Senate Committee on Indian Affairs—Field Hearing
"The Impact of the Historic Salmon Declines on the Health and Well-Being of Alaska Native Communities Along Arctic, Yukon, and Kuskokwim Rivers"

Witness Statement of Jonathan Samuelson, Chair,
Kuskokwim River Inter-Tribal Fish Commission

Bethel, AK
November 10, 2023

My name is Jonathan Samuelson and I serve as the current Chair of Kuskokwim River Inter-Tribal Fish Commission (KRITFC). I was born and raised on the Kuskokwim River and am of Yupiaq and Dené decent. I am a citizen of the Native Village of Georgetown, for whom I am the duly appointed Commissioner to KRITFC. I was raised right here on the lower Kuskokwim in Bethel, finished growing up near the headwaters in McGrath, and spent my summers with my family in the mid-river. My ancestors have fished and stewarded in our traditional ways for generations and my family and I return each year to Georgetown to harvest, cut, dry, and smoke *neqa*, salmon.

In May 2015, the KRITFC was formed as a consortium to represent the 33 federally recognized Alaska Native Tribes that are located along the Kuskokwim River. This historical unity of the Tribes was driven by our understanding, and insistence, that we must have at least a co-management role if our salmon and way of life are to survive. Each tribe appoints a Commissioner to the KRITFC who is authorized to make decisions on behalf of the Tribe. The Commissioners elect seven of their own members to serve on an Executive Council, and five representatives to serve as In-Season Managers alongside U.S. Fish and Wildlife Service (USFWS) to make collaborative in-season fishery decisions, per the 2016 Memorandum of Understanding (MOU) between KRITFC and USFWS.[1] KRITFC is guided by the wisdom of our Elder Advisors—the late Robert Lekander and *Caggaq* James Nicori—as well as our Traditional Knowledge and the best available Western science. KRITFC strives to achieve consensus in all decisions and to work together, river-wide, with our Tribes.

Senator Murkowski, I appreciate the opportunity to share KRITFC's perspectives on the historic, as well as contemporary, impacts of salmon collapses on the health and well-being of our Arctic-Yukon-Kuskokwim (AYK) communities. It is my hope that these comments—and the comments of the other Expert Witnesses and the public—will illuminate the crisis that has unfolded in our communities and ecosystems with immense, interconnected consequences for our well-being, including our physical, cultural, and spiritual health; and prompt meaningful action from Congress for our salmon and Tribes.

[1] "Memorandum of Understanding between United States Department of the Interior U.S. Fish and Wildlife Service Alaska Region and Kuskokwim River Inter-Tribal Fish Commission," May 11, 2016, https://static1.squarespace.com/static/5afdc3d5e74940913f78773d/t/5dcb2a0ebc75324ecc635451/1573595663976/MOU_Final_wSignatures.pdf

Before beginning, I would like to extend my gratitude to Senator Murkowski and her staff for holding this Senate Committee on Indian Affairs (Committee) field hearing in our region, and in the homelands of our salmon. Senator, we are grateful for your support of KRITFC's Tribal co-stewardship and fisheries research work since our inception, and this field hearing is one more example of your engagement with our Tribes. I also want to say *quyana* to the Association of Village Council Presidents for encouraging and organizing this event, as well as to the many Tribal and community leaders who traveled to Bethel to gather and raise their voices today.

For over a decade, Kuskokwim Tribal communities have experienced multi-species salmon declines with devasting impacts for our food security and physical health, culture and knowledge exchanges, traditional and commercial fishery economies, and ecosystem balance. *Taryaqvak*, *gas,* Chinook salmon were the first to precipitously decline around 2009, followed in recent years by chum and coho salmon.[2] These declines have prompted consecutive years of fishery closures to all user groups, including rural and Indigenous subsistence fishing families, to conserve and rebuild salmon runs by getting as many spawners as possible to lay their eggs in the gravel. The 2022 and 2023 fishing seasons were some of the most restrictive seasons on record because they presented some of the worst salmon returns in living memory.[3]

Year after year, our communities are sacrificing our harvests, salmon protein, and time at fish camp—core elements of our traditional ways of life—to protect vulnerable salmon populations and strive to meet spawner escapement goals. Yet we are not seeing similar sacrifices on the part of other fisheries, like Alaska Peninsula (Area M) commercial salmon fisheries and Bering Sea pollock trawl fisheries, that impact the strength of our salmon and, in turn, of our communities.

It is key to understand that the health and well-being of our Alaska Native communities on the Kuskokwim is intrinsically linked to the health of our salmon, ecosystems, and economies. When our salmon are healthy, our people, our land, our river, and our non-human relatives are healthy. These health benefits mutually reinforce one another; they are interconnected.

In times of salmon abundance, our families can put away enough fish to sustain our children, Elders, and everyone in between through the winter. We are physically healthier because we can rely upon the protein, omega-3 fatty acids, and vitamin D from salmon to meet our nutrient needs[4]

---

[2] *See* KRITFC, "2021 Kuskokwim River Salmon Situation Report," September 21, https://static1.squarespace.com/static/5afdc3d5e74940913f78773d/t/61f30d22d43e4066d2fb4d8f/1643318621130/FINAL+Kusko+Salmon+Situation+Report_to+print.pdf. KRITFC, "2022 Kuskokwim River Salmon Situation Report," February 17, 2023, https://static1.squarespace.com/static/5afdc3d5e74940913f78773d/t/6442d7509d059e4a859eada7/1682102125040/2022+Kusko+Situation+Report_Feb+23_complete+fpbp_printed.pdf.

[3] KRITFC, "2022 Situation Report," 3. *See also* KRITFC, "2023 End-of-Season Summary," October 2023, https://static1.squarespace.com/static/5afdc3d5e74940913f78773d/t/65382f244a92ca079706dd80/1698180924749/Kuskokwim_EOS+Summary_final_linked+copy.pdf.

[4] R. Singleton, G. Day, T. Thomas, J. Klejka, D. Lenaker, and J. Berner, "Association of Maternal Vitamin D Deficiency with Early Childhood Caries," *Journal of Dental Research* 98, no. 5 (2019). https://doi.org/10.1177/0022034519834518. Alaska Native Tribal Health Consortium, "Alaska Native Health Status Report," 2021, http://anthctoday.org/epicenter/publications/HealthStatusReport/Alaska-Native-Health-Status-Report-3rd-Edition.pdf.

instead of buying food from our stores, which often has low nutritional content at exorbitant prices, exacerbating both poverty and high rates of diet-related diseases like cancer, heart disease, and diabetes.[5] We are mentally healthier because the practicing our traditional ways of life and spending time at fish camp releases endorphins, discourages the use of substances, and connects our Elders with our youth.[6] We are financially healthier because we spend less money buying processed food and on healthcare costs due to poor nutrition,[7] and we may earn money from small-scale commercial salmon fisheries. Our ecosystem is healthier from the marine-derived nutrients of salmon eggs and spawned-out salmon carcasses, sustaining the health and abundance of other traditional food sources like moose, bears, caribou, berries, and migratory birds; these consequently sustain us and our physical, financial, and cultural health. Salmon are the heart of it all.[8]

It is also imperative to understand that *salmon declines are nothing new to our Tribes*. The Traditional Knowledge of our Elders and Western science alike record periodic oscillations in all salmon species' historic abundance. For instance, chum salmon experienced a steep decline in the early 2000s before climbing up in abundance again.[9] Similar trends in Chinook salmon abundance have occurred for generations.[10] Over millennia, our Tribes have honed the values and traditions of our Indigenous stewardship to adapt to salmon declines: listening to our Elders' wisdom to take only what we need and can process, share in times of abundance and scarcity, and honor the life a salmon gives to our nets by not wasting a single part of it. Our reciprocal stewardship relationship with the salmon has fostered both of our health and well-being on the Kuskokwim; we have evolved together over millennia to sustain one another.

What *is* new to our communities are salmon collapses without successive rebounds in abundance. This happened first with Kuskokwim Chinook salmon, whose populations have stabilized but not risen in abundance despite the co-management of KRITFC and USFWS and attainment of rebuilding escapement goals at the expense of our communities' harvests. Chum and coho salmon are also now showing indicators of this trend in continued low abundance. We believe, through the data of both Traditional Knowledge and Western science, that this is influenced by the climate change and the removal of Indigenous voices and stewardship practices from contemporary fisheries management.

---

[5] ANTHC, "Health Status Report," 2021. Valerie B.B. Jernigan, Kimberly R. Huyser, Jimmy Valdes, and Vanessa W. Simonds, "Food Insecurity Among American Indians and Alaska Natives: A National Profile Using the Current Population Survey–Food Security Supplement," *Journal of Hunger and Environmental Nutrition* 12, no. 1 (2017). https://www.tandfonline.com/doi/full/10.1080/19320248.2016.1227750.

[6] *See for example* Karie Marie Norgaard, "The Effects of Altered Diet on the Health of the Karuk People," 2005, https://sipnuuk.karuk.us/system/files/atoms/file/AFRIFoodSecurity_UCB_SaraReid_001_009.pdf.

[7] ANTHC, "Health Status Report," 2021.

[8] *See for example* Jessica C. Walsh, Jane E. Pendray, Sean C. Godwin, Kyle A. Artelle, Holly K. Kindsvater, Rachel D. Field, Jennifer N. Harding, Noel R. Swain, and John D. Reynolds, "Relationships between Pacific Salmon and Aquatic and Terrestrial Ecosystems: Implications for Ecosystem-Based Management," *Ecology* 101, no. 9 (2020), 1-16. https://doi.org/10.1002%2Fecy.3060.

[9] KRITFC, "2022 Situation Report," 6.

[10] Ibid., 4.

Climate change can be linked to many factors cumulatively contributing to today's salmon catastrophes, including pre-spawn mortality[11] and spawner/egg nutrient deficiency[12] due to freshwater heat stress, declined juvenile survival in the first year at sea,[13] and decreased marine prey abundance[14] linked to decreases in female body and egg size.[15] We now consider salmon that return to the Kuskokwim to spawn as "climate change survivors" holding the genetic strength to withstand these stressors that is crucial to their offspring's survival. While climate change is not easily or directly controllable by fishery management entities like the National Marine Fisheries Service (NMFS) and USFWS, addressing the impacts of commercial fishery bycatch and meaningful integration of Tribes into management processes are. Yet it is climate change that receives the blame for our salmon crises without considering the fallacy of Western management principles that have eroded thousands of years of Indigenous stewardship principles and pushed salmon over the brink.

KRITFC's collaborative management partnership with USFWS—now in its eighth year under our MOU—has started to change fishery management practices within the Kuskokwim drainage. Through this government-to-government partnership, local, Indigenous people work alongside USFWS to make fishery management decisions based on Traditional Knowledge, local observations, and the best available Western scientific information for the benefit of rural subsistence users and salmon. We are not seeing commensurate changes to fishery management practices in the Bering Sea and North Pacific Ocean under NMFS' and the North Pacific Fishery Management Council's (NPFMC) guidance that have immediate impacts to AYK salmon, and thus to AYK community health. Our co-stewardship only goes so far when it conserves returning adult salmon but does not encourage conservation-based management during the bulk of their lives in the marine environment.

Subsistence communities are the only fishery stakeholders presently forced to make sacrifices during this unprecedented salmon crisis. It is horribly painful for our Tribes to adhere to self-imposed harvest sacrifices with devasting consequences to our health and simultaneously hear NMFS and NPFMC leadership sternly declare, if not scold us, that our recommendations to meaningfully reduce salmon bycatch in the pollock fishery—to reduce one manageable stressor to

---

[11] Vanessa R. von Biela, Lizabeth Bowen, Stephen D. McCormick, Michael P. Carey, Daniel S. Donnelly, Shannon Waters, Amy M. Regish, Sarah M. Laske, Randy J. Brown, Sean Larson, Stanley Zuray, and Christian E. Zimmerman, "Evidence of Prevalent Heat Stress in Yukon River Chinook Salmon," *Canadian Journal of Fisheries and Aquatic Sciences* 77, no. 12 (2020), 1878-1892. https://doi.org/10.1139/cjfas-2020-0209.

[12] Kathrine G. Howard and Vanessa von Biela, "Adult Spawners: A Critical Period for Subarctic Chinook Salmon in a Changing Climate," *Global Change Biology* 27, no. 7 (2023), 1759-1773. https://doi.org/10.1111/gcb.16610.

[13] James M. Murphy, Kathrine G. Howard, Jeanette C. Gann, Kristin C. Cieciel, William D. Templin, Charles M. Guthrie III, "Juvenile Chinook Salmon Abundance in the Northern Bering Sea: Implications for Future Returns and Fisheries in the Yukon River," *Deep Sea Research Part II: Topical Studies in Oceanography* 135 (2017), 156–167. https://doi.org/10.1016/j.dsr2.2016.06.002.

[14] William W. L. Cheung and Thomas L. Fröhlicher, "Marine Heat Waves Exacerbate Climate Change Impacts for Fisheries in the Northeast Pacific," *Scientific Reports* 10, no. 6678 (2020), 1-10. https://doi.org/10.1038/s41598-020-63650-z.

[15] Jan Ohlberger, Daniel E. Schindler, Randy J. Brown, Joel M.S. Harding, Milo D. Adkinson, Lara Horstmann, and Joe Spaeder, "The Reproductive Value of Large Females: Consequences of Shifts in Demographic Structure for Population Reproductive Potential in Chinook Salmon," *Canadian Journal of Fisheries and Aquatic Sciences* 77, no. 8 (2020), 1292-1301. https://doi.org/10.1139/cjfas-2020-0012.

salmon abundance—are not "practicable" because they may reduce commercial trawl fishery profits without making a 'significant' difference to salmon abundance.[16] It seems some sacrifices are deemed necessary, while others inconceivable, to maintain the status quo. It is quite clear that our Elders' wisdom to create no waste and to balance what we take from the ecosystem with what we give (a very basic principle of sustainable ecological management) is being ignored. That our Tribes have elevated these discrepancies to no avail for decades, and loudly in recent years, is even more disheartening.

Despite our historical stewardship of salmon and traditional foods in the Bering Sea, our voice has been erased from modern-day marine fishery management; decisions are made without the consent of our sovereign Tribal governments; and we have no appeals process to address this systemic disempowerment and inequity. KRITFC wants to change this regime, and we want to work together to strategize solutions for the long-term survival of AYK salmon and Tribes.

To do so, we ask this Committee to continue to support co-stewardship efforts in the AYK and Bering Sea regions, including through support for Tribal representation in management processes. Developing strong co-management relationships between Tribes and federal agencies is critical and has proven successful for stabilizing and recovering declining species while also safeguarding the cultures and health of Tribal and subsistence communities. KRITFC urges you to push federal agencies, including and especially NMFS, to work with us to develop co-stewardship agreements that integrate our voices, values, and Traditional Knowledge into management practices. We also urge you to support adding two voting Tribal seats to the NPFMC, appointed by Alaska Native Tribes to the Secretary of Commerce, via the reauthorization of the Magnuson-Stevens Act, and to encourage the NPFMC to create designated Tribal seats on all the associated bodies that support its decision-making.

Senator Murkowski, we applaud the work you have done to support AYK salmon populations through Congressionally directed spending in support of research, monitoring, and co-management. We are grateful for your critical work to pass the Bipartisan Infrastructure Law, which is now funding the Gravel-to-Gravel Initiative—a new initiative co-led by federal agencies and Tribes to recover salmon and restore their habitat in the AYK region. We appreciate your support for greater Tribal representation on the NPFMC. We especially thank you for your leadership to include language in the Fiscal Year 24 Appropriations Bill to reposition the Office of Subsistence Management to the Interior Secretary's Office; as well as for your role in co-developing the December 2021 Salmon Roundtable and the Alaska Salmon Research Task Force with Senator Sullivan and the late Rep. Young.

It is now critical to take another step toward meaningful, cooperative trust relationships to develop meaningful, decisive management actions with the inclusion of our stewardship and Traditional Knowledge. Our Tribes understand salmon, and we want to sustain them for the health and well-being of our ecosystems, and for this and future generations. KRITFC asks you, Senator, to lead this Committee to help federal agencies like NMFS to see the value in broadening their knowledge

[16] *See for example* Jon Kurland, comment on the record, North Pacific Fishery Management Council, October 8, 2023, 09:23:50, https://www.youtube.com/watch?v=3X_KhP9Mmkk.

base with the inclusion of our stewardship and Traditional Knowledge; and encourage these agencies to work directly with us and other AYK Tribes and Tribal organizations to respond to our salmon and corresponding health crisis. To do this, we know we will *all* need to sacrifice and shift away from status quo management and harvests. We know that redesigning management regimes will not be simple, but it will be most effective when centered on Indigenous voices; aimed toward holistic, justice-driven actions; inclusive of Traditional Knowledge; and responsive to the interconnectedness of our community and ecosystem health. This is the path forward to sustaining well-being, food security, economic opportunity, and environmental justice for this and future generations, and we ask for the Committee's help realizing this.

KRITFC believes it is possible to strengthen the resilience of the ecosystem to restore and maintain a healthy, biodiverse system that provides for salmon returns to our rivers and streams, in turn providing for our health. But it will take a *broad range of knowledge, commitment, and sacrifice by all—not just Tribes*. We must be willing to work together with respect, recognize each other's needs, and be willing to sacrifice to meet the tremendous challenges ahead. This is especially critical in today's era of climate change and its resounding cumulative impacts unlike anything any of us have seen before, but to which we must respond rapidly. Just as Congress and the federal government have shown throughout history their power to remove Tribes from policy solutions, you also have the power to change the course of this disaster by bringing us to the table. Let our Tribes help the federal government, and one another, to address salmon declines, climate change, and the impacts on our communities. As our Elders tell us, we will all be closer to wellness if we work together.

We look forward to further discussions and work with you, Senator Murkowski, and with this Committee toward our common goal: to protect and restore salmon and revitalize the health of our communities and ecosystems.