TESTIMONY OF

Dr. Milo Adkison
Professor and Chair
Department of Fisheries
College of Fisheries and Ocean Sciences
University of Alaska Fairbanks

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Subcommittee on Oceans, Atmosphere, Fisheries, and the Coast Guard

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Introduction

Good morning Mr. Chairman and distinguished members of the Committee. I am honored to testify today. My name is Milo Adkison. I am Professor and Chair of the Department of Fisheries in the College of Fisheries and Ocean Sciences at the University of Alaska Fairbanks. As we are at the AFN convention, I will also note that I am a member of the Curyung Tribe of Dillingham.

The state of salmon and some relevant research

Lake sediment cores show us that large fluctuations in salmon abundance have occurred for thousands of years. Alaska is currently on a 40-year run of very strong salmon production, with some exceptions. These include poor production of several salmon species in Western Alaska for the last two decades, a recent state-wide decline in Chinook stocks, and some recent poor production possibly associated with an oceanic phenomenon known as "the Blob" which disrupted food webs in the North Pacific. A team of scientists from the University of Alaska and other institutions has recently shown that the "Blob" cannot be explained without human-caused global warming.

The University is heavily involved in studying the causes of salmon fluctuations and poor production in some areas. On Chinook declines, we have identified growth in freshwater and the first year at sea as critical periods for determining survival, found that second-year ocean growth affects whether they choose to spawn early and thus at a smaller size, and discovered evidence of significant oceanic predation by salmon sharks. Invasive species such as Elodea and pike in southcentral Alaska are also affecting salmon, and we're assessing the vulnerability of different populations to their spread. Hatchery interactions with wild stocks are a current concern; our faculty have been leaders in addressing the potential loss of fitness when disparate stocks interbreed, in showing that hatchery strays can sometimes be a large component of the wild

population, but that they may not always be effective in spawning. ***Further research on hatchery straying would be useful in advancing the state of knowledge.***

Habitat is the key to maintaining Alaska's salmon

In the Pacific Northwest, and prior to that on the East Coast and in Europe, salmon populations have been lost or drastically reduced. The main driver of decline and the lack of recovery has been man-made habitat degradation. These alterations include big changes like dams, but also cumulative small impacts like road runoff, water diversion, stream channelization, urbanization, etc.

Alaska's salmon will be resistant to accidental overfishing and unusual environmental phenomena like "the Blob" if we maintain our watersheds. ***Further research is needed to identify critical habitat and prioritize conservation and restoration efforts.***

Warming and ocean acidification also contribute to habitat degradation. Warming degrades habitat and facilitates the spread of noxious invasive species. Acidification affects the vitality of important salmon prey resources, and can disrupt the marine ecosystem. ***Additional studies are needed to improve understanding and to mitigate these impacts***. Arresting the warming and acidification is a high priority for maintaining healthy salmon stocks.

Access to the fisheries is the key to maintaining salmon-dependent communities

Rural residents and indigenous people are losing access to our salmon resources. Fishing permits are migrating away from rural communities. The remaining permit holders are getting older, as the younger generation finds it increasingly difficult to gain entry to fisheries. Research has shown that rural residents have less access to the capital necessary to buy the permits, vessels, and gear they need to go fishing. ***Studies of financial mechanisms to support new entrants or of changes in management that would reduce the amount of capital necessary for entry are warranted.*** A high school student in rural Alaska should have a realistic path to entering the fisheries that supported their parents and grandparents.

Rural residents also have more difficulty participating in the fisheries management processes such as the Board of Fish or the North Pacific Fishery Management Council. Our studies show this is due both to the logistics and expense of participation, and to bureaucratic barriers to meaningful participation. The university and other groups have undertaken efforts to reduce these barriers.

The University of Alaska supports salmon and salmon-dependent communities

At the University, we have robust undergraduate and technical programs in Fisheries. Our graduate program produces our managers and scientists; I recently counted over 100 graduates that have gone to the Alaska Department of Fish and Game and over 80 to federal agencies. These students undertake much of our research as an integral part of their education.

Our salmon and salmon community research involves much more than our fisheries program. Our oceanographers and marine biologists are studying changes in the salmon's ecosystems as the ocean warms and acidifies, and our economists and social scientists are studying markets and community well-being.

Our Marine Advisory Program agents in the College of Fisheries and Ocean Sciences who live in the fishing communities provide training and technical expertise for processors, fishermen, and young aspiring fishermen. The annual Young Fishermen's Summit is one good example. The University of Alaska is a resource to and collaborator with salmon stakeholders throughout the state, which I think includes all of the organizations on today's panels.

Summary statement

Large fluctuations in salmon abundance are natural, inevitable, and painful to salmon-dependent communities. We can help the stakeholders when this happens, and maybe change our management so that they are more resilient. Hopefully we'll get better at predicting these ups and downs.

But, it's not the ups and downs that I worry about – it's the long-term trends. The slow erosion of habitat is what has caused salmon loss in other parts of the world. Other worrisome trends are the spread of invasive species, global warming, and ocean acidification. There are troubling social trends as well. The erosion of our fishing communities' access to the salmon resources has profound effects on the viability of these communities.

I would like to see resources dedicated to tackling long-term concerns, to maintaining the viability and resiliency of our salmon and salmon-dependent communities. The University of Alaska already serves as the institution that brings together different stakeholder groups around science-based approaches for the best stewardship of Alaska salmon. We look forward to continuing in this role to ensure that salmon remain a central part of Alaskan life for generations to come.

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