Columbia Basin Collaborative
Science Integration Work Group
Meeting Summary
Tuesday, October 4, 2022, from 3:00 – 5:00pm PT/ 4:00 – 6:00pm MT

Attendees

Working Group Members in Attendance: Calla Hagle (Burns Paiute Tribe Natural Resources), Casey Baldwin (Colville Tribes), Bob Lessard (Columbia River Inter-Tribal Fish Commission), Gary James (Confederated Tribes of the Umatilla Indian Reservation), Dennis Daw (Fort McDermitt Paiute and Shoshone/Upper Snake River Tribes), Scott Hauser (Fort McDermitt Paiute and Shoshone/Upper Snake River Tribes), Aaron Lieberman (Idaho Outfitters and Guides Association), John Cassinelli (Idaho Department of Fish and Game), Steve Manlow (Lower Columbia Fish Recovery Board), Patty Dornbusch (National Oceanic and Atmospheric Administration), Michelle Rub (National Oceanic and Atmospheric Administration), David Bain (Orca Conservancy), Tucker Jones (Oregon Department of Fish and Wildlife), Ed Bowles (Oregon Department of Fish and Wildlife), Jay Backus (Port of Clarkston Commissioner), David Doeringsfeld (Port of Lewiston), Kevin Scribner (Salmon-Safe), John Foltz (Snake River Salmon Recovery Board), Conor Giorgi (Spokane Tribe of Indians), David Moskowitz (The Conservation Angler), Haley Ohms (Trout Unlimited), Katherine Himes (University of Idaho McClure Center), Cindy Studebaker (US Army Corps of Engineers), Sue Camp (US Bureau of Reclamation), Stephen Waste (US Geological Survey), Terrence Conlon (US Geological Survey), Charlene Hurst (Washington Department of Fish and Wildlife), Michael Garrity (Washington Department of Fish and Wildlife), Tom Iverson (Yakama Nation Fisheries)

Observers in Attendance: Brandon Weems (Confederated Tribes of Grand Ronde), Dennis Rohr (D. Rohr & Associates, Inc.), Paul Arrington (Idaho Water Users), Leslie Druffel (The McGregor Company), Jennifer Riddle (Tidewater Transportation and Terminals)

Facilitation Team: Liz Mack (Kearns & West), Angela Hessenius (Kearns & West)

Welcome, Agenda Review, Updates, and Introductions

Liz Mack, Kearns & West, provided an overview of the agenda and meeting guidelines. The topics included: 1) Overview and Context of the Columbia Basin Collaborative (CBC) and Science Integration Work Group (SIWG), 2) Science and Infrastructure Gaps Discussion, 3) Criteria for Actions Discussion, and 4) Confirm Next Steps, Upcoming Meeting Topics, and Summary. The work group members introduced themselves and shared what they hope to accomplish through the work group via a Google Jamboard.

Overview and Context

Michael Garrity, Washington Department of Fish and Wildlife (WDFW), provided a high-level overview of the CBC. The CBC was formed to achieve lasting solutions for salmon and steelhead recovery in the Columbia River Basin and implement goals that were defined by the Columbia Basin Partnership Task Force (CBPTF). The topic-specific work groups (TSWGs) have been formed as part of a regional approach to achieving the CBPTF goals. The purpose of these work groups is to provide technical analyses, develop draft recommendations and feasibility assessments for priority actions, and work collaboratively to

deliver recommendations to the CBC Integration/Recommendations Group (I/RG). The I/RG monitors the overall progress of the CBC and is composed of the tribes in the basin, three federal agency seats, the four states, and eight stakeholder seats representing utilities, non-tribal fisheries, river economies, and conservation. The I/RG will review recommendations from the topic specific work groups and move recommendations forward for implementation by the regional entities, sovereign entities, and federal action agencies.

Michael described the structure of the work groups, which are made up of regional experts, sector leaders, and advisors. The work groups are based on topics that were identified during the CBPTF, and the I/RG also expressed interest in forming the SIWG, which can look across the topics. The SIWG has a unique role compared to the other TSWGs. In addition to identifying actions that can be recommended to the I/RG, the SIWG has also been tasked with evaluating actions for comprehensive benefits.

Next, Michael provided an overview of the existing data compiled by the CBC.[1] The CBC aggregated values for current abundance, historical abundance, and the low, medium, and high goals developed by the CBPTF for each stock. Michael noted that when this group discusses "stocks," they are referring to evolutionarily significant units (ESU) or distinct population segments (DPS). The CBPTF also compiled and ranked the impacts of limiting factors by stock and region. Using this information, the CBC developed biological matrices for each topic. The biological subgroup of the CBC reviewed these matrices. Some of the Biological Subgroup members noted that the nuances of some stocks are not captured in the matrices and that they do not show cumulative effects; rather, the biological matrices provide a high-level overview of stock status and impacts. Biological subgroup members developed additional ways to view the data, including a table that shows compiled impacts by stock. Michael noted that these sources of information are available to help inform the SIWG's recommendations to the I/RG.

Work Plan Discussions

Liz led discussions to inform the SIWG's focus and work plan. Work group members added their answers to questions related to science and infrastructure gaps and criteria to consider when developing recommended actions on the Google Jamboard. A high-level summary of the input and discussion is included below.

Science and Infrastructure Gaps

SIWG members contributed input on science and Infrastructure gaps that reach across threat categories. In addition to the input summarized below, several questions that relate to other topics will be shared with the appropriate TWSG.

Where do you see science and infrastructure gaps that reach across threat categories?

- Need a framework for understanding compounding impacts and integrating actions impacts across the H's (hydropower, hatcheries, harvest, and habitat)
- Need adequately funded, modernized, and coordinated detection and monitoring at a basin-wide and project-level scale
- Taking an ecosystem-based management approach at the population or sub-population level (within the broader stocks)

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[1] Detailed summaries of the data compiled by the CBP are included in the Phase 2 Final Report, available here.

- Need to understand and summarize the relative timeframes for return on investment for different actions (both how long it will take to implement recovery actions and how long it will take for those actions to yield results)
- Salmon slider tool outputs are at a coarse scale; interpretation and refinement are needed at the regional scale
- Understanding the differences between models; there is a need for life cycle models for a representative population within each major population segment to identify bottlenecks and priorities
- Updating the limiting factors analysis and understanding which threat is the limiting factor for each run
- Considering the impacts of climate change across threat categories (e.g., the connection between habitat fragmentation and the effects of climate change on cold water refugia)
- Considering water quality conditions (e.g., temperature, toxins, sediment) in tributaries and the mainstem
- How ocean/marine conditions are affecting survival of specific stocks
- Integrating multiple ways of knowing (e.g., indigenous knowledge, on-the-ground knowledge, and academic training)
- Need to understand and articulate how politics affects the various categories and their interactions
- Incorporating adaptive management
- Planning for the infrastructure of the future, not just the infrastructure that currently exists
- There is uncertainty in operations following Columbia River Treaty (CRT) negotiations

The following science and infrastructure gaps identified will be shared with the TWSGs that they are related to:

- Estuary/Tributary Habitat & Hatcheries/Harvest:
  - Understanding the relationship between habitat restoration and hatchery fish (escapement, loss of diversity, etc.)
- Hydropower:
  - Does increased spill impact delayed mortality?
  - Is increased spill impacting smolt survival?
- Hydropower & Predation:
  - How does the hydropower system in the mainstem Columbia influence or promote invasive species, competition, or predation on wild fish?
  - Considering the effects of different spill regimes (under different low flow conditions) on vulnerability to predation (e.g., avian predation in tailraces)
- Predation:
  - How does predation impact different runs?

Questions and Discussion:

- Are the social sciences also part of the SIWG's scope?
  - The I/RG is tasked with looking at recommendations holistically, including policy implications

- What kind of detection and monitoring are we referring to?
    - This Jamboard comment referred to PIT detection in the mainstem
    - Other locations and tributaries would also benefit from more PIT detection
- Will this group be reviewing collective, synthesized outputs from the other TSWGs?
    - Yes, this part of the SIWG's planned future work as the other groups develop information and recommendations
- Discussion of the salmon slider tool
    - The salmon slider is valuable as a coarse tool, but there is a lot of nuance and detail in the threats affecting the different stocks; it is important to have a conversation about the highest priority gaps for each stock in addition to using the salmon slider
    - One member shared that there was concern within the CBPTF about using the tool to draw conclusions
    - Other members shared that the salmon slider is also useful at a finer scale for examining the complexity of threats and that it is the best tool currently available for looking across impacts and species
    - Members suggested that the salmon slider is useful as a facilitation tool to discuss and gain a relative understanding of different impacts on stocks
- Clarification on the Comparative Survival Studies (CSS) model and life cycle models
    - This Jamboard comment referred to a NOAA-developed life cycle model and the CSSmodel developed by the Fish Passage Center
    - A member added that there are multiple CSS models, including a life cycle model
    - Various models have different sensitivities and different models might address different underlying conditions better than others
    - A member added the recent NOAA science report[2] is a useful resource that includes a discussion about the uncertainty surrounding different modeling efforts in addition to describing the imperiled status of fish and the need for urgent actions; rather than revisiting models, it is more useful to focus on agreed upon goals

Integrating Actions

Liz reviewed the existing criteria for actions generated by the SIWG that are included in the sequential steps table:

- Cross-cutting; not specific to one threat topic
- Helps achieve low/medium/high goals of the partnership
- Benefits multiple species
- Acknowledges tribal and treaty rights and legal constraints

Next, SIWG members shared their thoughts on how this group should focus their efforts first.

Discussion:

- Develop a plan for how this group will integrate across topics and impact areas
- Consider the temporal scale of actions for effective change
- Provide some standardization to the actions put forward by the other TSWGs

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[2] *Rebuilding Interior Columbia Basin Salmon and Steelhead*, available online here

- Since other work groups are working on developing a list of actions, this group could develop a standard proposal format that the other groups could follow to increase consistency in the information and justification provided (e.g., a rationale for action, the time it will take to implement the action and to see fish recovery benefits, which stocks will benefit, etc.)
        - Provide a process framework that outlines the time it will take to implement various actions (including time for permitting and other steps that need to be completed before actions can be taken)
    - Provide the scientific context for how recommended actions will address life cycle needs of fish and develop a vision for how recommended actions will combine into a meaningful strategy that will meet the CBP goals
        - Look at the cumulative effects of actions, ensure that packages of actions will add up to yield the benefits that are needed, including by offsetting negative impacts
    - Identify the constraints and main barriers to implementation (e.g., funding, political will, prioritization)
    - Develop a plan for adaptive management

Building on the idea generated to develop a standard form that the other work groups can use when developing their recommended actions, Liz invited working group members to share via the Google Jamboard what information should be included in proposals for actions.

What additional information should we consider when identifying actions?

- General information:
    - Work Group developing the action
    - Brief description/summary of the action; scope and scale
    - Is the action part of an existing program or a new program?
    - Fish stocks that will benefit from the action
- Time scale information:
    - Time to implement the action
    - Time until benefits of the action are realized
    - Sequencing considerations
- Implementation information:
    - Entities responsible for implementing the action
    - Cost
    - Feasibility
        - Is the action doable?
        - Are there potential challenges or roadblocks?
    - Funding source
    - Cost/benefit evaluation: Are the magnitude of benefits commensurate with the costs?
    - Equity for recipients of benefits and burdens
    - Regulatory processes or policies associated with the action

Next Steps and Summary

Liz confirmed immediate next steps and action items. The facilitation team will draft a work plan that will be reviewed by the work group members and the I/RG. Additionally, the team will develop a draft action recommendation form based on the input received during this meeting that will also be shared with the I/RG. Liz reminded the SIWG that the I/RG will be meeting on October 19, and these meetings are open to the public to observe. The facilitation team will follow up with work group members to schedule the second SIWG meeting in late October or early November. Liz thanked everyone for participating and adjourned the meeting.