Alaska Bycatch Review Task Force (ABRT)
Western Alaska Salmon Subcommittee
July 29th, 2022 9:00 a.m.

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Committee members: George Guy, Co-Chair, Stephanie Madsen, Co-Chair, Ragnar Alstrom, Representative Bryce Edgmon, Karma Ulvi

1. Call to order at 9:02 a.m.

2. Roll call: introduction of Sub-Committee members: George Guy, Stephanie Madsen, Karma Ulvi, and Rep. Bryce Edgmon.

   ARBT members: Linda Kozak, Tommy Sheridan.
   ADF&G: Dr. Katie Howard, Kendall Henry, Rachel Baker, Karla Bush, Forrest Bowers, Ben Gray

   Public: Tom Gemmell, Cody Larson, K, Paul Matyas, Jason Anderson, Ernie Weiss, Chris Barrows, John Gruver, Rachel Baker, Noelle Yochum, Brooke McDavid, Loretta Brown, Tiffany, Austin Estabrooks, Ruth Christiansen, Heather Bauscher.

3. Approve agenda: July 29th, 2022. Motion to approve by S Madsen, seconded by K Ulvi

4. Approve minutes: July 8th, 2022. Motion to approve by S Madsen, seconded by K Ulvi

5. Old business: Review workplan for August. Research recommendations are first sent to the Science, Technology, and Innovation committee; committee should focus on these for the August 12 meeting and work on other recommendations during the August 26 meeting.

6. New business:
   Western Alaska Chinook and Chum Salmon Marine Research, Dr. Katie Howard, ADF&G
   Salmon Ocean Ecology Program (SOEP)
   Southeast Alaska and Northern Bering Sea surveys for juvenile salmon provide long-term monitoring of Alaska salmon at sea, can help identify survival bottlenecks that affect future run sizes, and help forecast run sizes 1 to 3 years in the future. Other projects include exploring

linkages between changing climate and productivity of Yukon River Chinook salmon. (ADFG, NOAA, USGS, and YRDFA). Working on species distribution models for Chinook salmon in the Bering Sea to help avoid salmon bycatch. Bone structures are being investigated to learn more about how the marine environment impacts salmon life history.

Juvenile salmon stay in the nearshore area during their first summer at sea. Future run size of Yukon Chinook is determined very early in their life; before their first winter at sea. There is a strong relationship between the juvenile abundance and the future adult run size abundance. Preliminary information on chum salmon shows that Yukon fall chum salmon runs also seem to be driven by factors early in life, but that changed in 2016. In 2016, there was a multi-year heat wave that lasted through 2019. Chum salmon that first entered the Bering Sea in 2016 experienced heat wave conditions in both the Bering Sea and Gulf of Alaska during their marine life stages. Chum salmon in particular have evolved to eat low-quality food (e.g. jellyfish) which did not provide the energy needed to survive the heat wave conditions.

Questions:
R Alstrom (through S Madsen): Is there current research north of the Yukon River to support the hypothesis about early marine survival in nearshore waters and if not, are there studies proposed for those waters. Answer: The Northern Bering Sea project is very powerful to help us understand where in the life stage the survival bottlenecks are. We know for Chinook salmon this bottleneck is sometime between when the eggs are spawned and the first winter at sea. We are looking at the spawner life stage, but haven't yet looked at the egg stage, fry stage, or smolt stage.

L Kozak: Has there been an increase in Asian hatchery production of chum salmon that is causing food competition issues during the marine life stage? Answer: There is a lot of data sharing between scientists of the Anadromous Fish Commission. There was a slight increase in hatchery releases in 2019, which doesn't quite fit with the timing of when we started seeing big changes in the abundance of Western Alaska juvenile chum salmon. Overall Asian hatchery production has been relatively stable. Follow up question about chum salmon habitat in the Gulf of Alaska (GOA), are the fish more nearshore or offshore during their time in the GOA? Answer: We have limited data on where Western AK salmon are going as immature fish; the data we do have show that they tend to be offshore. We are hoping to get additional information from the "year of salmon" surveys.

K Ulvi: Question about research on the numbers of salmon going up the Yukon River and how low do those numbers have to go before ADF&G and NOAA declare it an emergency? That's a tough question, in regulation there are thresholds for escapement goals that are set to support fisheries. We don't have the data to know what a minimum population threshold is because it's never been this bad before. We don't know what the bare minimum is because we've tried to never let the abundance get this low. Follow up question: Is ADF&G concerned at this point? Answer: It is concerning; having a few poor years is a big concern for the those who need the fish annually, but we haven't seen poor runs of chum salmon through the generation time of those fish (~5 years) where escapement goals haven't been met for several successive years, which would be incredibly concerning. We're not at the point where they may go extinct.

T Sheridan: Is your group involved in exploration of hatchery programs to help supplement these runs? Answer: Our program is focused on the marine life stages and not hatchery applications.

Salmon Research Highlights in the Northern Bering Sea, AFSC, Dr. Jim Murphy

Research on the influence of temperature on the energy density of chum salmon shows that both colder and warmer temperatures have a negative impact on the energy density, but warm temperatures have a bigger negative impact. The energy density of juvenile chum salmon measured in 2021 was the highest of the time series, so conditions appear to be improving.

Questions:
L Kozak: When will information from the 2022 survey be made available? Answer: Preliminary data will be available in October/November. The laboratory analysis takes much longer, so it depends on what data you're interested in.

7. Public comment: three-minute (3) limit to individual comments. None

8. Committee comments: no additional comments

9. Next Meeting Date: August 12 and August 26

10. Adjournment at 10:20