

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

February 3, 2021

DRAFT Facilitator's Summary

Facilitator: Emily Stranz; Notes: Colby Mills

The following Facilitator's Summary is intended to capture basic discussion, decisions, and actions, as well as point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members. Official minutes can be found on the TMT website: <http://pweb.crohms.org/tmt/agendas/2021/>.

Review Meeting Summaries & Minutes

TMT members approved the official minutes and facilitator's summary for the January 20 meeting. The minutes from the TMT YER will be reviewed at the next TMT meeting.

Kootenai Burbot Restoration Program

Sue Ireland, Kootenai Tribe of Idaho, and Ryan Hardy, IDFG, reviewed a history of the Kootenai Tribe Burbot Restoration Program, which was developed to guide a collaborative Burbot conservation strategy (presentation can be viewed on the TMT website). Also reviewed, was burbot physiology and life history. Research objectives include age specific survival; effects of stocking location, size, and age at release; juvenile and adult abundance; movement and distribution; and recruitment bottlenecks. Due to the success of the recovery program, the burbot fishery reopened in January of 2019, although wild recruitment still remains a critical focus.

Shawn Young, Kootenai Tribe of Idaho, noted that goals of the program included rebuilding population abundance and experimental early life stage releases to investigate habitat dynamics, to achieve an end result of a self-sustaining and naturally reproducing population.

Greg Hoffman, and Jon Moen, Corps, provided WY temperature comparisons of the Kooconusa and Kootenai River seasonal isothermy, and projected operations for 2021 at Libby Dam. Operations at the dam are variable, and things are looking good for burbot in the Kootenai as of the February Water Supply forecasts.

The following clarifications were provided in response to questions from TMT members:

- To keep the burbot population stable, yearly spawning should occur regularly (50% of the time at least 1 out of every 2 years) as the fish only have a few years for spawning potential to replace themselves.
- The desired temperature curve from a burbot life history perspective entails a very cold end of winter and gradual warming, synchronizing into the beginning of spring.
- Temperature spikes during egg incubation can threaten egg survival; these spikes must not reach higher than 6 degrees C. During incubation, flows from Libby Dam should remain flat and relatively low to support the incubation period.
- More understanding is needed on how flow affects temperatures at Bonners Ferry; tributary inflows pick up in the spring, warmer than Libby discharge, and these temperatures will vary.
- Water can be drawn from different depths at Libby; efficacy of doing so is related to isothermic conditions in the reservoir.

Chum Operation

Doug Baus, Corps, reported on chum operations, as coordinated on December 29 (posted on the TMT website). At 0800 hours this morning, Bonneville total outflow was 200 kcfs, with a project tailwater

elevation of 16.5 feet. The chum incubation operation will continue through April 9 at 2400 hours, when spring spill operations commence at the project on April 10.

System Operational Request: #2021-1 - Dworshak Load Shaping

Jay Hesse, Nez Perce, presented SOR 2021-1, on behalf of Fisheries Managers, which recommends the cessation of within day load shaping operations at Dworshak Dam. Jay noted that this operation occurred between January 25-29, 2021 with likely impacts to treaty and non-treaty fisheries, ESA-listed juvenile fall Chinook, hatchery operations, and river ecology. Fisheries Managers were concerned that although this operation has not been implemented at the project since 1986 (in part due to ire from anglers and the public), consideration for the recent use was not coordinated in collaboration with TMT. Additionally, due to the lack of prior knowledge surrounding the operation, there were further concerns from some Co-Managers that did not make it into the SOR. Additional concerns included hatchery maintenance issues from algae, impacts to fish disease treatment, and potential impacts to bull trout.

Doug Baus, Corps, acknowledged the concerns and reported that the AAs need more time to evaluate the SOR. Doug and Tony Norris, BPA, clarified that they don't plan to implement the operation again before the next TMT meeting on February 17, and the project is projected to run on minimum discharge.

Jay voiced unease over the uncertainties of potential implementation in the case of a significant precipitation event, and Charles Morrill, WA, noted that the prior notification of the operation was insufficient to describe such a radical departure of load following as historically agreed upon. In consideration of the concerns expressed, Tony confirmed that BPA will not request to operate in a load following daily hourly ramp rate as conducted in late January.

In anticipation for the meeting on February 17, AAs will discuss the SOR and bring a response or possibly an alternative operation to TMT on the 17th. It was noted that policy level staff will also be having discussions between now and the next meeting. Doug and Tony noted that they understood the high level of concern shared from TMT members and that proper notification before operations is an important step to the collaborative process. TMT will revisit past notification process agreements made around Dworshak flow changes.

Questions and comments from members of the public: Charles Pace noted that load following is of concern downstream of Bonneville Dam as well.

The next TMT meeting is a conference call on February 17th at 9:00 AM.

This summary is respectfully submitted by the DS Consulting Facilitation Team. Suggested edits are welcome and can be sent to Colby at colby@dsconsult.co.

Columbia River Regional Forum

**Technical Management Team
DRAFT OFFICIAL MINUTES**

Wednesday February 3, 2021

Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)

Today's TMT meeting was held via conference call and webinar, chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. See the end of these minutes for a list of attendees.

1. Review of Meeting Minutes

The January 20 facilitator's summary and official TMT minutes were approved with no additional changes.

2. Kootenai Burbot Restoration Program - Sue Ireland and Shawn Young, Kootenai Tribe of Idaho; Ryan Hardy, Idaho Dept of Fish and Game; Greg Hoffman and Jon Moen, Corps

Members of the Kootenai Tribe of Idaho, IDFG, and the Corps updated TMT on burbot restoration and related operations at Libby Dam. Today's presentation materials are available on the TMT website.

Sue Ireland of the Kootenai Tribe of Idaho reminded the TMT that burbot are a culturally significant native fish. The population became almost extinct before the tribe partnered with other agencies, including IDFG, to spearhead research on Burbot with the aim to re-establish the population. The tribes began restocking fish in the river in 2009.

Over the past few years, the Burbot Restoration Program has researched:

1. Age specific survival,
2. Effects of stocking location,
3. Juvenile and adult abundance,
4. Size, and age at release, and
5. Recruitment bottlenecks

Ryan Hardy, IDFG, noted that early in the restoration program, the agency was able to identify that it was best to release young Burbot into the river. Those kept in the hatchery and released later were smaller than the larvae released. IDFG recommended to decrease mortality and program costs, to release fish at age 0. Additionally, initially, there was concern that the burbot would swim up to Kootenai Lake after being released. However, research showed that the burbot remained in the river where they were stocked.

Recovery efforts have been largely successful, with recreational fishing of burbot re-opening in 2019. Last year, anglers fished for ~6,500 hours and harvested ~500-700 fish.

Shawn Young of the Kootenai Tribe of Idaho shared information on the life cycle of the fish and what causes recruitment bottlenecks. He noted that while there has been success in rebuilding the population, natural recruitment is weak. Young shared some research findings, including:

- Eggs need very cold temperatures to survive and develop properly.
- Adults will still spawn in temperatures where their eggs will not survive.

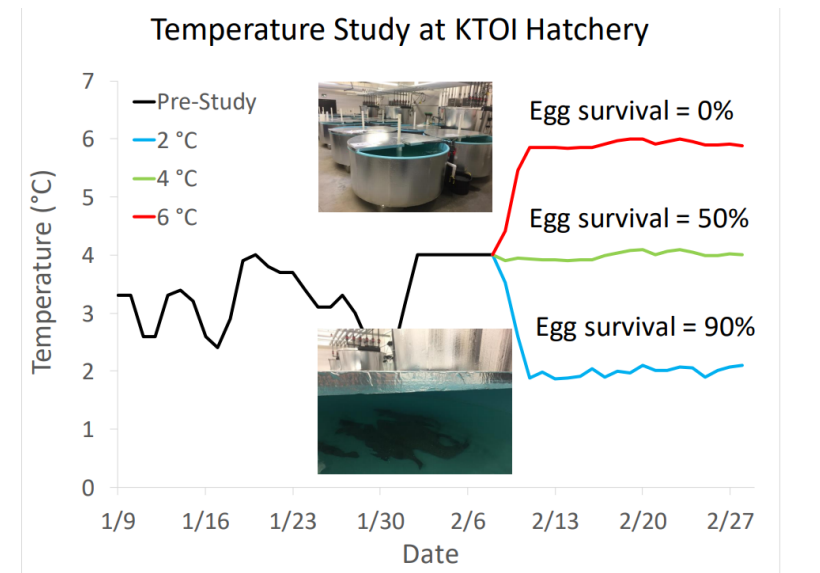


Figure 1: Burbot survival rates vs temperature at the KTOI Hatchery.

Lastly, the Corps shared temperature comparisons across the past ~5 years as well as this year's water supply forecast for Libby Dam, which is currently 102% of average for April-August. The end of February elevation target is 2406.2 ft. Currently the elevation of Lake Koocanusa is 2407.5 ft. and Libby Dam outflow is 4 kcfs. Thermal conditions look favorable for Burbot this year. Changes in conditions are still possible since it is early in the season and the official water supply forecast for February has not been released yet.

Following today's presentation, the TMT asked for the following clarifications and added the following comments to the record:

- Charles Morrill, WA, asked that the Corps add a desired temperature curve for burbot across the operation period for the water year temperature profiles shared today. The Corps responded that this is a simple fix and a good suggestion.
- Brian Marotz, MT, asked how many years out of a decade would be necessary for the population to do well to keep the population stable. Young replied that the population exhibits earlier than anticipated sexual maturity (age 2) but also dies younger than expected. Most fish get 4-6 years of reproduction potential. Because of this, his opinion is that it would need to be 50% of the time. Hardy added that unlike sturgeon, burbot only have a few years to replace themselves.
- Jonathan Ebel, ID, asked how today's presenters would suggest the TMT use today's information in their in-season decision making. Since research shows that it does look like temperatures spikes that occur during egg incubation have negative effects, it would

be helpful to keep those spikes below a range of 6 degrees Celsius. Thus, the ideal situation would be keeping flows from Libby flat during incubation.

3. Chum Operation – Doug Baus, Corps

Doug Baus, Corps, reported on the chum incubation operation. The Bonneville tailwater elevation at 0800 hours was 16.5 feet, with a total outflow of 200 kcfs. The tailwater operation for incubation will continue through April 9, similar to what has been done in the past, since spring spill operations for juvenile fish passage will begin on April 10.

4. System Operational Request #2021-1 - Dworshak Load Shaping - Charles Morrill, WA and Jay Hesse, Nez Perce

Charles Morrill, WA, and Jay Hesse, Nez Perce, presented on System Operational Request #2021-1. Signed by OR, WA, NOAA, USFWS, Nez Perce Tribe, the Yakama Tribe, the Colville Tribe, the Spokane Tribe of Indians, and the Umatilla Tribe, the SOR calls for ending within day load shaping operations at Dworshak Dam. Jonathan Ebel, ID, noted that his agency did not sign the SOR because he did not have enough time to review it before it was submitted.

Within day load shaping occurred last week at Dworshak Dam. Signatories noted that these operations likely impacted treaty and non-treaty fisheries including ESA-listed juvenile fall Chinook.

Baus commented that the Corps received the SOR late yesterday afternoon and would need additional time to issue a response, noting that his agency hears the concerns of the fish managers and will provide a response at the February 17 TMT meeting. He added that the Corps does not anticipate implementing the specific power peaking operation mentioned in the SOR prior to the February 17 TMT meeting.

Salmon managers shared the following comments and concerns:

- Jonathan Ebel, ID, noted that the Walla Walla district put out a press release saying that load following operations would occur again next week. Jon Roberts, Corps Walla Walla, said the release was sent out before the official forecast was issued late yesterday. He noted that for next few weeks the project will be on minimum discharge.
- Dave Swank, USFWS, shared concern that this type of operation would impact fish at the Dworshak Dam fish hatchery, specifically noting that the hatchery is dealing with a disease outbreak and that algae on the rocks and other organic matter could be impacting disease treatment. He added that there was a water pump malfunction last week and the project is investigating if it was related to the drop in flows. Additionally, Swank is concerned about potential impacts to bull trout. There are so few and so few studies, he said, but he is concerned about the potential risk of entrainment of bull trout from Dworshak reservoir during daily flow fluctuations. Lastly, he is concerned about the potential of stranding bull trout in shallow areas of the Clearwater, especially if flows drop rapidly and how these changes in flows might impact the migration of bull trout in the north fork Clearwater and mainstem.

- Ebel commented that the last time this operation occurred was in the 70s. He said there was significant public outcry. In the mid-1980s, the Action Agencies decided to end load following in part because of poor optics, he said, adding that public sentiment has not changed. *[Note: these statements were corrected at the Feb 17 TMT meeting and updated in the SOR presented at the Feb 17 meeting; see notes.]* As ID sees it, load following is harmful to angling opportunities in the Clearwater and ID would object to it continuing.
- Tony Norris, BPA, shared that it is unlikely there will be enough water for moving or shaping and, outside of any significant precipitation events, the project will be on minimums for the remainder of the month due to the end of month flood risk management elevations. Currently the project is in filling mode.
- Hesse wondered what will happen on February 17 and 18 and asked if the Action Agencies plan to implement the operation following the February 17 meeting, if there will be additional discussion at that meeting, and if there will be an official poll.
- Erick Van Dyke, OR, expressed that the operation came as a surprise and that there was not much communication prior to implementation. Ebel added that the communication received was insufficient. Tom Lorz, Umatilla Tribe/CRITFC, added that he thought there was an informal agreement in place at some point that increased flow out of Dworshak Dam would be implemented at night and that there would be notification. Ebel noted that specifics in the email would have helped the managers see what was going to happen so that they could respond prior to implementation and notify river users, as well.
- Hesse stressed that he would like assurance that load shaping will not happen again until a formal action took place. Baus reminded the TMT that the SOR was submitted less than 24 hours ago. Norris reiterated that, considering concerns expressed by salmon managers, BPA will commit to not implementing within-day load shaping (like last week’s operation) over the next two weeks. He also added that BPA takes the salmon managers’ concerns seriously and they will be part of BPA’s internal decision-making going forward.

Process-wise, Baus noted there is no reason to restart the SOR process to incorporate Swank’s comments. Instead, Swank should remain involved in the discussions. The Corps hears and notes Swank’s concerns, as documented in today’s notes.

The Action Agencies will consider today’s comments and concerns and will provide an official response to the SOR at the next TMT meeting, which is scheduled for February 17, 2021.

Charles Pace, a member of the public, commented that load following is a huge issue, as is power peaking and wind integration. He ended by saying that a SOR might not be the most realistic vehicle for what the salmon managers are trying to accomplish.

Today’s Attendees:

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair) Lisa Wright, Julie Ammann
Bonneville Power Administration	Scott Bettin, Tony Norris
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Trevor Conder
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill

Agency	TMT Representative
Oregon	Erick Van Dyke
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	Tom Lorz
Colville Tribe	Sheri Sears
Warm Springs Tribe	Absent
Kootenai Tribe	Sue Ireland
Spokane Tribe	Absent

Other Attendees (non-TMT members):

BPA – Melissa Haskin (CONTR, FLUX Resources, Notetaker), Leah Sullivan

Corps – Dan Turner, Alexis Mills, Jon Roberts, Aaron Marshall, Catherine Dudgeon, Chris Peery, John Heitstuman, Greg Hoffman, Jon Moen

DS Consulting – Emily Stranz (Facilitator), Colby Mills

Fish Passage Center – Erin Cooper

Montana – Matt Boyer

Idaho Department of Fish & Game – Ryan Hardy

Kootenai Tribe of Idaho – Sue Ireland, Shawn Young

Pacific States Marine Fisheries Commission – Allan Martin

Portland General Electric – Ruth Burris

Snohomish PUD – Mike Shapley

USFWS – Mark Bagdovitz, Mike Hudson

West Power Trading – Mark Kruzal

Yakama Nation Fisheries – Tom Iverson

Public – Charles Pace