

Columbia Basin Collaborative Predation Work Group

Meeting Summary

Tuesday, December 6, 2022, from 2:00 – 4:00pm PT/ 3:00 – 5:00pm MT

Attendees

Working Group Members in Attendance: Bob Lessard (Columbia River Inter-Tribal Fish Commission), Tim Copeland (Idaho Department of Fish and Game), Jay Hesse (Nez Perce Tribe Department of Fisheries Resources Management), Lynne Krasnow (National Oceanic and Atmospheric Administration), Michelle Rub (National Oceanic and Atmospheric Administration), David Bain (Orca Conservancy), Tucker Jones (Oregon Department of Fish and Wildlife), Bryan Wright (Oregon Department of Fish and Wildlife), Grant Waltz (Oregon Department of Fish and Wildlife), James Lawonn (Oregon Department of Fish and Wildlife), Michael Brown (Oregon Department of Fish and Wildlife), Cynthia Studebaker (US Army Corps of Engineers), Stephen Waste (US Geological Survey), Gary Marston (Trout Unlimited), Michelle McDowell (US Fish and Wildlife Service), Chris Donley (Washington Department of Fish and Wildlife), Andrew Murdoch (Washington Department of Fish and Wildlife)

Observers in Attendance: Doug Hatch (Columbia River Inter-Tribal Fish Commission), Tom Skiles (Columbia River Inter-Tribal Fish Commission), Shay Wolvert (Confederated Tribes of the Colville Reservation), Jerry Klemm (Port of Lewiston), Jennifer Urmston (US Fish and Wildlife Service), Stuart Crane (Yakama Nation), Keely Murdoch (Yakama Nation Fisheries), Heather Nicholson

Facilitation Team: Amira Streeeter (Kearns & West), Angela Hessenius (Kearns & West)

Welcome, Agenda Review, and Updates

Amira Streeeter, Kearns & West, provided an overview of the agenda and meeting guidelines. The topics included: 1) Work Plan Review and Discussion of Defining Success, 2) Review of Existing Programs, 3) Review Recommended Action Form, 4) Develop Short Term Recommendations, 5) Confirm Next Steps, Upcoming Meeting Topics, and Summary.

Work Plan Review and Discussion of Defining Success

Amira reviewed the Predation Work Plan. In January, the group will focus on solidifying recommendations and trying to build consensus on recommended actions for this group to share with the Science Integration Work Group (SIWG) and the Integration/Recommendations Group (I/RG). The goal is to have a few recommendations prepared to propose to the I/RG in February.

Work group members discussed that there has been a lot of discussion of predator removal actions, but that there are other approaches to reduce predation risk as well. For example, increasing the migration speed so that juvenile salmonids move through the hydrosystem more quickly, increasing turbidity, and providing cover could help smolts travel to the ocean faster and have ancillary benefits. This action may

be best suited for the Predation Work Group, though it could also fall under the Hydropower Work Group or the SIWG, which is developing cross-cutting actions. Work group members also noted that it is important to be as careful and specific as possible when developing recommendations about increased travel times, since this may be beneficial in some reaches, but will not be for all populations. Research shows that below Bonneville Dam through the estuary, fish benefit in terms of ocean survival through improved feeding and growth prior to ocean entry.

Other work group members shared that there have also been discussions of other methods to reduce predation, such as reducing light pollution at night. These ideas have not been developed into draft actions yet, but they are on the table for continued discussion and further development.

Amira also provided a recap of the work group's discussion on defining success from the previous meeting. The group discussed adding preventing the range expansion of non-native predator species (e.g., northern pike) to the list. By limiting the spread of introduced and non-native predators, the group can help prevent further increases in fish predation while pursuing other actions that will result in declines in fish predation.

Review of Existing Programs

Next, Amira reviewed the inventory of existing predation management programs. The facilitation team had developed and begun populating this inventory based on the group discussions from the previous meeting.

Questions and Discussion:

- Work group members observed that most of the programs captured by the inventory thus far are removal programs. How should the group represent other kinds of programs, including research to better understand predators and actions that target environmental changes to deter predators?
 - Work group members noted that all the programs currently listed have a non-lethal component, and many are completely non-lethal at the moment. Because there is not a regulatory requirement for non-lethal measures, some of these programs may still be missing from the list.
 - There may be other actions that can be taken to discourage predators from being in a certain location or spreading from their current habitat. For example, removing haul-out sites for pinnipeds and perches for predatory birds may reduce predation.
- Other work group members shared additional columns to add to the form to help ensure this is a single comprehensive place to find information on predator management programs.
 - One column would add the type of management action. For example, this would capture whether the action falls into one or more of the following categories: lethal, non-lethal, deterrent, or environmental.
 - Two other columns related to outcomes were also suggested. One column is the outcome for the predator, which would describe how the predators responded to the management action and can be used as a proximate measure of success. The other column is the outcome for ESA-listed fish species. This would include references to

research and evidence for how fish benefited from the management action in terms of survival.

- The work group also discussed whether pending or new projects be added to the form. A separate tab was created in the form to house these projects.
 - A work group member shared an example of a pending project. This predator monitoring program would focus on bass and walleye and is designed to estimate abundance through mark-recapture and estimate the consumption rates of both spring and summer migrant fish by bass and walleye in the Priest Rapids and McNary reaches. The study design has been prepared and the program can begin as soon as it is permitted. If successful, this type of monitoring could be transferred to many reaches in the Columbia and Snake River basin.

Review Recommended Action Form

Amira also reviewed the recommended action form developed by the SIWG that this work group will use to share recommendations with the SIWG for cross-cutting analysis and to pass along the recommendations to the I/RG.

James Lawonn, Oregon Department of Fish and Wildlife (ODFW) developed an example of a completed form focused on managing double-crested cormorants. James walked through this example with the work group. James shared that increasing numbers of double-crested cormorants on the Astoria-Megler Bridge and other colonies are posing a problem for juvenile steelhead and other species. This recommended action would deter double-crested cormorants from nesting on the Astoria-Megler Bridge using non-lethal methods and draw the colony back to East Sand Island using social attraction. James noted that a similar approach of moving birds from an upstream area back to a location downstream has already occurred with Caspian terns. The primary benefit of this action would be increased survival of juvenile steelhead. Implementation of this action could begin as early as March 2023, pending funding and leadership coordination. It would likely take at least four years to implement the action, and benefits could begin to be seen as early as two years from the beginning of management. James developed an estimated cost of \$13.5 million over four years. There are uncertainties involved in the action since many studies show counterintuitive results from predation management, especially when manipulating the abundance of generalist predators. There are many predators in the community with overlapping prey species, and there are still many unknowns regarding what happens when the population of one predator out of many is reduced. There are also potential challenges since it is difficult to keep birds away from the estuary. Adaptive management following implementation will help determine whether salmon survival changes after predation rates decrease.

Questions and Discussion:

- One work group member suggested identifying bald eagle presence and behavior within Section 12 (uncertainties related to the action) and the problem statement, since bald eagles are a significant forcing factor affecting cormorant use on East Sand Island.
 - The data supports that the increase in bald eagles on East Sand Island was a factor in why cormorants moved to the Astoria-Megler Bridge.

- The goal of this action is to deter cormorants from areas where they are more harmful by actively attracting them to East Sand Island. The action is probably still possible if cormorants cannot be attracted back to East Sand Island, but it would be more costly and take longer to realize the benefits.
- Work group members asked if it is still recommended to pursue implementation of this plan despite the risk of compensatory effects.
 - There will always be uncertainties regarding compensation with predator management.
 - Removing a segment of the community has potential long-term consequences that are unknown. It would be ideal to conduct research using a community-based analysis prior to implementing this type of action.
 - Decreasing consumption in the estuary would be beneficial for fish.
 - Overall, managing cormorants in the estuary is a reasonable action.
- Work group members asked if they would be able to get a copy of this draft and share it with others.
 - The final version of this draft recommended action will be made available in the Predation Work Group shared folder.

Bob Lessard, Columbia River Inter-Tribal Fish Commission (CRITFC), also developed and walked through an example of a completed recommended action form. This recommendation is for management of California sea lions under Section 120(f). This is an existing program that Bob used as an example to show what the recommendation would have looked like before the action was implemented to serve as an example to guide the group in developing additional recommended actions. This could be adapted and used to address new actions related to pinnipeds that have been raised by this group. The framework will be similar to other recommended actions involving an ongoing effort to remove animals, acknowledging challenges such as the difficulty in trapping animals. Still, there are significant quantifiable benefits for adult migrating salmon.

Develop Short Term Recommendations

Amira facilitated a discussion to assign volunteers to fill out the recommended action form for actions that have already been suggested and to raise additional ideas for actions.

Questions and Discussion:

- Work group members shared interest in developing a YY male program, which uses genetic means to start lower abundance in the system by ensuring the males do not produce female offspring.
- Other plans are being developed by other groups further upstream. Should this work group try to engage those project proponents in this process of developing recommendations, and what would those groups gain from participating?
 - All the recommended actions that this group develops have the potential to be put forward to and endorsed by the I/REG, which could increase support for these actions.
 - If others are doing similar work and interested in participating in this process, they are welcome to join this work group.

- Work group members asked whether recommendations can be expansions of existing programs or proposals to seek additional funding to improve the effectiveness of existing programs by applying new techniques or expanding to different areas.
 - Yes, recommendations do not have to be for the creation of new programs; they can be to expand actions that are already taking place.
- Amira asked members of the work group to volunteer to fill out the recommended action form for one of the group's suggested actions in advance of the next meeting.
 - The work group decided to form subgroups of volunteers based on predator taxa to develop the related recommended actions collaboratively. There will also be a subgroup focused on developing recommendations that will reduce predation risk through environmental and system-wide actions. The volunteer groups are as follows:
 - Avian Predators: Michelle McDowell/Jennifer Urmston (USFWS), Lynne Krasnow (NOAA), James Lawonn (ODFW), Cynthia Studebaker (USACE), Sean Tackley (USACE)
 - Piscine Predators: Andrew Murdoch (WDFW), Grant Waltz (ODFW), Chris Donley (WDFW), Gary Marston (Trout Unlimited)
 - Pinniped Predators: Bryan Wright (ODFW), Bob Lessard (CRITFC), Sean Tackley (USACE), David Bain (Orca Conservancy)
 - System-wide/Environmental: Gary Marston (Trout Unlimited), Chris Donley (WDFW), Andrew Murdoch (WDFW), Lynne Krasnow (NOAA), James Lawonn (ODFW)
 - Work group members from regulatory agencies will play a different role on these teams since they cannot necessarily implement actions but can serve as a resource.
- Work group members discussed some specific aspects of potential recommended actions.
 - Work group members noted that Steller sea lions are combined with California sea lions in management programs since they are caught in the same traps.
 - One proposed action is related to the management of ring-billed gulls. A work group member shared that Bill Sharp, Yakama Nation Fisheries, is leading these efforts and is a good person for this group to coordinate with.
 - Work group members encouraged the environmental/system-wide subgroup to be thoughtful and intentional when making broad recommendation statements that apply throughout the entire basin. Others noted that this group will carefully consider the estuary, and that some of these recommendations tie into discussions in the SIWG about carrying capacity and density-dependence.
- The group also discussed the possibility of managing white pelicans.
 - Some work group members noted that concerns regarding white pelicans are growing in the Columbia and Snake Rivers.
 - Some of these concerns might be related to drought. This could be an area of research at this point and may not be ready for management yet.
 - The Regional Avian Predation Forum hosted by CRITFC has been discussing this issue.

- There may be a lack of information, but pelicans are a growing concern, particularly for tributary habitats.
- Work group members emphasized that analyzing the suite of proposed actions from a basin-wide perspective is going to be very important. Particularly with avian predator species, since birds move, addressing the needs of one species may create unintended impacts on other species. It will be imperative for this group to track those effects and outcomes.
 - In the case of cormorants, there are fewer individuals, but their impact has increased because they moved locations.
 - None of the avian predation programs to date have achieved their expected results. This group needs to learn from this previous experience.
 - It may be helpful for someone to do a comprehensive examination after all the predator actions have been identified of anticipated effects on specific populations. Michelle Rub (NOAA) offered to complete this exercise. This will help prioritize actions by better understanding which populations they are affecting.
 - It is also important for this group to use a common reporting mechanism for measuring benefits, whether that is a percentage decrease in predation or an increase in adult returns. It is difficult to compare actions that have been proposed. Ideally, this group will compare numbers in terms of adult equivalence.

Confirm Next Steps and Upcoming Meeting Topics

Amira reviewed the next steps for this work group based on the group's discussion and confirmed upcoming meeting topics. The January meeting will focus on starting to come to consensus on recommended actions that this group will move forward to the I/RG. Next steps for work group members include filling in missing information from the inventory of existing programs and developing draft recommendations within the volunteer subgroups.

Work group members asked whether the expectation for the next meeting is to bring fully developed packages of recommendations. Amira clarified that the goal is to bring draft recommendations to the January meeting that authors are comfortable sharing with the group; they are not expected to be final documents.

Amira thanked everyone for participating and adjourned the meeting.