Project since the 1990 license. Were any investments made in mitigation during the past license period?</p>	<p>Yes. The project operated in an annual license mode from ~1970-1990 (due to an attempted project takeover by a municipal utility operator), so the 1990 license was the first since the 1940s. The 1990 license included minimum flows (and resultant lost generation), construction of the recreation site, ADA-accessibility improvements, and enhancements to recreational access, among others.</p>
PAD	FR/SS	Page 20	<p>“Below the Weber diversion dam, the current license mandates a continuous minimum stream flow of 34 cfs or inflow, whichever is less, from October 1-March 31 annually; and, a continuous minimum flow of 34-50 cfs (range dependent on the annual runoff forecast), or inflow, whichever is less, from April 1- September 30 annually.”</p> <p>Will these same flow requirements continue with this license?</p>	<p>Yes—that PM&E measure will be formally proposed in the Draft License Application and has already been informally agreed to by stakeholders as appropriate mitigation.</p>
PAD	FR/SS		<p>Location of the New Fishway</p> <p>I assume that the new fishway would be placed in the location of old fishway destroying the old fishway. Understanding its function seems important before it is destroyed.</p>	<p>The historic fishway is actually planned to be an integral part of the new structure, to move the larger portion of the attractant flow through the structure. It is not planned for demolition.</p>

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PAD	FR/SS	Page 19	<p>Bluehead Sucker - Biology and Life History: Bluehead Sucker The studies cited to understand needs of Bluehead Suckers seem to indicate that the fish do not show the type of movement that is found with Bonneville Cutthroats. Is there opinion regarding the needs of this species in the project area?</p>	<p>Bluehead suckers do not have the same jumping abilities as BCT and also have lower burst swimming speeds in comparison; they also may move for spawning later in the year as they require warmer water temperatures. However, based on input from the Fisheries Working Group, PacifiCorp believes that implementing fish passage at the dam and which is designed to accommodate both species (specifically the full slot design), will meet the needs of bluehead sucker in the Project Area.</p>
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