DETERMINATION OF A COMMERCIAL FISHERY FAILURE AFFECTING THE ALASKA BRISTOL BAY AND KUSKOKWIM RIVER SALMON FISHERIES

Bristol Bay and the Kuskokwim River drainage suffered unexpectedly low returns of sockeye and chum salmon respectively. The Governor of the State of Alaska declared an economic disaster in the Bristol Bay and Koskokwim River drainages, due in part to distressed salmon runs. The Governor, in a letter dated August 11, 1997, also requested the declaration of a fishery resource disaster for these areas pursuant to Section 312(a) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and financial assistance under authority of the MSA to respond to the apparent commercial fishery failure in Bristol Bay and the Kuskokwim River.

Section 312(a) of the MSA, 16 U.S.C. 1861a, authorizes the Secretary of Commerce to exercise discretion in determining whether there is a commercial fishery failure due to a fishery resource disaster as a result of:

(A) natural causes;
(B) man-made causes beyond the control of fishery managers to mitigate through conservation and management measures; or
(C) undetermined causes.

Determination of a fishery resource disaster

According to data supplied by the Alaska Department of Fish and Game (ADF&G), the sockeye salmon return to Bristol Bay in the summer of 1997 was 20.1 million fish; the lowest return in 20 years. The sockeye salmon run and catch were well below expectations. Prior to the 1997 fishing season ADF&G had forecasted a total return of 35.8 million sockeye salmon and a harvest of 24.5 million. The University of Washington's Fisheries Research Institute issued an independent forecast with a nearly identical conclusion, predicting a total run of 35.1 million sockeye and a harvest of 25.4 million. The actual return was below the low end of the ADF&G forecasted range of 21.2 million to 50 million fish, despite recent years' forecasts that have tended to underestimate run strength to Bristol Bay. Although 1997 was expected to be a down-cycle year, the actual

return was abnormally below projections. In fact, the forecast error, measured as the percent deviation between the actual and forecasted runs, was the largest on record, -78.1 percent. The Bristol Bay harvest of 307,000 chum salmon also was among the lowest on record, and is significantly below the average harvest of 1.2 million.

Although a weak chum salmon return to the Kuskokwim River was anticipated this year, the actual return was so low it all but precluded any directed commercial harvest. According to Governor Knowles' letter of August 11, 1997, the catch of less than 14,000 chums was the lowest harvest on the river since directed chum salmon fishing began on the Kuskokwim in the early 1970s.

Therefore, I find that a fishery resource disaster occurred that significantly reduced the normal returns of sockeye and chum to the Bristol Bay and Kuskokwim River drainages in 1997.

Determination of the cause of the fishery resource disaster

The exact cause of the Bristol Bay and the Kuskokwim River fishery resources disaster is impossible to pinpoint; however, the evidence support natural causes in the marine environment. Anomalously warm ocean temperatures and unusually calm sea conditions in the Bering Sea were observed during March-June 1997 appear likely due to local phenomena. In Bristol Bay, surface water temperatures ranged from 7 to 13 degrees centigrade (C), considerably warmer than the previous observed range of 4 to 10 degrees C. There is substantial evidence that salmon are very sensitive to temperature changes and shifts of a few degrees can affect salmon distribution and migration dramatically. These low salmon returns to Bristol Bay and the Kuskokwim River may be a one-time phenomenon. However, the low returns may also indicate a regime shift in the environment that may be less favorable for salmon productivity, with enormous implications to managers and the fishing industry.

The low returns to Bristol Bay in 1997 were not the result of low escapements. Parent year escapements for the 1997 run were all at or above desired levels. The return-per-spawner ratios from the 1992 brood year (the year of spawning for the largest portion of the 1997 run) were the lowest observed in many years. An indicator of marine survival is the ratio of actual adult salmon returns to the number of smolt that outmigrated from each river system. Such data are available for three Bristol Bay rivers. In the Egegik River, the return of 0.07 adult returns per outmigrating smolt was the lowest on record, and less than a third of the average marine survival rate of 0.24 returns per

smolt for that river system. The Kvichak saw only 0.01 adult returns per smolt, a fraction of the river's average marine survival rate of 0.10 and the lowest since the 1969 brood year. Ugashik saw a comparable number, 0.05 returns per smolt, half that river's average marine survival rate of 0.10.

Therefore, I find that the cause of the fishery resource disaster is undetermined but probably due to natural conditions.

Determination of a commercial fishery failure

Bristol Bay sockeye salmon harvests over the past 10 years have averaged 30.0 million and 25.1 million over the past 20 years. The harvest of 12.3 million sockeye in 1997 was the lowest catch since 1978. This harvest is substantially less than the harvest of 29.6 million sockeye salmon during 1996. This results in an expected loss of $135 million in the gross earnings of permit holders. In the Kuskokwim River, the harvest of less than 14,000 chum salmon produced a total of only about $19,000 of cash income for Kuskokwim River residents. This amounts to an average of less than $55 per fishing family.

About 790 small businesses in Alaska have suffered substantial economic injury due to the fishery failure. Further, we anticipate that the Bristol Bay area fishing communities will lose about $4.6 million in locally-generated tax revenues and an additional $3.9 million in State shared fish business taxes. The loss of income also will impact residents' ability to pay for essential services provided by local governments, such as electrical and water/sewer utilities. The economic base of coastal communities in Bristol Bay and in the Kuskokwim River drainage is totally dependent on the proceeds of salmon harvests. Approximately 5,280 crew and permit holders reside in the 52 communities in the two regions that have been adversely affected.

These isolated communities do not have the economic diversity found in communities elsewhere to withstand the disastrous economic impact of extremely low salmon runs coupled with low prices for the salmon that are harvested. Within Bristol Bay and the Kuskokwim communities, there are 1,540 fishing permit holders. Approximately, 730 of these permit holders depend upon fishing revenue as their primary source of family income. The harvest value of the Bristol Bay fishery in 1997 is calculated at
25 percent of the past 5-year average, an expected loss of $135 million in gross earnings of permit holders, representing a current year loss of income to fishermen of approximately 75 percent.

Therefore, I find that the unexpectedly low returns of sockeye and chum salmon in the Bristol Bay and Kuskokwin River region in 1997 has resulted in a commercial fishery failure due to a fishery resource disaster as provided under Section 312(a) of the Magnuson-Stevens Fishery Conservation and Management Act.

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Date