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Public Comment to the **Alaska State Legislature: House Special Committee on Fisheries**

Provided by:

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The Bering Sea Fishermen's Association began in 1979 with 150 fishermen from over 30 communities in western Alaska ranging from Bristol Bay to Kotzebue Sound. These fishermen united to become more involved in new fisheries that were developing in their backyard, and to build an organization that was concerned with helping rural fishermen gain full economic benefits from local commercial fisheries. Today BSFA is directed by a 13-member board made up of local fishermen from Bristol Bay, the Yukon, Kuskokwim, Norton Sound, Kotzebue and St. Paul.

Over the past 32 years, BSFA has been involved in a wide variety of ventures:

- We participated in developing the High Seas Driftnet Ban through the United Nations
- We played a leading role in the development of the Community Development Quota (CDQ) Program
- We helped Yukon River residents to organize the Yukon River Drainage Fisheries Association
- We created and implemented the Bristol Bay buy-back Coalition which, in 1995, achieved the Congressional buy-back of oil & gas leases
- We helped facilitate and assist with negotiations for the US/Canada Yukon River Salmon Agreement
- We've conducted niche marketing of Western Alaska salmon
- We initiated resource surveys and fisheries feasibility studies in the Chukchi Sea
- Lastly, though this list is far from comprehensive, we worked closely with regional native organizations to construct the Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative

In addition to the list provided, which portrays a variety of remarkable achievements; BSFA also administers and directs salmon monitoring and scientific research.

Of great concern to our organization is the health and condition of our marine and freshwater ecosystems and the resources they support. These resources deal with a labyrinth of physical and biological relationships. They must survive the influences of human activities, climate variations and interactions between species. There are data that show we are experiencing a shift toward the scarcity of once-abundant resources, as evidenced by

what seemed like erratic short-term episodes, but are now looking like long-term declining populations of salmon.

More alarming than the declines themselves is the fact that as we embark on research ventures we've realized there are massive knowledge gaps and it will take some time to have real answers that fully explain the declines, work on strategies to prevent them in the future, and create tools to help manage in the interim.

In this era of chaos, we know one thing for sure; fishery managers **MUST** utilize improved involvement, reliance and connection to rural/native residents and communities. We need managers to realize that improved involvement, reliance and connection means viewing regional residents as their colleagues, collaborators and even mentors.

We are all familiar with the fact that when livelihoods are disrupted by management decisions residents sometimes adopt confrontational postures, practice civil disobedience, or engage in outright sabotage. These are purely forms of communication. They are developed because previous forms of communication – slow, deliberate, sincere attempts – have not worked. These, more abrasive, forms of communication are costly and inefficient than the alternative of bringing people together into the data gathering, analysis, and decision-making process.

When residents contribute their traditional knowledge, seek and obtain considerable funding designed to support further research, and are able to participate in the process to generate solutions then you have an obligation and opportunity to harness that type of commitment. That opportunity is now. We want to see efforts, not just on our part, but on yours too that ensure the long-term viability of programs like the two I'm going to share with you now.

Western Alaska Salmon Monitoring

In the summer of 1993, many chum salmon runs in western Alaska unpredictably failed to return in expected numbers. The Department of Interior immediately provided funds to help monitor these runs with a caveat that communities and residents be full partners. BSFA administered these funds between 1994 and 2006.

Due to the changes in Washington DC, this necessary program has gone unfunded.

The greatest benefit of this program was that first, projects implemented with these funds were all coordinated with the Alaska Department of Fish and Game or the U.S. Fish and Wildlife Service. Second BSFA contracted with community based organizations, regional Native organizations and individual fishermen to partake in all projects to increase participation and engagement between regional residents/organizations and the state and federal entities.

It was the first AYK region-wide effort to involve rural communities and individuals in salmon monitoring projects. Additionally, funding provided seasonal employment of up to 175 jobs with training and mentoring programs for high-school students creating opportunities for youth to engage in the scientific research in their own communities.

I do not make mention of this program to take or give credit to BSFA. I mention it because the model was in place and at a much more diminished scale remains in place for various projects around the AYK. It is an investment in your constituents and it builds credibility and trust.

Credibility and trust...two good words to help transition into talking about the next program: the **Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative**.

Since 1997, the unexpected and dramatic declines of AYK salmon runs prompted 16 disaster declarations in different watersheds.

As a result, harvest restrictions have created tremendous hardships for the communities in a region with the highest subsistence dependence on salmon in the state, coupled with some of the lowest incomes in the state. In response to these declines, BSFA and regional Native organizations invited state and federal agencies to create the AYK SSI, a proactive science-based program working cooperatively to identify and address critical salmon research needs facing this region. Created via a Memorandum of Understanding in 2002, this innovative partnership includes: Association of Village Council Presidents; Tanana Chiefs Conference; Kawerak, Inc.; Bering Sea Fishermen's Association; Alaska Department of Fish and Game; National Oceanic and Atmospheric Administration; and the United States Fish & Wildlife Service. The AYK SSI is governed by an eight-member Steering Committee and advised by a six-member Scientific Technical Committee. U.S. Congress and the State of Alaska have appropriated \$21.7 million to support the AYK SSI. We are a unique research program dedicated to understanding the causes of the declines of salmon across both the freshwater and marine ecosystems of the region, advancing research across the entire lifecycle of the salmon.

THIS, the AYK SSI, is what it takes and how fortunate we are that within the State of Alaska an initiative such as this exists.

By setting aside differences and working with common purpose, these seven partners have created one of the largest, most diverse collaborative research efforts to rebuild salmon runs on the entire North Pacific coast.

A few of the accomplishments of this effort include the following:

- We developed the AYK SSI Research and Restoration Plan. A strategic salmon science plan providing a roadmap which guides our "Requests for Proposals." By doing this we ensure that available funds target the highest priority research questions and issues. Our Research Plan was developed diligently with scientific

advice and guidance from the National Academy of Science/National Research Council.

- We partnered with the North Pacific Research Board and the Exxon Valdez Oil Spill Trustee Council to establish a rigorous external peer-review process overseen by our Scientific Technical Committee.
- We developed and applied a regional capacity-building program creating a new model by which rural communities and rural organizations can directly engage in fisheries research activities.
- We organized a fantastic Salmon Research Symposium that resulted in a peer-reviewed book entitled Pacific Salmon: Ecology and Management of Western Alaska's Populations.

While funding the highest quality salmon research, the AYK SSI remains focused on harnessing that research to understand the causes of AYK salmon declines and to support improved sustainable management of these stocks.

The AYK SSI Research Plan includes a core focus on the development of new fisheries management tools and the synthesis of information for improved forecasting.

I am going to highlight three projects currently underway to give you an idea of where our present priorities lie:

The first project is titled: ESCAPEMENT GOAL SETTING TO ENSURE SUSTAINABLE FISHERIES

Escapement goals and management strategies for salmon stocks in the AYK and around the state have been the subject of considerable controversy. Traditional methods of creating brood tables and using stock-recruitment curves are hampered by limited information. In recent years, new initiatives have been developed that incorporate uncertainty, habitat condition, life history, watershed biocomplexity, and evaluation of objectives other than maximum sustained yield.

We have established an Expert Panel that will offer advice on the most appropriate research approaches, management efforts and strategies for establishing effective harvest policies for AYK salmon stocks.

The second project is titled: HUMAN SYSTEMS AND SUSTAINABLE SALMON

For this effort, an Expert Panel is creating a model that incorporates various factors affecting AYK salmon harvests and uses.

The model is using quantitative data and assumptions about present and future conditions to predict future salmon harvests for subsistence, commercial, and sport uses in the AYK area in response to demographic, economic, cultural, and biological changes. It will predict harvest by use categories at the levels of drainage, major area, and stock. The model will predict possible future harvests under different future scenarios involving human

populations, salmon abundance, numbers of dog teams, monetary income, and many other factors. The benefit of this is to provide a kind of crystal ball related to outcomes of management decisions.

The third and last project is titled: RESEARCH PRIORITIES FOR AYK CHINOOK SALMON: REVIEW OF EXISTING INFORMATION AND IDENTIFICATION OF PRIORITIES FOR FUTURE RESEARCH

We are working to synthesize existing information and identify and evaluate a set of hypotheses that alone or in combination explain: 1) longer-term declines and; 2) shorter episodic declines as experienced in 1999-2000 or on the order of 2-4 years.

We will determine which variables, acting alone or in synergy, account for the declines. AYK Chinook salmon stocks, especially those in the Yukon and Unalakleet rivers, appear to be plagued for unknown reasons by a long period of low productivity, based on a number of years of much lower returns than predicted by the sibling model and stock-recruitment analyses. We are looking at whether or not the major stressors responsible for the declines are acting predominately in the freshwater phase versus the marine portion of the Chinook salmon life cycle. In addition, the project will describe a research pathway through a series of projects to answer these questions.

The AYK SSI Chinook Salmon Subcommittee requested a compilation of evidence for long-term declines and periodic low returns of AYK Region Chinook populations be completed.

For the Yukon River, the analysis of productivity indicates that the most recent period of low abundance which began in 2007, resulted from the low productivity of the 2002 – 2004 brood years (Figure 1). This low productivity approached one return per spawner. This means that in the absence of any fishing, the population is just barely able replace itself, with each spawner producing, on average, one prodigy surviving to return to the spawning grounds. With harvest, the population is below replacement.

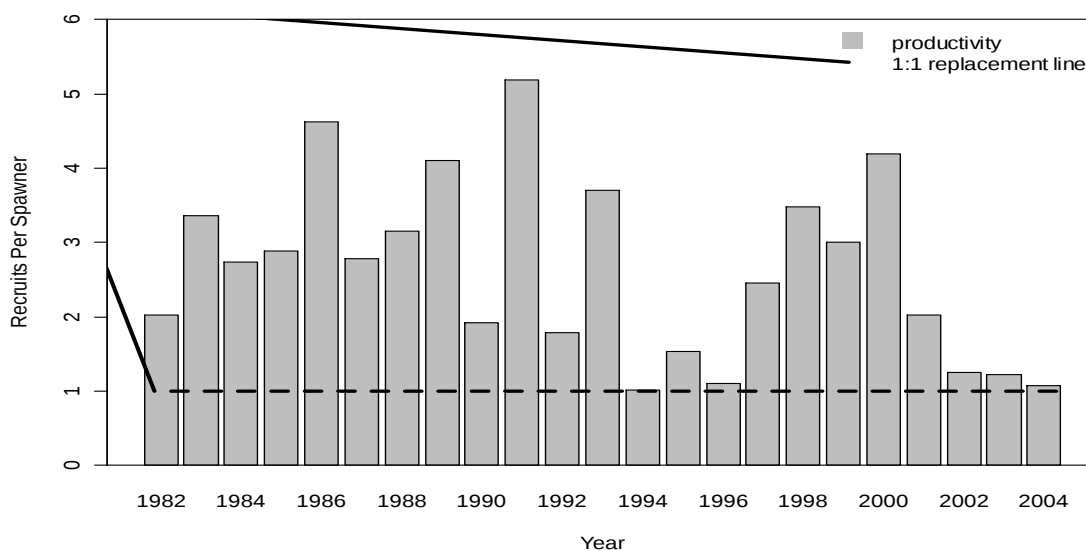


Figure 1: Brood-year productivity (recruits per spawner; bars) for Yukon River Canadian-Origin Chinook salmon, 1982-2004. Productivity was estimated by dividing the sum of returns from a given brood year by the escapement that produced them. Brood year is defined as the year of the escapement that gave rise to the subsequent returns. For example, the 1982 brood year productivity estimate was the sum age 3-7 salmon that returned from 1985 – 1989, respectively, divided by the escapement in 1982. Productivity from the 2004-2010 brood years were not estimable because those cohorts have not yet fully returned to the river. The horizontal dashed line depicts the productivity required for the population to replace itself. Source: JTC 2011

For the Kuskokwim River, with the exception of the unusually strong recruit per spawner ratio (productivity) from the 2000 brood year, the analysis shows periods of low productivity over the past 15 years (Figure 2). Between 1994- 2006, only two brood years had productivity levels greater than 2:1 and seven years during that period productivity fell below one recruit per spawner. Productivity from the 2004, 2005, and 2006 brood years was below the minimum replacement level of one recruit per spawner, producing the low trending run abundance in the past four years.

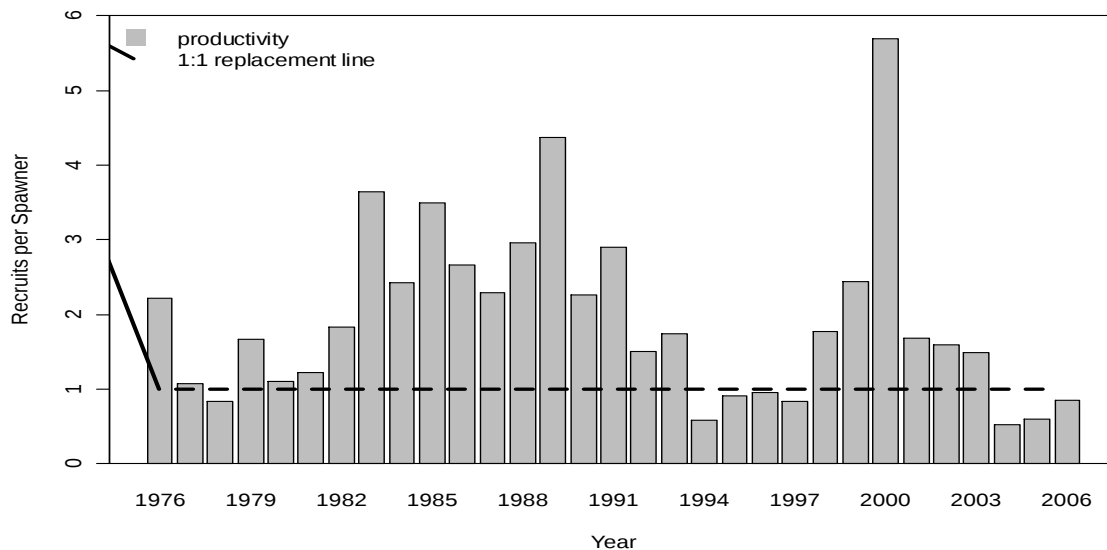


Figure 2: Brood-year productivity (returns per spawner; bars) of Kuskokwim River Chinook salmon, 1976-2006. Productivity was estimated by dividing the sum of returns from a given brood year by the escapement that produced them. Brood year is defined as the escapement year of the parents that gave rise to the subsequent returns (progeny of the parents) and is also known as year class. For example, the 1982 brood year productivity estimate was the sum of age 4-7 salmon that returned from 1985 – 1989, respectively, divided by the escapement in 1982. Productivity from the 2006-2010 brood years was not estimable because those cohorts have not yet fully returned to the river. The horizontal dashed line depicts the productivity required for the population to replace itself. Source: Douglas Molyneaux, personal communication.

I've provided quite a bit of information, but what it boils down to is this within the framework of the Western Alaska Salmon Monitoring and AYK SSI programs, Alaska can willingly chart the course for shared success across the North Pacific and safeguard Alaska's treasured salmon runs and the thousands of people whose livelihoods depend on them.

I am certain that at the end of the day we all want the same thing: resources that are physically healthy and abundant in numbers.

It is exciting to be a part of Alaska's progress toward genuinely involving stakeholders in the process of managing. The efforts underway will provide our state with new tools that do not just focus on the population's status in order to achieve the mandated management goals but that help to understand that the decisions we make have consequences and risk associated with them. The ultimate goal is to focus on understanding and rebuilding salmon stocks.

We are currently not mandated to participate in a tribal/state co-management format like the Pacific Northwest. We believe in the value of our contributions and want to see them respected, encouraged and funded. We will continue to reach out and invite the State of Alaska to realize the potential that collaboration achieves.

Fisheries are high-risk enterprises. Numbers and markets do rise and ebb, and at the low ranges in fish numbers, there is economic pain. In much of western Alaska in the recent past, and this year too, people are suffering from exceedingly low numbers. The pain, therefore, both economic and psychological, is severe.

Nevertheless, look around...we have you, our legislators, who are deeply concerned with the fate of AYK salmon. We have a new commissioner and invested ADFG personnel who I believe are all committed to raising the bar of understanding in AYK. We have stakeholders who work day in and day out to provide, sometimes in a curious way, solutions, questions and even criticism that is designed to garner attention and help others to see things from their on-the-ground perspective. These are all notably good things.

Many current fishery problems are the legacy of a misplaced belief in the resiliency or inexhaustibility of our resources. Our task and yours requires the involvement of every person, from doctors of science to subsistence users to commit themselves to implementation of the idea of healthy and abundant salmon stocks for generations to come.

This will only be achieved by working together.

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