



**Wallowa Falls Project Relicensing
July 10, 2013**

**Instream Flow Incremental Methodology (IFIM)
Agency Meeting Summary**

Start Time: 10:00 a.m.	End Time: 12:00 p.m.
Subject: (see Agenda at the conclusion of this summary)	Attendees: See attendance list at the conclusion of this summary

Assignments
PacifiCorp: Meeting summary documents will include attendees comments attached as an appendix to the meeting summary document.
PacifiCorp: Include John Dadoly (ODEQ) in all IFIM, water resources or fisheries meeting invites, meeting summaries, etc.
PacifiCorp: Follow up discussion with Jeff Yanke and Elizabeth Moats to collectively determine what current Kokanee population data exists for the Project area and additional study needs.
ODFW: Schedule a conference call with Yanke and PacifiCorp.

Introduction

Following introductions, Russ Howison (PacifiCorp) informed the attendees that we would like to discuss procedure and format for meeting summary documents and comments. Howison suggested PacifiCorp capture key points within each meeting summary and all comments, clarification, and follow-up information received will be included/attached to the pertinent meeting summary. Elizabeth Moats (ODFW) expressed that she agrees with this format, although she wants to make sure all attachments/comments are included with each meeting summary. Matt Cutlip (FERC) also concurred. In addition, Howison also communicated to the attendees that the FERC Dam Safety Engineering Inspection will take place on July 18, 2013 and other than the PacifiCorp dam safety engineers; he asked who of the attendees at today's meeting will be attending. Moats said that she will be in attendance. A summary of the meeting discussion is provided below.

Additional comments and discussion of Agency Fisheries Management

- *Bull Trout goals and objectives*
- *Kokanee goals and objectives*

Attendees had no additional comments.

Tailrace Reroute Proposal and Agency Concerns

- *Current Agency perspective on Tailrace reroute*
- *Tailrace Reroute and effects to East Fork – Potential Anchor Ice Formation*

The discussion regarding the agency perspective on the tailrace reroute proposal generally followed the points made in a memo received from ODFW, FWS, ODEQ and USFS dated July 10, 2013 (**Attachment A**),

Moats discussed PacifiCorp's proposal of rerouting the tailrace to the East Fork Wallowa River, ESA concerns and the potential for bull trout stranding. Moats further stated that the reroute sounds like an acceptable alternative but would also have impacts to the West Fork and more information is needed to assess the impact of PacifiCorp's proposal on spawning kokanee.

Howison requested more detail about what additional information Moats would like.

Jeremiah Doyle (PacifiCorp) asked if Jeff Yanke (ODFW) has information about West Fork kokanee spawning. Moats said he may have some ideas of population numbers but not spawning or abundance. ODFW requested data that addresses the contribution of the West Fork to all available spawning habitat for kokanee, and the relative abundance of kokanee spawning in the West Fork reach between the tailrace discharge and the confluence with the East Fork. ODFW is concerned that the Initial Study Report review and Study Plan Determination occurred before the tailrace reroute was proposed by PacifiCorp. The fishery studies identified in the approved study plan for the West Fork were not completed and the stakeholders at the time of study plan review did not have the context of the proposed tailrace reroute to request additional data collection in the West Fork. ODFW requested PacifiCorp consider collecting additional fisheries data in the West Fork, such as available spawning habitat, kokanee use, and production to better understand the contribution of the West Fork reach to kokanee spawning. Jeremiah clarified that we would not conduct electrofishing during spawning. See additional ODFW Comments on IFIM June 13, 2013 Meeting Summary - **Attachment B**. PacifiCorp agreed to consider conducting additional field study in the West Fork and that more discussion with ODFW was needed on this issue.

Kaylea Foster (PacifiCorp) indicated that the preliminary analysis of the tailrace contribution to the West Fork Wallowa River is as follows:

A reconstructed historic flow record (14 years of data) for flows above the West Fork shows the tailrace contributing 32% of total West fork flow on average in August, 43% in September, and 44% in October. The estimated length of the reach between the tailrace and East Fork is 2,300 feet (not including braided sections). The distance from the mouth of the East Fork to Wallowa Lake is 3,000 feet (centerline measurement). There is a water right in BC Creek (not a PacifiCorp water right) for 0.2 cfs.

Foster indicated that the temperature difference is ½ degree in August, 1 ½ degree in September and 2 degrees in October.

Howison said we have a relatively short and old record from which we can calculate the percentage of Project tailrace contribution to the West Fork that can be used for analysis. What additional information does the group want beyond that?

Moats will speak to Jeff Yanke regarding this issue. The information we have provided is helpful, and is similar to ODFW's estimate but she wants to understand what the kokanee spawning impact would be if the tailrace contribution was removed from the West Fork.

Foster confirmed that the West Fork flow data were collected downstream of BC Creek so the percentage calculations include BC Creek.

Howison indicated that PacifiCorp will think about this issue more now that there is a better understanding of agency concerns.

Moats reiterated that last January we did not know about the reroute proposal, and went through study report reviews, and that opportunity to gain additional information has passed. She would like to avoid adding more time to the process but ODFW does not want their concerns overlooked. ODFW wants to make an informed decision about potential impacts to kokanee and bull trout. She would like to see more fisheries information; geomorphology, flows, timing; and discuss it further once we have the additional information.

Todd Olson (PacifiCorp) said that now that we understand the situation, the PacifiCorp team will put together a plan to address ODFW concerns.

Moats suggested that there are a number of possible parameters including available habitat, productivity potential, redd surveys, and fish use that could be collected.

Olson suggested that any additional study will most likely be a qualitative general assessment of spawning density based primarily on observation.

Moats will touch base with Jeff Yanke to see what he does have for existing kokanee spawning information.

In accordance with the joint agencies memo of July 10, 2013 (**Attachment A**) ODFW, FWS, ODEQ and USFS recommend the minimum flow provided at the compliance point below the dam be 5 cfs year-round as it increases WUA for adults/spawning. Additionally, USFWS wishes to improve habitat connectivity for adults and the genetic exchange between migratory and resident bull trout. WUA increases between 4 cfs and 5 cfs by approximately 8-10%.

PacifiCorp noted that the IFIM study did not consider population connectivity and IFIM is not an appropriate method to do so. IFIM only evaluates velocity, depth and cover. Flow and habitat per se are typically not used to address fish movement or connectivity. IFIM was used to model habitat gains resulting from flow increases. Tim Hardin (ODFW) noted that the 5 vs. 4 cfs is likely not relevant to kokanee.

ODFW indicated that the perception is that with increased flow, additional habitat will become available to different life stages of bull trout; is this not a reasonable assumption? Foster responded that we cannot affirm that assumption as that was not the purpose of the IFIM. See **Attachment A** for ODFW response relating to tailrace flows to the lower East Fork that could be beneficial to kokanee in the East Fork.

ODFW reported that ODEQ has suggested that to ensure minimum flows are actualized in the impacted reach (above the proposed tailrace inflow, but below the fish barrier); ODEQ recommends that flow be monitored within this reach. This will allow calibration of PacifiCorp's proposed gauging station at the top of the East Fork to ensure that minimum flows are being met for protection of fish. This lower gauging station should be operated for 2 to 3 years after the FERC license is issued. The fish and water management stakeholders should be consulted on the location of this lower gauging station.

Foster reported that PacifiCorp has tried to establish a gage in this portion of the bypass in order to identify a correlation with what is released at the dam over the past decade. However, PacifiCorp has never been able to identify a correlation; the channel in the reach shifts a lot due to high velocity flows in the winter and level loggers have been washed out repeatedly. Additionally, the reach doesn't have a good cross section for gauging. Short of building a flume in the channel, it may not be possible to gage between the fish barrier falls and the proposed tailrace inflow. Briana Weatherly (PacifiCorp) concurred; in 2006 PacifiCorp, in consultation with FERC, attempted to gage minimum flows in the bypassed reach and conducted a flow correlation study immediately below the dam (compliance site) and in this lower section. PacifiCorp was not able to correlate the two sites. The delta between the two locations swings widely throughout the year. The FERC annual reports explain the challenges in more detail. More discussion is needed on the issue of compliance gaging. It was agreed that ODEQ should be part of these ongoing gauging discussions

ODFW noted that the fish and water management stakeholders recognize that FWS is responsible for ESA consultation for the Wallowa Falls Hydroelectric relicensing project on federally threatened bull trout and critical habitat. ODFW acknowledged that FWS strongly supports the proposal to reroute the tailrace to the East Fork Wallowa River to minimize take of bull trout associated with the potential for bull trout stranding in the tailrace from annual power outages, unit trips, and associated tailrace dewatering. This proposal will have long-term beneficial effects to bull trout critical habitat in the East Fork. Tailrace water (which originates in the East Fork) is cold and will be beneficial to bull trout in the East Fork from a temperature and habitat/flow standpoint.

Howison communicated that PacifiCorp will now provide an update regarding anchor ice formation in the East Fork as a result of increased flow, the estimate of dam leakage, and calculations of base flow vs. runoff in the bypass reach and asked Ken to provide an update on these issues.

Anchor Ice Processes in Lower East Fork Wallowa

Ken Carlson (CH2M Hill) said that with regard to anchor ice processes, turbulence and hydraulics do play a part in anchor ice formation. Site specific conditions are major factors that come into play. There are differences between sunny vs. cloudy days. We need to recognize that the process is complex and other conditions are considered in addition to flow. Howison indicated that the biggest concern is the lower portion; residents are concerned that the reroute may cause an increase in anchor ice and winter flooding of the lower East Fork.

Estimate of dam leakage into East Fork Bypassed Reach

Carlson explained that the analysis of dam leakage has not been done yet. PacifiCorp is currently collecting data that will be used in the analysis. The analysis will review flow data taken upstream of the forebay as well as powerhouse flow and identify leakage or spill. Synoptic measurements (upstream and downstream of forebay) may also be needed.

Base flow vs. runoff

Carlson said the base-flow vs. runoff relationship would be identified by using lower gage site data as well as historical stream flow data to conduct a baseflow recession analysis. The analysis will consider hydrograph fluctuations through the course of a day such as flow between hydrograph peaks to identify the direct runoff component. There are two main steps to the analysis:

- Quality control and processing of raw flow data;
- Evaluate computed base flows on monthly basis.

Foster stated that the Flying Arrow Resort (lower East Fork gage site) is where data will be collected. It is anticipated that base-flow and runoff contributions will vary seasonally.

Technical Comments on IFIM Report of April 25, 2013

PacifiCorp is still reviewing the comments received. PacifiCorp does not plan to prepare a specific response but will incorporate the comments into the Final Technical Report for the IFIM study. Additionally there will be a record of consultation matrix that will identify stakeholder comments and PacifiCorp's response to those comments.

Next Steps

PacifiCorp will have internal discussion regarding the proposed 5 cfs release at the dam and additional field work on kokanee spawning in the west fork.

Additional discussion with ODFW regarding the need for additional kokanee spawning information in the West Fork

PacifiCorp will continue to work on water resources studies and report

Moats communicated that time is short; Jeff Yanke will be available on July 15 & 16th, then gone for two weeks. She will schedule a conference call with Yanke and PacifiCorp to discuss kokanee spawning data needs.

Adjourned - 11:55am

Attachment A – Response to meeting on June 13, 2013; ODFW, FWS, ODEQ and USFS, dated July 10, 2013

Attachment B - ODFW Comments on IFIM June 13, 2013 Meeting Summary

MEMO

TO: Russ Howison, PacifiCorp
FROM: ODFW, FWS, ODEQ, USFS
DATE: JULY 10, 2013
SUBJECT: Response to meeting on June 13, 2013

In response to PacifiCorp's proposal for re-routing the tailrace to the East Fork Wallowa River, the fish and water management stakeholders (ODFW, FWS, ODEQ, USFS), provide the following comments:

- We find that the proposal to re-route the tailrace to the East Fork Wallowa River (East Fork) may be an acceptable alternative that needs further examination and study.
- More information is needed to assess the impact of PacifiCorp's proposal on spawning kokanee in the West Fork Wallowa River (West Fork). Only anecdotal information currently exists on the importance of the reach from the mouth of the tailrace to the confluence with the East Fork. Historic flow information (attached) suggests that, the tailrace flow (approx. 12-16 cfs) could make up 1/4 to 1/2 of the flow in West Fork in August, September and October (more in low flow years), which could significantly impact available kokanee spawning habitat in the West Fork.
- We recommend the minimum flow provided be 5 cfs year-round. Under PacifiCorp's proposal, the reach impacted by this flow (i.e. above the proposed tailrace inflow) has the highest proportion of the bull trout population in the East Fork (according to PacifiCorp's Aquatic Resources Study Report (2012)). Therefore the minimum flow should be protective of every life stage that could potentially be present (i.e. adult, juvenile/resident and spawning bull trout). It is believed that the flow provided by the proposed tailrace re-route will increase habitat available to all life histories of bull trout, allowing them to potentially expand their distribution and connectivity upstream and downstream. Based on the Weighted Usable Area analysis, 5 cfs will better maintain and protect bull trout life histories, potentially increase distribution and connectivity, and support genetic diversity.
- Tailrace flows to the lower East Fork could be beneficial to kokanee in the East Fork. Additional flow in the lower portion of the stream could potentially make available additional kokanee spawning habitat and expand distribution of spawning kokanee adults further upstream due to increased flows and cooler stream temperatures. However, due to limited habitat in the East Fork, these flows may not mitigate for the loss of kokanee spawning habitat in the West Fork as a result of the PacifiCorp's proposed tailrace re-route.
- To ensure that minimum flows are actualized in the impacted reach (above the proposed tailrace inflow, but below the fish barrier), we recommend that flow be monitored within this reach. This will allow calibration of PacifiCorp's proposed gaging station at the top of the East Fork to ensure that minimum flows are being met for protection of fish. This lower gaging station should be operated for 2 to 3 years after the FERC license is issued. The fish and water management stakeholders should be consulted on the location of this lower gaging station.

- The fish and water management stakeholders recognize that FWS is responsible for ESA consultation for the Wallowa Falls Hydroelectric relicensing project on federally threatened bull trout and critical habitat. We acknowledge that FWS strongly supports the proposal to re-route the tailrace to the East Fork Wallowa River to minimize take of bull trout associated with the potential for bull trout stranding in the tailrace from annual power outages and associated tailrace dewatering. This proposal will have long-term beneficial effects to bull trout critical habitat in the East Fork. Tailrace water (which originates in the East Fork) is cold and will be beneficial to bull trout in the East Fork from a temperature and habitat/flow standpoint.
- In addition, we recognize that FWS is responsible for bull trout recovery plans with recovery actions to recover and/or protect the species. Four “recovery objectives” established for bull trout under the USFWS draft Bull Trout Recovery Plan are: 1) maintain current distribution of bull trout within bull trout Core Areas; 2) maintain stable or increasing trend in abundance; 3) restore and maintain suitable habitat conditions for all bull trout life history stages; 4) conserve bull trout genetic diversity and provide opportunity for genetic exchange. In the Wallowa River/Minam River Core Area (within which this project is located) demographic based targets that relate to this project also include: 1) expand distribution and increase connectivity between populations; and 2) maintain a variety of life history types, potentially increase fluvial populations.

ODFW Comments on

IFIM Agency Meeting Summary

June 13, 2013

- **Agency Fisheries Goals and Management Objectives**, ODFW - Please replace first 2 bullets with: “ODFW’s goals and management objectives are dictated by the Native Fish Conservation Policy (OAR 635-007-0502 through 0509). The goals of the Native Fish Conservation Policy are:
 - 1) Prevent serious depletion of any native fish species by protecting ecological communities, conserving genetic resources, managing consumptive and nonconsumptive fisheries and using hatcheries responsibly so that naturally produced native fish are sustainable.
 - 2) Maintain and restore naturally produced native fish species, taking full advantage of the productive capacity of natural habitats, in order to provide substantial ecological, economic and cultural benefits to the citizens of Oregon
 - 3) Foster and sustain opportunities for sport, commercial and tribal fishers consistent with the conservation of naturally produced native fish and responsible use of hatcheries.”
- **Agency Fisheries Goals and Management Objectives**, ODFW, 3rd bullet - Please replace with: “While there is no specified management plan for kokanee in Wallowa Lake, Wallowa Lake provides an economically important kokanee fishery. Through its management efforts, ODFW aims to improve and enhance the kokanee fishery. ”
- To the Discussion section, please add “Because the re-route proposal is relatively new in the Wallowa Falls Hydro relicensing process, no information was collected to allow analysis of the effects of reducing flow in the West Fork Wallow River on fish habitat. The IFIM study provided good information to help us understand and anticipate the impacts of re-routing the tailrace on the East Fork Wallowa River. However, information to assess the impacts of the tailrace re-route on the West Fork is lacking. For adequate analysis, the benefits and impacts of the re-route on both the East Fork and the West Fork should be compared.”



AGENDA

Wallowa Falls Hydroelectric Project Relicensing FERC Project No. P-308

Instream Flow Incremental Methodology (IFIM) Agency Meeting **Wednesday, July 10, 2013**

Conference Call: 10:00 am – 12:15 pm

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| Introductions - Russ Howison, PacifiCorp | 10:00 am – 10:10 am |
| June 13 meeting summary and discussion of comments received to date | 10:10 am – 10:30 am |
| • Additional comments and discussion of Agency Fisheries Management Goals | 10:30 am – 10:40 am |
| ○ Bull Trout goals and objectives | |
| ○ Kokanee goals and objectives | |
| • Tailrace Reroute Proposal and Agency Concerns | 10:40 am – 11:25 am |
| ○ Current Agency perspective on Tailrace reroute | |
| ○ Tailrace Reroute and effects to East Fork – Potential Anchor Ice Formation | |
| ○ Flow record and tailrace contribution to West Fork Wallowa | |
| • Estimate of dam leakage into East Fork Bypass | 11:25 am – 11:35 am |
| • Base flow vs. runoff | 11:35 am – 11:45 am |
| • Technical comments on IFIM Report of April 25, 2013 | 11:45 am – 12:00 pm |
| • Wrap Up and Next Steps – Russ Howison, PacifiCorp | 12:00 pm – 12:15 pm |

Wallowa Falls Hydroelectric Dam Relicensing
Instream Flow Incremental Methodology (IFIM) Meeting
July 10, 2013: 10:00 am - 12:00 pm

Conference Call

Participant Name	Agency/Company
Russ Howison	PacifiCorp Energy
Jeremiah Doyle	PacifiCorp Energy
Briana Weatherly	PacifiCorp Energy
Kaylea Foster	PacifiCorp Energy
Todd Olson	PacifiCorp Energy
Ken Carlson	CH2M Hill
Matt Cutlip	FERC
Gretchen Sausen	USFWS
Elizabeth Moats	ODFW