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October 18, 2023
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Jonah Crab Benchmark Stock Assessment and Peer Review Finds Population Abundance Remains Above Historic Lows but Needs to be Closely Monitored

Beaufort, NC – The 2023 Jonah Crab Benchmark Stock Assessment and Peer Review Report indicates the range-wide population of Jonah crab remains above historic lows of the 1980s and 1990s. However, evidence of declining catch per unit effort (CPUE) in the fishery presents substantial concern and uncertainty for the status of the stock.

Based on life history and fishery characteristics, the assessment divided the population into four stocks: offshore Gulf of Maine (OGOM), inshore GOM (IGOM); offshore Southern New England (OSNE) and inshore SNE (ISNE). According to the stock indicators, IGOM, OGOM, and OSNE recruit, exploitable, and spawning abundance conditions from 2019-2021 were neutral or positive relative to historical periods. Indicators generally agree across these stocks that abundance has not been depleted compared to the historic low abundance observed in the 1980s and 1990s. There are no reliable abundance indicators for the ISNE stock so no determination about the condition of this stock’s abundance could be made at this time. Young-of-the-year settlement indicators generally show neutral conditions and do not indicate that recruitment in the GOM stocks will decline to historical lows in the near future. Settlement conditions are unknown for SNE stocks.

“As the first range-wide assessment of Jonah crab along the Atlantic coast, this assessment represents a significant advancement in our understanding of the species, its life history characteristics, and distinct fisheries by stock unit,” stated Board Chair Jason McNamee of Rhode Island. “I commend the members of the Stock Assessment Subcommittee and Technical Committee for their successful completion of a challenging, data poor assessment.”

According to the Peer Review Panel, “Despite the limited availability of current data, there is considerable urgency for the assessment due to a very steep, three-year, decline in landings. Commercial landings have declined 51% in three years, after an unprecedented 30-fold rise in landings. Although the recent decline is not well-detected in fishery-independent stock indicators, there is some evidence of declining CPUE in the fishery, creating substantial concern and uncertainty for the status of the stock. Given the mixed signals, the status of the Jonah crab stock is highly uncertain.

The Atlantic States Marine Fisheries Commission was formed by the 15 Atlantic coastal states in 1942 for the promotion and protection of coastal fishery resources. The Commission serves as a deliberative body of the Atlantic coastal states, coordinating the conservation and management of nearshore fishery resources, including marine, shell and diadromous species.
Current conditions closely resemble early stages of the collapse of the Canada Jonah crab fishery in the early 2000s. In the first three years of the crash, Canada landings dropped 58%. Within five years, landings fell 97%, and stock biomass could no longer support a fishery. Fishery-independent trawl indicators had not fully captured the signals of a rapidly declining stock. However, declining fishery CPUE was observable preceding and during the landings crash.

Given the high level of uncertainty in the status of the Jonah crab stock, the Panel strongly recommends close monitoring of annual stock indicators in the next few years. Annual indicators can determine whether sharply declining recent landings are signaling the start of a ‘bust’ phase of a boom-and-bust arc, or are due to fishery and market-related factors uncoupled with Jonah crab abundance.”

There are notable differences between the fisheries that operate in each of the stock areas. The vast majority of coastwide landings have come from the OSNE stock, accounting for 70-85% of annual coastwide landings from 2010-2021. The IGOM stock has supported the second largest fishery, accounting for 9-24% of annual coastwide landings from 2010-2021. Both the ISNE and OGOM have supported smaller fisheries, never accounting for more than 5% of annual coastwide landings from 2010-2021.

The high proportion of participants contributing to Jonah crab landings indicates a directed fishery in the OSNE stock that targets Jonah crab, yet only a small number of participants account for the large magnitude of landings from this stock. The other three stocks have fisheries that are characteristic of bycatch fisheries that are targeting American lobster. These fisheries have low proportions of participants that land Jonah crabs from pot/trap gears. In the case of the IGOM stock, there is a relatively high number of participants targeting lobsters and not landing Jonah crabs. This represents considerable capacity for growth in a Jonah crab fishery if these participants were to switch to targeting Jonah crab.

Landings have shown different trends across stocks, but the landings from OSNE declined steadily from the time series high in 2018 (17.6 million pounds) in the last three years of the time series (2019-2021). This trend is believed to be influenced by factors other than available abundance but should continue to be monitored closely. There was insufficient information to describe fishing mortality or exploitation with confidence and these population parameters remain major uncertainties.

In response to the assessment findings and peer review panel recommendations, the American Lobster Management Board accepted the Benchmark Stock Assessment and Peer Review Report for management use and tasked the Technical Committee with recommending possible measures or actions to address the concerns about stock status and recent fishery trends.

A stock assessment overview, which provides a more detailed description of assessment results, as well as the stock assessment and peer review report will be available on the Commission’s website at https://asmfc.org/species/jonah-crab under Stock Assessment Reports. For more information on the stock assessment, please contact Jeff Kipp, Senior Stock Assessment Scientist, at jkipp@asmfc.org; and for more information on Jonah crab management, please contact Caitlin Starks, Senior Fishery Management Plan Coordinator, at cstarks@asmfc.org.