



Building a Resilient Crab Fishery Draft Action Plan – May 2023

- Recent history
 - All major Bering Sea crab fisheries at historic lows
 - Bristol Bay red king crab closed starting in 2021, first time in 25 years
 - Snow crab closed for the first time in US history in 2022
- The current management approach includes devastating fishery closures that will irrevocably impact fishing communities in Alaska.
- We argue that over-emphasis on the role of climate change in the recent crab fishery declines may distract from near-term actions necessary to save the crab fleet and crab resource today. Focusing on climate change means that scientists and managers emphasize climate modeling to predict inherently unpredictable fishery changes, rather than responding quickly to support fishing communities & fish resources. There are lessons that we learned from other fishery disruptions, like the COVID-19 pandemic, that are pertinent to addressing current crab fishery challenges. As an example, during the pandemic, fisheries managers acted quickly and outside of the norm by temporarily lifting constraints on harvesting restrictions to mitigate revenue losses, or temporarily lifted observer monitoring requirements to prevent COVID transmission. We advocate for a shift in mentality to resilience or disaster planning, rather than climate change planning.
- We've developed a strategy to increase crab fishery resilience, with activities for all major stakeholders (managers, scientists, and industry) [Figure 1]. Managers include Alaska state managers, federal managers, the North Pacific Fishery Management Council, and the Alaska Board of Fish. Industry activities focus on the harvester perspective. In the future, we'd like to potentially expand this strategy to include other industry sectors (e.g., processors and communities).
- The strategy includes actions to stabilize the fleet, create opportunity, and look towards the future.
- The activities in the strategy are interrelated, and advancing individual activities will also advance others. The action recommendations are based on peer-reviewed literature, conversations with scientists and managers, and feedback gathered through an ABSC poll of crab harvesters. The goal for these strategies is to keep everyone, including small independent harvesters, fishing while the crab stock recovers.
- We hope that portions of this strategy can apply to fisheries in other regions of the country that may face similar disturbances in the future.

[Figure 1]

	Managers	Scientists	Industry
Stabilize the fleet	<ul style="list-style-type: none"> *Identify funding to cover minimum individual vessel business costs (vessel maintenance, insurance, etc.) *Build trust with industry *Create a crisis roadmap of existing available resources 	<ul style="list-style-type: none"> *Prioritize partnering with industry on research (and compensate industry) *Look beyond stock assessments *Focus on humans/economics in addition to biology *Use best scientific information available to act, even when uncertain 	<ul style="list-style-type: none"> *Identify minimum individual vessel business costs (e.g., vessel maintenance, insurance, etc.) *Find off-season work, cross training opportunities, or benefits to keep crew working and incentivize them to return
Create opportunity	<ul style="list-style-type: none"> *Clearly state guiding [socioeconomic] principles (e.g., protect small businesses, prioritize flexibility) *Identify a way to keep fleet operating at X level (diversify) *Implement actions to address fishing impacts to crab and crab habitat 	<ul style="list-style-type: none"> *Research optimal ways to keep fishery operational (Closed areas? Limited quota?) *Invest in social scientist capacity *Research crab bycatch mortality rates, unobserved crab mortality in other fisheries, crab habitat impacts 	<ul style="list-style-type: none"> * Coordinate & identify options to remain operating as a fleet (diversify)
Look to the future	<ul style="list-style-type: none"> *Prioritize proactive management measures to address a range of disturbances (Rapid response, Framework) *Adjust Council representation to better reflect all fishery participants *MSA level changes (E-rule extension) *Evaluate NS1 rebuilding provisions (add fleet focused component in addition to species focused) *Create and subsidize fleet insurance (not tied to climate) or reform fishery disaster process to be timely 	<ul style="list-style-type: none"> *Expand survey timing and area *Add pot surveys *Research crab enhancement 	<ul style="list-style-type: none"> *Pre-analyze information to populate disaster requests *Where possible, reduce fleet carbon emissions *Connect to carbon policy initiatives, like incentive programs or mitigating ocean acidification impacts *Create a trust to support independent harvesters