

## Norton Sound Crab Management Petition

To: The Alaska Board of Fisheries and the Commissioner of Fish and Game

Subject: Fishery collapse and reproductive crisis of Norton Sound red king crab

This petition requests a closure of commercial red king crab fisheries in Norton Sound for the 2020 calendar year. Alaska Department of Fish and Game (ADF&G) managers have announced a guideline harvest level of 170,000 pounds based on the maximum Allowable Biological Catch (ABC) adopted by the North Pacific Fishery Management Council (NPFMC). The joint state and federal management of king crab is partitioned to cooperatively agree on fishing rules and policy. This agreement recognizes ADF&G's ability to respond with in-season management and has left the Emergency Order tool by state managers intact for that reason.

In the recent Norton Sound Red King Crab (NSRKC) Assessment findings, the NPFMC bolded the statement, "the SSC is quite concerned about this stock and instead recommends a more conservative 30% buffer resulting in an ABC of 0.201 million pounds for 2020." This caution is backed by the fact that if mature male biomass (MMB) of any crab stock falls below the minimum stock size threshold for two years, a federal rebuilding plan will be instituted. In the case of NSRKC, a 40% decline in MMB from the current level is more probable if a natural mortality is compounded by additional commercial fishery mortality. The triggering of a federal rebuilding plan should be avoided as it would prevent commercial fishing in subsequent years until the estimated NSRKC MMB exceeded  $B_{MSY}$ , the level of biomass needed to provide for maximum sustained yield. The biomass would need to increase 25% above the current estimate.

A solid majority of fishery stakeholders (subsistence and commercial) have expressed grave reservations over ADF&G's approach to the 2020 crab fishery. Both a federal and a separate ADF&G trawl survey indicate very low numbers of legal male crab. Both the summer and winter through-the-ice fisheries reached less than half the guideline harvest level set in 2019, and fishery ex-vessel value fell 80% from the 2018 season. However, this decline fails to fully capture the additional impacts to the fish processor and its employees. A quick analysis of 2019 mature female ovigerity data from trawl surveys and commercial fishery observers shows that the proportion of females with egg clutches of 50% or greater fell to a third of the previous six-year average (less than one-fifth of 2018). Perhaps more alarmingly, there was a two- to five-fold increase in the proportion of mature females with egg clutches less than 25% full compared to the previous seven years. In summary, biologists, commercial and subsistence fishers, and the female crab have been unable to find enough mature male crab to meet their needs. Allowing a harvest on those males that remain will further jeopardize the stock's ability to reproduce.

The Norton Sound red king crab fishery experienced a very similar event in the early 1980s. It took nearly 20 years for the stock to recover and support our small-vessel local fishery. This was the same era when red crab fisheries of the Gulf of Alaska collapsed, and Bristol Bay red king crab stock productivity was permanently diminished to a remnant of its historic level. The exploitation rates of that era were perhaps twice the maximum rates of today. The Alaska Board of Fisheries' (board) well-crafted *Policy on King and Tanner Crab Resource Management* is essentially an after-action analysis of

these failed management practices of the 1970s and 1980s. It is with great frustration; we witness the current crab management by the department violate nearly every directive in that policy. Furthermore, it is mystifying and disappointing to hear the buck being passed back to stock assessment modelers and the board when the department clearly has the biological justification and legal framework to respond to the current conservation concern with NSRKC. The Department is required in the Policy to address conservation concerns with in-season Emergency Order closures or fishing reductions. Current issues include: near zero catch per unit effort, inability to capture the Guideline Harvest, late season soft shell crab due to excessively long soak times, depressed reproductive rate, impacted subsistence harvests, high pot loss due to fishing on unstable ice, and broad economic impacts to the businesses supporting fishing. Some of these policy mandates have been violated for several years. Despite public inquires of the management staff over the past year, they have dismissed the urgent concerns conveyed from stakeholders concerning stock decline as short term or inconsequential. Recently, managers announced the intent to essentially allow the commercial fishery to harvest all it can under ABC which the Crab Planning Team and SSC both expressed reservations over.

We are finding in our discussions with various stakeholders that there is support for stock assessment model improvements, evaluation of current and alternative harvest policies, of more precise estimates of abundance or biomass, and a more thorough assessment of socio-economic impacts. While all these actions are warranted, they are tangential to the crisis at hand.

The primary issue is the stock has experienced a reproductive failure. If the deficiency in fertilized females is not addressed as quickly and effectively as possible, all the rest is a moot point. Significant recruitment of market-sized legal male crab into the fishery is not expected until at least 2022. Until then, any commercial harvest will exacerbate mature male natural mortality and the low fertilization rates seen in the mature female population. **The board's policy states when continued fishing effort would jeopardize the reproductive viability of king crab stocks or would act in contravention to the goals and policies established by the board, fishing will be closed by Emergency Order.** All sources of information point toward a highly stressed spawning population of red king crab in Norton Sound and it is our contention that the board's policy warrants an emergency closure to avoid inflicting irreparable harm to the reproductive viability of the Norton Sound red king crab stock. The potential long-term risk to the subsistence and commercial fisheries in Norton Sound is unacceptably high and greatly outweighs any short-term economic benefits that could be derived by fishing on the stock in its current state. Should the department issue an Emergency Order to open the commercial fishery in both the summer and winter seasons, we respectfully request that it be quickly reversed and closed to prevent irreversible harm to the stock and the fisheries that it supports.

Respectfully,

Charles Lean

Chairman, Northern Norton Sound Fish and Game Advisory Committee