

**Columbia Basin Collaborative  
Hydropower - Blocked Areas Work Group**

Tuesday, October 4, 2022 from 9am – 12:00pm PT/10am - 1:00pm MT

**Meeting Summary**

**Attendees**

Work Group Members in Attendance: Aaron Lieberman (Idaho Outfitters and Guides Association), Adam Storch (Oregon Department of Fish and Wildlife), Robert Lessard (Columbia River Inter-Tribal Fish Commission), Conor Giorgi (Spokane Tribe of Indians), Dan Feil (Army Corps of Engineers), Dan Rawding (Washington Department of Fish and Wildlife), David Bain (Orca Conservancy), David Doeringsfeld (Port of Lewiston), Dennis Daw (Fort McDermitt Paiute and Shoshone/Upper Snake River Tribes), Glen Spain (Pacific Coast Federation of Fishermen’s Associations), Haley Ohms (Trout Unlimited), Heather Stebbings (Pacific Northwest Waterways Association), Jay Backus (Port of Clarkston), Jay Hesse (Nez Pierce Tribe Department of Fisheries Resources Management), Jennifer Riddle (Tidewater Transportation and Terminals), Jens Rasmussen (AgriNorthwest), John Simpson (Idaho Water Users), Jonathan Ebel (Idaho Fish & Game), Kieran Connolly (Formerly with Bonneville Power Administration), Leslie Druffel (McGregor Company), Liz Hamilton (Northwest Sportfishing Industry Association), Mark Bagdovitz (U.S. Fish and Wildlife Service), Michael Garrity (Washington Department of Fish and Wildlife), Michelle Adams (Temco), Mitchell Cutter (Idaho Conservation League), Norman Semanko (Quincy-Columbia Basin Irrigation District), Paul Arrington (Idaho Water Users), Ritchie Graves (National Marine Fisheries Service), Scott Hauser (Fort McDermitt Paiute and Shoshone/Upper Snake River Tribes), Stephen Waste (Columbia River Research Laboratory Western Fisheries Research Center), Terrence Conlon (United States Geological Survey), Tom Iverson (Yakama Nation Fisheries), Tracy Bowerman (Upper Columbia Salmon Recovery Board), Leslie Bach (Northwest Power and Conservation Council)

Observers in Attendance: Tom Kahler (Douglas County Public Utility District), Tammy Mackey (United States Army Corps of Engineers), Dennis Rohr (DRohr Associates, Inc)

Facilitation Team: Samantha Meysohn (Kearns & West) and Colin Johnson (Kearns & West)

**Welcome, Agenda Review, and Introductions**

Samantha Meysohn, Kearns & West, welcomed the work group members to the first meeting of the Hydropower-Blocked Areas Work Group. Samantha shared best practices for collaboration and provided the meeting guidelines before sharing the agenda. Agenda topics included 1) Overview and context, 2) Columbia Basin Partnership Data, 3) Blocked areas discussion of resources and gaps, 4) Hydropower discussion of resources and gaps, and 5) Work Plan and Next Steps. Group members were invited to introduce themselves one-by-one and share their aspirations for the work group on a virtual whiteboard. Samantha provided a brief background and overview on the Columbia Basin Collaborative (CBC), including its genesis by way of the Columbia Basin Partnership Task Force (CBPTF).

**Overview and Context**

Samantha opened the session by inviting Michael Garrity, Washington Department of Fish and Wildlife, to share context on the CBC and discuss the underlying science and information. Michael explained the goals, objectives, and background of the CBC. Michael shared that the CBC serves to advance the goals outlined by the CBPTF and introduced the slide outlining the regional approach to realizing those goals. Michael explained the specific role that the Topic Specific Work Groups (TSWG) occupy within the CBC.

The long-term timeframe of the CBC was explained as were the roles of other entities within the CBC, including the Integration/Recommendations Group (I/RG). Michael introduced the five TSWGs requested by the I/RG, described the goals of the Hydropower Mainstem and Blocked Areas work group, outlined the way groups will interact with the I/RG, and offered context on the logic informing group makeup.

### **Columbia Basin Partnership Data**

Michael introduced the Compiled Impacts by Stock table and provided an overview of the different data points captured within the table. Michael explained how the data that was synthesized to create the biological matrices and define prioritization status based on impact level and stock status. Michael identified that some nuances are lost in these matrices and that they do not show cumulative impacts. Members were then introduced to the biological matrices for Blocked Areas, Hydropower-Mainstem without latent mortality, and Hydropower-Mainstem with latent mortality. An outline of the process thus far was shared with members, showing the work of the TSWGs as part of the CBC technical planning phase. Michael explained that this meeting is a first step to lay out the collective knowledge of the group in the interest of developing a suite of recommendations to address stock impacts.

### **Blocked Areas Discussion of Resources and Gaps**

Samantha transitioned the focus of the meeting towards the group discussion, and informed group members that responses would be collected using the virtual whiteboards. Collecting responses would allow the work group to begin identifying where the most impact can be had, where work is already being done and how it can be supported, and where efforts are still needed. The two questions that group members discussed are:

- What existing forums or efforts are currently operating?
- What are the gaps in efforts, resources, and understanding?

Samantha introduced the first question and invited participants to place responses under five categories: Tribal, Federal, Regional, State, and Local for Blocked Areas.

**Please note, the following is a collection of comments shared in response to prompts during the group discussion portion of the meeting.**

*What existing forums or efforts are currently operating?*

Forums:

*Tribal*

- Upper Columbia United Tribes (UCUT) Phase 2 Implementation Plan (P2IP) for fish passage and reintroduction,
- Columbia River Inter-Tribal Fish Commission (CRITFC) Energy Vision 2022,

*Federal*

- Columbia River Treaty,
- Federal Mediation and Conciliation Service Process,
- Columbia River System biological opinion,

- Federal Energy Regulatory Commission (FERC) Hydro Licensing,
- Columbia River Basin Federal Caucus,
- Pacific Salmon Commission (United States – Canada Salmon Treaty),
- United States versus Washington: Boldt Decision,
- Columbia River System Regional Forum (Technical Management Team, System Configuration Team, etc.),
- Upper Columbia Blocked Areas Anadromous Fish Working Group (UC BAAFWG).

#### *Regional*

- Northwest Power & Conservation Council (NPCC) Fish & Wildlife planning processes,
- Regional electric reliability entities (e.g., Western Power Pool).

#### *State*

- Climate legislation addressing resources and load growth (e.g., electrification),
- State Fish & Wildlife Agencies (WA, OR, ID, CA),
- Idaho/Oregon providing limited fish for tribal ceremonial fisheries in blocked areas,
- Washington State of the Salmon report goals.

#### *Local*

- Hells Canyon FERC licensing,
- Mid-Columbia PUD Settlement Agreements/Biological Opinions/HCPs, FERC licenses,
- Washington salmon recovery regions,
- Wallowa Lake Irrigation District – Wallowa Dam Rehab,
- Yakima Basin Integrated Plan – Yakima River blocked areas,
- Snake River Basin Adjudication Term Sheet Dworshak Board.

#### *Efforts:*

- \$1 billion for the United States Department of Transportation to create a new program aimed at removing, replacing, or restoring culverts, which will enable recovery of salmon passage and habitats.
- Installation of new fish-friendly turbines in Columbia & Snake River dams.

In addition to the comments shared on the virtual whiteboard the following questions, responses, and topics were discussed:

- In offering additional context around the placement of specific items on the virtual whiteboard, a group member explained the role that regional settlement agreements amongst parties play in governing what licensing packages are used. Further, it was shared that Hells Canyon is listed under the Federal category because that is a Federal licensing process and there is no settlement for that project.

Samantha introduced the second question and invited group members to share responses on the virtual whiteboard.

*What are the gaps in efforts, resources, and understanding?*

Responses:

*Coordination Needs:*

- Because the basin is fragmented among multiple state and two country jurisdictions, there has been a lack of a broader basin-wide authority or restoration plan. The Columbia Basin Partnership was intended to fill that gap.
- Only non-federal hydropower dams that generate over 5MW are FERC licensed. Many non-hydro dams also block salmon passage and may not be sufficiently managed for fish.
- Understand the impacts of Columbia River Treaty modernization.
- Important to include Canadian neighbors in the discussions on the blocked areas upstream of Grand Coulee.

*Specific project needs*

- Volitional upstream passage structure design is lacking for Wallowa Lake Dam.
- Little to no regional effort for blocked areas above Hells Canyon Complex. This includes the federal dams above Hells Canyon Complex.
- Regarding the Willamette Basin there are limited resources (money and time) and gaps in understanding (how to provide downstream passage).
- North Fork Clearwater River (habitat upstream of Dworshak Dam) anadromous fish production potential with or without downstream passage structure.
- Need to address all dams that block fish passage, including numerous non-hydropower dams.
- Are Mid-Columbia dams doing their share to meet CBPTF goals?

*Resource needs*

- Mitigation for hydropower always flows downriver. The areas upriver that are most impacted are generally ignored for mitigation.
- Resource gap: financial support for UCUT Phase 2 Implementation Plan – which will fill gaps in understanding specific to the upper Columbia blocked area.
- Limited resources (flat funding) from Bonneville Power Administration (BPA) Fish/Wildlife mitigation program.
- Habitat restoration, toxic reduction, predator abatement, and hatchery funding.

*Information*

- *Context and feasibility*
  - There is a gap in understanding the feasibility of achieving self-sustaining populations in some blocked areas.
  - Wild salmon and steelhead migration timing and survival bottlenecks in upper Columbia (Wenatchee/Entiat/Methow) may relate to Upper Columbia reintroduced stock risks.
  - No comprehensive complete inventory of all the dams in the basin currently exists. Each state's inventory uses different criteria, and none are complete.
  - Amount of available suitable habitat in the Upper Snake.
- *Passage technologies and strategies*
  - Understanding tradeoffs - ultimate challenges/levels of success are variable; challenging to understand from case to case.
  - The major challenge in most reintroduction efforts into blocked areas is how to provide effective downstream passage for juvenile fish.
  - Downstream passage infrastructure effectiveness monitoring and improvement.

- A gap in science for latent mortality.
- Beliefs: Trap and transport can be an effective tool, but some interests insist on volitional passage, which can create a barrier in and of itself.
- *Other impacts to Blocked Areas reintroduction success:*
  - Are downstream fisheries impacts on upstream/blocked areas well understood and managed? Where downstream fish may seem abundant, those fish are destined for upstream areas where they may not be abundant.
  - Downstream passage infrastructure effectiveness monitoring and improvement. Need Increased acknowledgment of limiting factors that will impact stocks during their life cycle downstream of the blockage.
- *Work group understanding:*

Perhaps there needs to be a discussion regarding the legal/policy differences on blocked areas between states, basins, etc. Some explanation by state representatives may be helpful.
- *Coordinate with other TSWGs*
  - Hatcheries/Harvest
    - Gap in studies on ocean conditions and commercial fishing effects.
  - Science Integration Work Group
    - Need comprehensive life-cycle models for representative populations within each Evolutionarily Significant Unit (ESU) /Distinct Population Segments (DPS).
  - Habitat/Predation/Hatcheries
    - Habitat restoration, toxic reduction, predator abatement, and hatchery funding.

In addition to the comments shared on the virtual whiteboard, the following questions, responses, and topics were discussed:

- A group member explained that different basins and regions have their own individual processes for addressing blockages informed by the individual tribes, stakeholders, and values attributed to each dam. There are other blockages that currently have no pathway towards being addressed.
  - Another member added that there are also different biological constraints by area that will determine how easy it is to find success across the Columbia Basin.
- A group member identified that there is often a gap in understanding what the end state of achieving passage in blocked areas looks like, and what the trade-offs involve in terms of subsequent impacts.
- A group member asked whether culverts would be discussed and shared that there is currently a court order to address them but a lack of funding to do so. The group member went on to share that there is no comprehensive inventory of dams basin-wide, and thus no list of all blocked areas.
  - Samantha shared that the Habitat work group is discussing the issue of culverts
- A group member shared that there is a lot of high-quality habitat above Hells Canyon and, that following Idaho Power dropping the temperature, there is potential for mainstem to be in better shape in the future. The preliminary results for efforts to improve habitats in that area are showing success.

## Hydropower Mainstem Discussion of Resources and Gaps

Samantha reintroduced the questions to discuss Hydropower Mainstem Impacts:

- What existing forums or efforts are currently operating?
- What are the gaps in efforts, resources, and understanding?

**Please note, the following is a collection of comments shared in response to prompts during the group discussion portion of the meeting.**

*What existing forums or efforts are currently operating?*

Responses:

### *Tribal*

- Columbia River Inter-Tribal Fish Commission 2022 Energy Vision,
- The Fish Passage Advisory Committee and Fish Passage Center provide tribal technical expertise.

### *Federal*

- BPA/United States Army Corps of Engineers (USACE)/Bureau of Reclamation climate change analysis on river flow.
- Every two years BPA forecasts costs to operate hydropower over the next two years. With the release of the Murray-Inslee report, this time forecast may provide an opportunity to discuss preparation (building infrastructure) for replacing services of lower Snake River dams.
- BPA Integrated Program Review (IPR) where BPA sets its programs and program levels. The rate case determines how to recover those costs.
- Department of Energy climate change mitigation,
- USACE and Bureau of Reclamation operating federal dams,
- Fish Passage Operations and Maintenance Team (FPOM). Focused on Portland and Walla Walla USACE dams.
- Regional Forums under the CRS Biological Opinion: Technical Management Team, Fish Passage Operations and Maintenance, System Configuration Team, etc.,
- Endangered Species Act (ESA),
- National Oceanic and Atmospheric Administration (NOAA) Rebuilding Interior Columbia Basin Salmon and Steelhead paper,
- NOAA research on smolt condition (including hydro system effects) relative to ocean survival.
- Columbia River Basin Federal Caucus,
- FERC licensing,
- Federal Mediation and Conciliation Service Process,
- US versus Oregon (Tribal fishing rights),
- Columbia River Treaty,
- Clean Water Act (EPA).

### *Regional*

- Comparative Survival Studies (CSS) group led by the Fish Passage Center. It is a comprehensive, multi-agency and multi-decade passive integrated transponder (PIT) tag analysis of juvenile and adult mainstem passage survival and lifecycle survival.

- Fish Passage Center (science and data repository),
- Western Power Pool electric reliability process,
- NPCC Independent Science Advisory Board (ISAB), strategy performance indicators of status and successes within the Fish & Wildlife program, and mitigation efforts.

#### *State*

- State legislation on carbon emissions and electrification.
- Simpson Concept,
- Murray-Inslee Report,
- Hanford Reach Fall Chinook Protection Plan Agreement.

#### *Local*

- Mid-Columbia FERC dam forums,
- Grant PUD Settlement Agreement, FERC license and biological opinion,
- Mid-Columbia River Habitat Conservation Plans – Chelan, and Douglas PUDs,
- Regional Technical Teams (e.g., Upper Columbia),

Group members were introduced to the final discussion question and invited to share their responses on the virtual whiteboard.

#### *What are the gaps in efforts, resources, and understanding?*

Responses:

##### *Coordination*

- Dams are managed for ESA goals (at best), not Partnership goals.
- Need transparency and input to the negotiations on the Columbia River Treaty and understanding of impacts from new operations.
- Gaps are created by fragmentation of authorities through several agencies, states, and working groups. There is little cohesion, and it is very difficult to create common programs.

##### *How hydropower impacts are addressed*

- Energy producers should not be managing restoration work; put fish recovery in the hands of Fish & Wildlife managers.
- Dams are managed for ESA goals (at best), not Partnership goals.
- Urgency is lacking for actions to achieve success that include fish goals.

##### *Mitigation and Funding*

- Lack of understanding on the availability of funding and failure to find efficiencies in existing efforts.
- Additional funding for more robust service/benefit replacement infrastructure, costs.
- Significant non-recurring fish hatchery operation and maintenance needs at almost all Columbia River hatcheries. Hatcheries are not meeting mitigation goals that were agreed to when they were constructed.
- Significant outstanding fish operation and maintenance needs for USACE of Engineers mainstem hydro fish passage.
- Begin funding infrastructure to support services currently provided by lower Snake River dams.

- There are significant issues with BPA flat funding policy for Fish & Wildlife mitigation program.
- BPA funding decisions on monitoring programs (like CSS) result in ineffective monitoring at critical time for species survival.
- Is tributary mitigation relied on too much to offset hydro impacts?
- There needs to be equality in resources and funding for mitigation, all mitigation flows downstream.

#### *Work Group coordination needs*

- *Habitat:*
  - Estuary restoration below Bonneville Dam.
- *Predation:*
  - Predator abatement/issues on the Lower Columbia, Lower Snake, and Clearwater River
  - The effect of shad on adult salmon passage success.
  - Hydrosystem related amplification of smolt predation by fish and colonial nesting waterbirds.
- *Harvest/Hatchery*
  - Better data on where highly migratory Columbia-origin fish are harvested (Southeast Alaska to Central California).
  - Effects of ocean conditions on adult return, as well as recreational fishing at the mouth.

#### *Information*

- *Monitoring, adaptive management, and evaluation*
  - Modernize and fully fund detection and monitoring in mainstem to address gaps and allow for more accurate data collection.
  - Great need for a comprehensive Adaptive Management program (monitor and adjust).
  - Need to establish base starting point that is at least adequate/sufficient for fish relative to CBPTF abundance goals and NPCC survival rate goals.
  - Are Mid-Columbia dams doing their share to meet CBPTF goals?
- *Techniques for passage*
  - Ways (methods, infrastructure) to improve downstream passage for juveniles and kelts.
- *Delayed Mortality*
  - Is high spill at dams impacting survival? How would you differentiate between gas bubble trauma versus barging causing delayed mortality.
  - Regarding latent mortality, there is a gap in understanding the efficacy of mainstem dam operations or breaching as a means to address it, and a disparity between Fish Passage Center CSS model and NOAA Life Cycle model for benefit of Lower Snake River dam removal.
  - Cumulative (juvenile, latent, and adult) survival impacts from hydro operations by population including pre-spawn mortality and marine survival.
- *Understanding of possible breach effects*
  - There is a lack of data on post-breach benefits to free-flowing reach survival.
  - When do alternate transportation industries get involved? How will trucks/rail be able to fill the gap if barging isn't available?

- *Climate Change*
  - While improving, gaps in translating climate change science to local conditions impedes the collective ability to assess likely outcomes of many actions. There is uncertainty about how some species/life histories will respond to conditions brought on by climate change such as:
    - Warmer seasonal temperatures
    - Future water supply for habitats and flow augmentation
    - Altered seasonal flow dynamics
  - Work was done to downscale climate change modeling for the basin, and that might be another resource to look at.

In addition to the comments shared on the virtual whiteboard, the following questions, responses, and topics were discussed:

- Offering clarification on the issue of predation named on the virtual whiteboard, one group member discussed the use of avian nesting dissuasion lines associated with mainstem hydro projects, as well as a bounty program that is intended to serve as a form of mitigation.
  - Another group member added that shad presents a similar issue, albeit one tied to competition as opposed to predation.
- In discussing the issue of mortality, one group member outlined the distinction between latent mortality and prespawn mortality. As an information gap, it is worth examining whether there is some elevated level of prespawn mortality that is due to the passage experience of adults migrating through the hydrosystem.
- One group member shared that it is hard to stay on a narrow scope given the number of things that impact the mainstem. In thinking about transportation, it is relevant to think about existing navigation on the river system and how that will respond to any changes.
- Current tagging and detection systems were identified as an important gap that the group could focus its attention on. Members shared that gathering adequate information to sufficiently understand conditions, such as mortality, would require ramping up detection infrastructure.

### **Work Plan and Next Steps**

Samantha invited the group members to begin thinking about ways to take the rich input gathered and use it to begin forming the basis of a work plan. To begin the process of identifying next steps, Samantha asked group members to identify the topic that seemed most feasible to address in subsequent workgroup meetings. Group members shared the following ideas:

#### *Address Information Gaps*

- One group member explained that plans currently exist for salmon recovery but they have not had adequate funding. They suggested bringing this group up to speed on what is known about salmon and impacts from hydropower operations, and where the gaps are. They shared that goals are achievable and there are many tasks, , but getting the whole group up to speed on current knowledge could be helpful.
- Bring in experts to discuss studies. Fish Passage Center- CSS provides an annual report, NOAA has an annual report.

- One group member shared that it is critical that this group understand the implications that power changes could have on the region if changes were made to the existing hydropower system.
- Using existing studies from Fish Passage Center and NOAA to answer some of the questions identified in the discussion could be a better use of time than additional research. Bring information in rather than going and creating new knowledge.
- Attend the presentation of the Rebuilding Interior Columbia Basin Salmon and Steelhead Report at the 10/19 I/RG meeting.
- Bring the group up to speed on what Tribes in the Upper Columbia are doing for fish passage and reintroduction.

#### *Identify Goals and Objectives*

- Identify where this group can be the most useful and what a final deliverable from this group could look like. Identifying a final deliverable could be explored through a virtual whiteboard at the next meeting. The development of a clear vision for where the group is headed could help guide participation.
- Avoid paralysis by analysis especially since the group is charged with developing recommendations to move up the ladder within this collaborative, as well as broader recommendation for these federal or larger entities. The group should focus on what final product can be produced and that should not include suggesting additional science. The group may waste time debating the quality of science.
- Develop ideas for how best to collaborate with the other work groups.
- Begin brainstorming solutions to meet CBC goals and identify changes that could be made to do so. Focusing on solutions may help the group to avoid getting stuck in “potholes”.
- Expand the focus of this group beyond just hydropower dams to include anything that blocks fish.

In addition to the ideas developed, group members provided additional comments and context for things the work group should be aware of moving forward:

- One group member shared that for the last 20 years hydropower systems have been set to the lowest bar possible to prevent extinction, and more needs to be expected of the system.
- Michael shared that different decisions will be made in different forums but the work group can encourage consistent decisions and make recommendations that will continue honing the science.

#### **Confirm Next Steps, Upcoming Meeting Topics, and Summary**

Samantha thanked the group for their participation and confirmed the following action items:

#### Action Items from October 4, 2022

- **All:** Complete this short meeting feedback survey by **end of day, 10/11**. Your feedback will benefit all of us to help make these meetings as productive as possible.

- **All:** Please fill out this Doodle Poll by **end of day, 10/11**. Let us know if you will need more time or assistance to complete the poll.
- **KW:** Develop a meeting summary from the 10/4 Hydropower/Blocked Areas Work Group and circulate to the Work Group by **end of day 10/21**
- **KW:** Draft a workplan based on the 10/4 discussion and circulate to the work group by **end of day 10/7**

*Meeting adjourned 12:00pm PT*