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Anthony Christianson, Chairman
Federal Subsistence Board
Office of Subsistence Management
1011 E. Tudor Rd.
Anchorage, AK 99503
subsistence@fws.gov

CC: Thomas Doolittle (thomas_doolittle@fws.gov)
Greg Risdahl Risdahl (greg_risdahl@fws.gov)

Temporary Special Action Request

I hereby submit a Temporary Special Action Request (SAR) requesting the Federal Subsistence Board to provide for priority consumptive uses under the provisions of Section 804 of ANILCA by closing Federal public waters of the Kuskokwim River drainage to the harvest of Chinook salmon, except by federally-qualified subsistence users at the beginning of the 2020 Kuskokwim Chinook salmon run. I request the Office of Subsistence Management to complete an ANILCA Sec. 804 determination process. I request that the Federal Subsistence Board provide flexibility to the Federal in-season manager to implement emergency actions during the entire 2020 Kuskokwim Chinook salmon season to ensure that the conservation mandates under Section 815(1) and (3) of ANILCA are upheld. I request that the following Interagency Staff Committee recommendation under SAR 19-02 remain operative to guide the Federal Subsistence Management Program (FSMP) management of the 2020 Kuskokwim Chinook salmon run:

“... prematurely permitting unlimited harvest of Chinook Salmon could potentially negatively affect the conservation gains that have been made since 2013. The recent management strategy used since 2015 has been for the inseason manager, along with the KRITFC, ADF&G and other stakeholder groups to assess river conditions and run data as it is collected in-season to determine when in-season emergency actions should occur to provide harvest opportunities. The modified ISC recommendation does not seek to alter this approach, as the specific details and timing of actual harvest opportunities and strategies would continue to be defined and announced by the Federal inseason manager through Delegation of Authority from the Board” (p. 162; [SAR 19-02](#)).

Based on new information regarding a set of risk factors, including critical sources of uncertainty and the decade-long decline presented below, I argue herein that there is a lack of justifiable evidence to support a pre-season decision that the 2020 run of Kuskokwim Chinook salmon will be, or is highly likely to be, sufficient to support the harvest demands of all user groups authorized by the State on Federal public lands and waters without endangering the health of these populations. While I provide justification for this SAR, I assert that the burden of proof rests not on federally qualified rural residents, but rather on the FSMP to provide assurances that federal direct or delegated management actions under Title III and VIII of ANILCA, or decisions to not take action:

- 1) are evidenced-based and informed by sound science and transparent, independent analysis;

2) are precautionary in that, when a given action is associated with a high degree of uncertainty or poses risk to the viability of the population or priority subsistence uses, priority should be given to conserving the viability of the population and the continuation of subsistence uses which do not jeopardize that population.

A Decade of Decline: Kuskokwim Chinook salmon populations have suffered a multi-year period of very low productivity and abundance. Alaska Board of Fisheries' current Amount Necessary for Subsistence (ANS) determination for this fishery is 67,200 – 109,800. Subsistence harvests of Kuskokwim River Chinook salmon have fallen below the lower limit of the ANS range since 2011, representing an 8-year trend in harvest demonstrating that reasonable opportunities for subsistence uses have not been provided due to lower salmon returns and restricting fishing opportunities for conservation purposes. The 2019 run, the first significant increase in a decade, remains a single year outlier until additional years of total run data suggest otherwise.

Justification: Of the four risk factors listed below note that the first three risk factors all function as drivers of decline, negatively impacting the abundance and/or productivity of the stocks. This makes it critical that staff analysis include assessment of the cumulative effects among these multiple risk factors. The first two risk factors below can be assessed quantitatively but are not accounted for in the current management reference points being used by the federal or state managers (spawner/recruit analysis informing the current escapement goal range). The fourth risk factor - uncertainty - can be a driver of decline when it fuels risk-prone management actions.

1. Risks to stock diversity from high harvest rates are not currently accounted for: The mandate for protecting population diversity is found in Title III of ANILCA and in the Alaska Board of Fish's Sustainable Salmon Policy. A new paper by Connors et al (2019) identifies several Kuskokwim Chinook salmon sub-stocks that are currently less productive and therefore at risk of unintentional overharvest under higher exploitation rates within the mainstem mixed-stock fishery.

2. Significant decline in body size and caloric value of Chinook salmon is not currently accounted for: The observed decline in the body size and the reduced proportion of female Kuskokwim River Chinook salmon across the time series results in: 1) a decline in both the number and average size of spawned eggs; 2) the reduced caloric value of the smaller size of subsistence salmon harvested in recent years requires additional Chinook salmon to provide the same caloric value from thirty years ago. Two different teams of scientists who are currently analyzing trends and implications of declining salmon will have results relevant to this SAR in Spring 2020.

3. Impacts of climate driven heat stress on migrating salmon During recent years' heat events, freshwater temperatures have significantly exceeded species thresholds (above 18 degree C/ 65 degree F). This is known to cause heat stress and mortality of migrating salmon, which has the potential to cause fish to die before spawning, or to die with eggs retained, which can bias biological reference points. Heat stress is an especially problematic driver of decline because much of its impact on migrating salmon likely occurs after the fish have been counted.

4. Critical sources of uncertainty fuel risk: The Kuskokwim Chinook salmon preseason forecast and in-season management operate under a very high degree of uncertainty, which translates into risk. I do not contest the methods used to estimate the 2019 total run and escapement numbers. However, I am concerned that the true uncertainty associated with the performance of the prior year

forecast method when applied to the Kuskokwim Chinook salmon data set, may actually be significantly higher than the level of uncertainty being assigned to it– an important question to be evaluated. I assert that, due to its high degree of uncertainty, use of the 2019 total run estimate by the FSMP to justify 2020 preseason or any in-season harvest management decisions poses unacceptably high risks to the viability of populations and the harvest needs of the priority consumptive uses. (As an example of how uncertainty can pose conservation risks, see the outcomes of the 2013 Kuskokwim Chinook salmon run when a highly optimistic forecast drove a high harvest rate on this declined stock, resulting in a failure to meet any tributary or drainage-wide escapement goals.) Both state policy (Sustainable Salmon Policy) and federal policy (Magnuson-Stevens Fishery Conservation & Management Act), supported by contemporary fishery science, mandate that in the face of uncertainty, precautionary approaches be applied to management of salmon and marine fisheries.

Conclusion: Based on the decade-long pattern of decline and the risk factors above, I assert that the FSMP’s approach to managing a declined stock of critical importance to subsistence users should be explicitly risk averse, so that greater uncertainty regarding the status or productivity of the populations results in more conservative management, until reasonable evidence suggests otherwise. I assert that the core priority for the FSMP is to apply low-risk management strategies to ensure first and foremost that the conservation and priority consumptive use provisions of ANILCA are upheld.

Brendan M Connors, Benjamin A. Staton, Lewis G Coggins, Jr, Carl Walters, Michael L Jones, Matthew J. Catalano, Daniel C. Gwinn, Steven J. Fleischman. Incorporating harvest – population diversity trade-offs into harvest policy analyses of salmon management in large river basins. Canadian Journal of Fisheries and Aquatic Sciences, Published on the web 3 February 2020, <https://doi.org/10.1139/cjfas-2019-0282>



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LaMont Albertson
7215 Foxridge Circle
Anchorage, Alaska 99518
907-947-4405