

Meeting 2 Notes

Avian Salmon Predation Work Group (ASPWG)

Meeting Details

Date: Tuesday, Feb. 4, 2025

Time: 9 a.m. to 4:15 p.m.

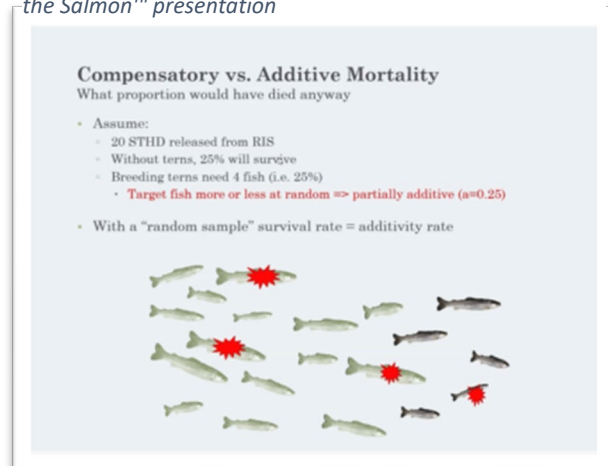
Agenda

- 9:00 Group Introductions
- 9:30 Washington "State of the Salmon"
- 10:45 Piscivorous Birds in Washington
- 12:15 Migratory Bird Treaty Act
- 2:15 Reflections on ASPWG Knowledge Base and Scope of Report
- 3:45 Closing
- 4:15 Adjourn

Meeting 2 Action Items

- WDFW and ASPWG members will share materials of interest:
 - Chris Magel will share coastal pelagic seabird predation paper
 - WDFW will share MOTUS link
- Jeremy Cram will follow up with more information about the predation slide and its analysis (see image right).

Figure 1: Presentation slide from the "Washington 'State of the Salmon'" presentation



Notes

9:00 Welcome and Meeting Overview

Jennifer Sepulveda, Lead Facilitator, welcomed work group (WG) participants to the hybrid meeting and provided a meeting overview. Sepulveda invited meeting participants to briefly introduce themselves and share their affiliations and roles.

9:30 Presentation: Washington "State of the Salmon"

Jeremy Cram, Salmon Recovery Policy Lead with the Washington Department of Fish and Wildlife (WDFW) shared the "[Salmon Recovery in Washington State](#)" presentation and responded to WG questions and comments. The presentation described salmon recovery regions in the state, lead entity watersheds and local partners that help implement recovery actions and projects, the state's salmon recovery strategy given different salmonid species statuses, the complex multi-jurisdictional management system, and methods for evaluating salmon recovery status. Key points from the presentation include:

- Salmon recovery is a complex, multi-jurisdictional effort that involves many partners, including lead entities, tribes, land trusts, conservation districts, and local governments.

- Legacy habitat degradation is one of the main challenges to salmon recovery; many salmon recovery actions are rooted in habitat actions.
- Addressing food web issues, including predation, is one of the state's salmon strategy priorities. It's important to consider predation within the context of other aspects of salmon recovery.
- Life cycle modeling is the primary way to evaluate salmon recovery. Many fates await salmon; the science, monitoring, and evaluation work attempts to identify survival bottlenecks.
 - Avian predation is primarily an issue in the first year of life, when salmon live and migrate downstream and through estuarine environments to the ocean. General nutrient availability within the watershed is also a concern for salmonids at this life phase.
- Salmon recovery is driven by simple math that depends on number of fish...minimum viability criteria are established by technical review teams and population is determined by the number of reds counted.
- Scientists try to distinguish between watershed productivity and habitat progress with ocean conditions. They highlight population trends within the watershed based on numbers at small traps, which is "ground zero" for the avian predation story.
- Hatcheries complicate the story around avian predation. To really understand how a hatchery fits into its local population is difficult and the way hatcheries may interact with avian predation has been debated for a long time. For example, a hatchery may attract predators because there is more food or they may "swamp" predators by providing easier targets.
 - Comment from WG: There is an opportunity for the WG to consider how avian predation may impact both hatchery and wild salmon stocks and how management approaches might differ for the two.
- In terms of salmon recovery, more work needs to be done with regards to fish passage, clean water infrastructure, climate resilience.
- It is important for WG members to consider the difference between compensatory vs additive mortality: compensatory mortality refers to fish that would have died anyway; additive mortality refers to compounding effects of avian predation across the salmonid's life cycle...lots of work on this in the Columbia River watershed, and it seems there's additive mortality there.
- Impacts depend on the space and time the individual salmonid and avian populations overlap. For example, survival rate is not necessarily the result of abundance/run size; it likely has more to do with when predators' locations coincide with the fish run.

Question and Discussion Topics

- Fish access to cold water is a challenge the WG might consider.
- The Columbia Basin is one of the most modified habitats in terms of flow regimes and nonnative fish. There is a lot of interest (but very few results) in exploring the interplay between abundance of avian predators and the abundance of food sources in general, including non-native fish that thrive in warmer water temperatures.
- In terms of biomass, it is not correct to compare birds against piscine predators because they have significantly different metabolic rates and consumption needs (birds need significantly more food than fish).
- Puget Sound does not have the same issues as the Columbia Basin and it's possible avian predation may be easier to manage in northern parts of the state.

- The WG will likely have to make assumptions about density dependence and additive mortality. These assumptions and others should be clear in the WG’s final report.

10:45 Presentation: Piscivorous Birds in Washington

Allison Anholt, WDFW Shorebird Colonial Waterbird Species Lead shared the [“Piscivorous Waterbirds in Washington”](#) presentation and responded to WG questions and comments. The presentation was about the state’s waterbird populations, including their history and status, and information on how the birds are studied and monitored. Key points from the presentation include:

- Certain hunting techniques, such as plunge diving, lead to higher consumption of salmonids.
- The WG should consider the difference between a bird’s consumption rate and predation rate. For example, a gull will consume dead fish whereas a tern might only consume fish it caught.

Question and Discussion Topics

- Caspian terns, white pelicans, and cormorants are the bird species of primary interest to the WG because they likely have the biggest impacts on salmonids. It is difficult to understand these species’ population declines and increases because of how long-lived the birds are and their “boom or bust” nesting habits (which is how productivity is determined).
- The lack of merganser data should be noted in the WG’s work – if there is a high predation rate it should be considered.
- One impact of climate change is on water management. This is an issue because, in terms of active dissuasion, there may not be enough water to keep birds in other places.
- There are about twenty active colonial waterbird colonies in the Columbia Basin and nearly all of them occur in “artificial” environments. Birds really like the highly altered western flyway!

11:45 Lunch Break

WDFW Director Susewind greeted the ASPWG during their lunch break and thanked them for sharing their experience and expertise with the agency.

12:15 Presentation: Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

Michelle McDowell, Permits Branch Chief with the U.S. Fish and Wildlife Service (USFWS) shared the “Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act” presentation and responded to WG questions and comments. The presentation included updates on the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA), avian predation conflict-specific regulations, and resources the WG could consider. Key points from the presentation include:

- MBTA prohibits “take” of migratory birds, which includes killing them and taking parts, without authorization (mostly via permits) but does allow hazing (with the exception of eagles which have further protections via BGEPA).
- Permits are issued for several reasons, including scientific research and depredation. USFWS scrutinizes permit applications to ensure the conservation of a bird species will be maintained and that the management plan includes non-lethal options.
- There is a permit available to states and tribes that is issued with a management plan which could be a tool in the avian management toolbox.

- The permitting timeline can range widely and mostly depends on application volume, complexity, and staff availability. NEPA requires 60 days minimum and moves faster with outside support.
- A special purpose agency species protection permit is a very new tool for local population control (depredation is for a conflict) – specifically to protect another species.
- Permits require reports on monitoring and evaluation, including information such as how many birds were killed and/or nests taken. A permit renewal application includes whether damage is ongoing – USFWS wants to reduce take over time.
- The three largest management avian predation projects in Columbia River did not meet expectations. There will always be surprises and it’s smart to think broadly and about “what ifs” to mitigate earlier on. (For example, moving Caspian terns from Rice Island to E. Sand Island.)

Question and Discussion Topics

- It’s important to remember management can disrupt a colony and have unintended consequences.
- Avian predation management is complicated, and a lot of resources have been invested in studying it over the years.
- Regulatory frameworks can provide sideboards to ASPWG conversations.
- If you deter birds from one area in the Basin, they are highly motivated to stay in the Basin but that’s the goal with fish...the two Caspian tern management plans have had substantial gains for fish (predation rates were over thirty percent prior to management and currently they’re less than five percent) but it is really difficult to get robust data.

2:00 Break

2:15 Discussion: Reflections on Presentations and Pre-meeting Materials and Scope of Report

Sepulveda anchored the discussion in the ASPWG’s legislative task and asked WG members to reflect on the three presentations.

Question and Discussion Topics

- The WG’s legislative task is not easy; the report should include context-setting sections to emphasize the complexity of the topic and that each management approach will likely be very situation-dependent, including how success might be measured.
 - To answer the legislative question about impact implies an understanding of benefit. The WG will need to wrestle with ideas, such as estimating consumption or determining magnitude of avian predation on salmon populations, despite imperfect knowledge in order to develop a sense of benefits before making any kind of recommendations.
- Salmon recovery is incredibly important, but the question of avian predation is nuanced – we do not want to fundamentally shift an ecosystem in a negative direction and need to consider factors like climate resiliency and preparing for the future. The 1- to 3-year nature of permits and grant cycles do not align with the reality that management approaches will be 10+ years or in perpetuity given how modified our system is.
- Much of the WG’s conversations have been Columbia Basin-centric and there’s a relative knowledge gap for other areas.

- “Doing nothing is the same as doing something,” especially given the reality that humans will continue to impact habitats forever.
- The pre-meeting materials and meeting presentations provided a lot of information to digest.
- The WG should brainstorm metrics to measure success of management methods and consider the possibility of identifying hot spots where avian predators live.
- Specific, definitive information such as, “bird X’s consumption rate of fish Y over a certain period of time leads to a population-level impact on salmonids,” or, “which birds take how many smolts in which time period” does not exactly exist, and this gives some members of the WG pause when it comes to making statements about population-level impacts. There are some resources that start to address this topic:
 - Interdisciplinary Science Advisory Board. 2021. ISAB Comparison of Research Findings on Avian Predation Impacts on Salmonid Survival. ISAB final report 2021-2. <https://nwc-ga.parthenonsoftware.com/reports/isab-comparison-research-findings-avian-predation-impacts-salmon-survival/>
 - ISAB Comparison of Research Findings on Avian Predation Impacts on Salmon Survival. Interdisciplinary Science Advisory Board. 2019. A Review of Predation Impacts and Management Effectiveness for the Columbia River Basin. ISAB final report 2019-1. <https://www.nwcouncil.org/reports/isab2019-1/>
 - A Review of Predation Impacts and Management Effectiveness for the Columbia River Basin: <https://www.fisheries.noaa.gov/west-coast/science-data/nwfsc-monster-seminar-jam>

Public comments

- I live by Sand Island...at East Sand Island when they did a tag, there were over 25 million eaten...which is significant and we don’t know the actual ocean survival rate anymore in Puget Sound and the Columbia River...there’s no way to know how many ...lots of birds lead to extensive issues...Confederated Tribes did a good study on this...Sand Island is one island of many in the chain...feeding them the most expensive bird food...harvest control in Minnesota...it’s skewed our ability to know ocean survival rates from smolts to adults. We do not want to study salmon to death...colonies migrate down of cormorants...thanks for hard work you’re doing.

Attendees

ASPWG Members, Roles, and Affiliations

- Aaron Brooks, Fisheries Management Specialist, Jamestown S'Klallam Tribe
- Bill Sharp, Klickitat Coordinator, Yakama Nation
- Bryce Devine, Columbia River Commercial Fisherman
- Chris Magel, Fisheries Biologist, NMFS West Coast Regional Office
- Clark Watry, Aquatic Invasive Species Program Lead, Nez Perce Tribe
- David Troutt, Natural Resources Director, Nisqually Tribe
- Emma Sands, Harvest Management Biologist, Quileute Tribe
- James Lawonn, Avian Predation Coordinator, Oregon Department of Fish and Wildlife
- Jennifer Urmston, Migratory Birds and Habitat Program, U.S. Fish and Wildlife Service
- Jessica Stocking, Marine Coastal Flyway Section Manager, Washington Department of Fish and Wildlife
- Joy Lee Waltermire, Senior Fish Biologist, Long Live the Kings
- Larry Phillips, Pacific Fisheries Policy Director, American Sportfishing Association
- Robert Sudar, Commercial Salmon Fishing Industry
- Ron Garner, President, Puget Sound Anglers
- Sean Tackley, Fish and Policy Program Manager, U.S. Army Corps of Engineers, Northwestern Division
- Todd Hass, Special Assistant to Director, Puget Sound Partnership
- Trina Bayard, Interim Executive Director and Director of Bird Conservation, Audubon Washington

Project Team and ASPWG Role

- Jennifer Sepulveda, Communications Manager, Washington Department of Fish and Wildlife – ASPWG Facilitator
- Nate Pamplin, Director of External Affairs, Washington Department of Fish and Wildlife - ASPWG Support
- Shelby Thomas, Ross Strategic - ASPWG Support

Others in attendance

- Brian Blake
- Butch Smith
- Kate Self
- Lia Belleveau
- Robinson Low
- Rico Vinh
- Tara Livingood-Schott
- Trenton De Boer
- Tommy Moore
- Stacy Horton