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We would like to take this opportunity to remind the board and the public of the escapement goal review process. The Policy for Statewide Salmon Escapement Goals states that the Alaska Department of Fish and Game (department) reviews goals on the Alaska Board of Fisheries (board) cycle, generally every 3 years, prepares scientific analyses for goals, notifies the public when goals are established or modified, and reports findings of the goals to the board. The rationale for this frequency of review is so the department can be responsive to changes in salmon production and make adjustments to goals as warranted in order to maximize productivity and yield. For the Chignik sockeye salmon single escapement goal, the key findings from the analysis showed that a single goal accounts for the lack of independence between the 7 genetically distinct stocks of Chignik sockeye salmon, which we know occurs in the drainage. The single goal range, as indicated by the results of our analyses showed an increase to sustainable yield could be achieved by a total run goal as opposed to maintaining the current separate goals.

We are concerned that stakeholders have stated they have not had ample time to review the information or discuss this with the department. The department has been timely and transparent throughout the development of the Chignik sockeye salmon escapement goal. Because of concerns raised during this meeting about the escapement goal process and timeliness of communication regarding the escapement goal change, the department is providing a description of the actions taken to inform the public of the escapement goal change and rationale and when they occurred.

The department began discussing the option of a single run goal with stakeholders in 2016. The escapement goal memo notifying of the goal change was published on the department website and provided to stakeholder representatives in April 2022. At the June 2022 Chignik pre-season fishery meeting, the single run goal and the rationale for the decision were presented to stakeholders and members of the board. The goal was further discussed during the board's October 2022 work session. The escapement goal report was published online and available to the public in November 2022 and provided to stakeholder representatives immediately upon publication. An oral report was given detailing the rationale for the changes to the escapement goal at a Chignik Fish and Game Advisory Committee (AC) meeting on 11/3/22. A member of the Chignik AC was contacted in November and directed to submit questions to the department and add discussion regarding the escapement goal change to the AC meeting agenda prior to the Chignik AC meeting on 12/6/22 if discussion was desired. Draft language for Proposal 105 was also provided to Chignik AC members prior to a Chignik AC meeting on 1/4/23, before final publication.

The 10 months since the escapement goal memorandum was published, 8 months since the analyses results were presented at the preseason fishery meeting, and 3 months since the escapement goal report was published, and numerous opportunities to discuss the goal change at AC meetings constitutes public notice within a reasonable timeframe for evaluation or at least the opportunity to discuss concerns about this change. It is unfortunate that we were unaware of the full extent of the public's concern until this board meeting. On-time public comments, RCs, and oral testimony further suggest stakeholders have been actively reviewing this information and believe they have not been able to discuss concerns with the department.

We would also like to respond to statements made in RC051. It is not our intent to debate results, but rather to address inaccuracies or misunderstandings that the author of this RC has made.

First, genetic stock identification was not available to managers in a time frame to be useful within the Chignik inseason management framework. Samples were collected over 1 or 2 days, then flown to Anchorage, processed, validated, and modeled, which can take 3 to 5 days. By the time one data point has been determined, the fish that were sampled may no longer reflect the current proportions of each stock at the weir because the travel times to the weir from each district in the Chignik Management Area (CMA) range 1 to 4 days. This can be problematic because the transition between Black and Chignik lake runs can occur quickly and the 4 to 7 days needed to receive results can be too long to be useful for making management decisions. Age, sex, and length (ASL) sampling is a tool which has historically been used to evaluate the transition of the dominant stocks, and correlates closely to genetic stock identification. ASL data has the benefit of being sampled more frequently and is more timely than genetics. For these reasons ASL samples have been a more useful tool for *in season* management, and will continue to be used.

Regarding the data sets, as stated in the presentation to the board the 1983 to 2013 data set was used because these are the data we could validate for the new run reconstruction. We acknowledged there was better contrast in the longer data set, which is why we looked at habitat-based models and the ecology of the system. However, we also stated our concerns over uncertainty in the data from 1922 to 1951, a time period that was managed and documented as a single run, without apportionment to early or late runs until 1964. The effect of the regime shift in 1977 also created issues of model validity because of nonstationarity, which is when there are noticeable trends in the model residuals, as found in our simple Ricker model analysis. A study of stock-recruitment parameters and biological reference points by Holt and Michielsens (2020) found that, "ignoring trends in productivity… can lead to overestimates of productivity when exploitation and productivity decline." By using the 1998 to 2013 data set, we effectively removed the impacts of historical changes to Black Lake to better assess climate and current productivity trends. And, while managers can certainly make use of long data sets, the data derived from vastly different and often poorly documented methods, as with data from 1922 to 1951, is far less useful.

With respect to Schindler and Cunningham 2023, which is PC150 and cited in RC051, the time-varying alpha (TVa) Ricker model employed in that study does address and account for nonstationarity, however, as noted by Holt and Michielsens (2020) the TVa can have biased estimates of biological reference points even though the parameter estimates are significant. To have confidence in any estimate of S_{MSY} in the TVa, the driving source of the Beta parameter has to be known, and we do not have a good estimate for Chignik stocks when considered separately or combined. It is for these reasons that we did not use a model with TVa for estimating S_{MSY} and developing the escapement goal. Further, PC150 clearly states that the estimated values of S_{MSY}, "are within the current escapement goal range proposed for the aggregate Chignik sockeye

salmon stock in 2022 by ADFG (Finkle et al. 2022)" and supports the department's estimate of S_{MSY}.

There were several strong and unsupported assertions in RC051, specifically that the department was treating the Chignik stocks as "synchronous", "homogenous", and "interchangeable". Our statement that is quoted does not require that the stocks are synchronous, and we have not implied that they are. The department has always acknowledged the multiple stocks of Chignik sockeye salmon and has never defined them as synchronous, a homogenous population, or interchangeable. Our position is that a late-run escapement goal only considers late-run fish and does not account for the addition of early-run fish that migrate from Black Lake to Chignik Lake, which can strain the rearing capacity in Chignik Lake. The single escapement goal encompasses a range that is sustainable for both stocks and allows for the greatest value of maximum sustainable yield. Additionally, there are several sockeye salmon systems in the state with multiple asynchronous stocks that are successfully managed under a single goal.

Other confounding information is presented in RC051. Bullet point G states that, "the migration timing of the two dominant stocks is … distinct," and, bullet point D states, "the early-run and late-run stocks operate nearly independently." Both statements are not accurate as genetic data have shown the overlap in run timing can span from mid-June well into August and the early run's use of Chignik Lake as juvenile rearing habitat is later acknowledged in RC051 comment D, where it is stated, "the two stocks overlap in Chignik Lake and compete with each other during their freshwater residency." Similarly, as reported on record, the past work of Narver and Dahlberg indicated that to recover the early run, the late run escapement must be less than early run escapement because of the two stocks interacting. Further, text from Figure 3 of RC051 states, "Brood years that produce high productivity in the early run can be associated with low productivity in the late run and vice versa." which also suggests stock interactions.

Finally, the department is in agreement with the findings of Walsworth et al. (2020) and have used that information to inform the escapement goal analysis. Regarding bullet point E of RC051, the point was that if Black Lake fish are employing adaptive rearing strategies with relatively stable geological habitat conditions now, increased climatic variability is likely to drive continued adaptive rearing strategies. Because, as RC051 states, there are "no single strategies", which is all the more reason to consider how the system is used holistically by employing a single goal.