

Species Profile: Jonah Crab

Managers Initiate Development of Fishery Management Plan on Emerging New England Fishery

Introduction

Jonah crab (*Cancer borealis*), a marine crustacean harvested for its inexpensive meat, has gained popularity on the East Coast in recent years. Historically, Jonah crab was considered a bycatch of the New England lobster fishery. However, over the past 15 years market demand has more than quadrupled, increasing targeted fishing pressure on this species. Due to this increased fishing pressure, the Commission, working closely with the New England Fishery Management Council, has moved forward with the development of a fishery management plan (FMP) to monitor fishing pressure and preserve the sustainability of this species.

Life History

Jonah crab is a red marine crab identified by its rough edged carapace with small white to yellow spots. Its claws have distinctively tinted black-brown tips. It ranges from Newfoundland to Florida in depths up to 2500 feet, and is commonly found on rocky ocean substrates in coastal New England or soft silt floors nearing the continental slope. Snails and blue mussels are primary prey items for the Jonah crab, which uses its strong claws to crush mollusk shells. Jonah crab are preyed on by gulls and lobster, and by many fish species, such as tautog, cunner, and cod.

Average size and age at maturity is unclear, owing to differences in growth and maturation rates throughout its geographic range. It is believed male maturation occurs when the width of the carapace (CW) is around 3.5 – 4 inches across, with males larger than females. The largest recorded crab was a male measuring almost 9 inches CW. Female size at 50% maturity is thought to be roughly 3.5 inches CW, and females reach a maximum size of about 6 inches CW. The smallest known egg-bearing female measured 2.6 inches CW, found on the Scotian Shelf (continental shelf southwest of Nova Scotia). Large females can produce over one million eggs per clutch.

Jonah crab are known to migrate seasonally; they have been observed moving into Narragansett Bay in the spring and retreating into deeper water in the winter. Females presumably use warmer water temperatures in the bay to molt and mate in the summer and early fall. Scientists have had difficulty finding larval and juvenile Jonah crab within its known geographic range. Some scientists suggest that Jonah crab larvae are settling elsewhere and migrating into coastal waters later. This is supported by laboratory findings, which conclude that early stage larvae prefer water at 15°C, while latter stage larvae prefer 20°C water.

Commercial & Recreational Fisheries

Taken in conjunction with lobster, Jonah crab is primarily harvested with trap gear. Historically, Jonah crab was treated as a bycatch fishery, with crabs usually discarded, sold to help cover fuel and operational costs, or used as bait. In recent years, the popularity of Jonah crab as a seafood item has increased the ex-vessel value of this species throughout New England, with 2013 landings valued at nearly \$12.8 million.

The increasing popularity of Jonah crab among consumers has driven commercial landings to skyrocket over the past 10 years. Throughout the 1990s, landings fluctuated between 2 and 3 million pounds per year. Landings jumped to 7 million pounds in 2005 and again to 10 million pounds in 2010. In 2013, landings totaled over 15 million pounds. Harvest of this species occurs primarily in Massachusetts and Rhode Island. In 2013, these states landed 66% and 29% of the total harvest, respectively, the majority of which was caught in federal waters (3 – 200 miles from shore). The magnitude of recreational harvest is unknown due to identification issues and confusion with other Cancer crab species.

Species Snapshot

Jonah Crab *Cancer borealis*

Common Names:
Jonah crab, Atlantic dungeness

Species Range:
Atlantic coast of North America from Newfoundland to Florida and into the Caribbean Sea, with the highest population concentration found from Georges Bank to North Carolina

Interesting Facts:

- Females can produce over 1 million eggs per clutch.
- Managed in Canada by the Department of Fisheries and Oceans
- Have complex population structures, with migrating and residential populations

Largest Recorded:
Male at 8.74 inches CW

Life Span: Unknown

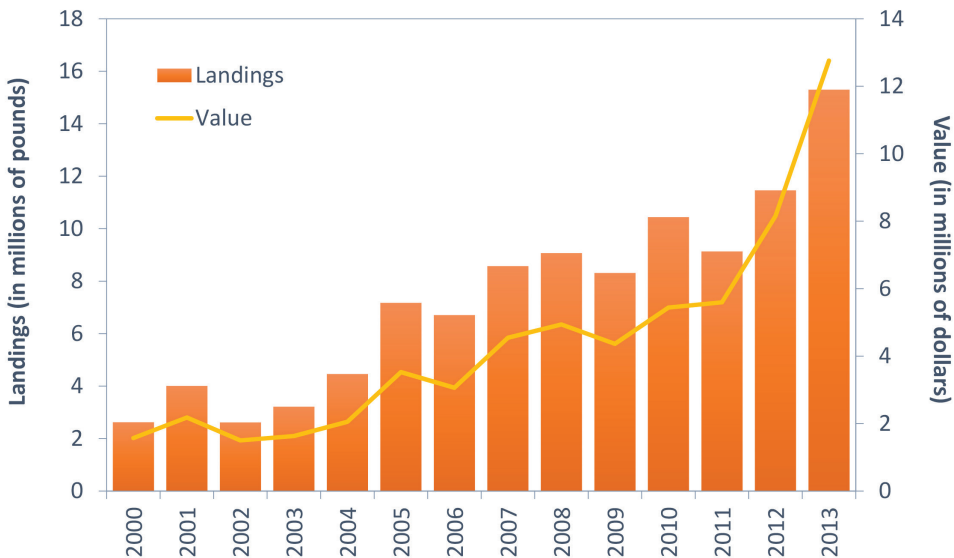
Stock Status: Coastwide status unknown; RI assessment indicates local population not overfished but overfishing occurring



Photo © MA DMF

Jonah Crab Landings & Value along the Atlantic Coast

Source: NMFS Fisheries Statistics Division, 2014



Note: Misidentification between Jonah and rock crab is common. Species-specific landings may be inaccurate.

Stock Status

As there is no coastwide stock assessment for Jonah crab, the status of the resource is relatively unknown. The only available assessment was conducted by the Rhode Island Department of Environmental Management in 2012. The assessment, which addressed local populations of both Jonah and rock crab, found biomass to be above maximum sustainable yield for both species, however, fishing pressure exceeded acceptable limits. The assessment concluded that while the stocks were not overfished, they were experiencing overfishing.

Other sources of data come from inshore state water trawl surveys conducted by Massachusetts, Maine, and New Hampshire, which infrequently encounter Jonah crab and, therefore, provide only minimal data. NOAA Fisheries conducts a trawl survey in federal waters which collects data on Jonah crab abundance and distribution, but this data has not yet been fully analyzed. Stock assessment strategies will be developed in conjunction with the anticipated interstate FMP, with the goal of better understanding this species' stock condition.

Atlantic Coastal Management

Jonah crab management varies from state to state, due to the lack of an existing coastwide FMP. Commercial regulations consist of minimum size limits, permit requirements, closed seasons, and harvest limits. While commercial harvest reporting is required by all states, misidentification of Jonah crab with the related species of rock crab is a prevailing complication that skews catch estimates. In federal waters, commercial harvest of Jonah crab is unregulated.

Recreational harvest is legal in all states, from Maine through Florida. Massachusetts, New York, New Jersey, and Maryland are the only states with recreational possession limits. Limits on recreational traps and licensing requirements also vary by state.

An earnest push toward Jonah crab management began when Delhaize America, a grocery chain, realized its Jonah crab products did not meet its standards for sustainability. Delhaize initiated a Jonah Crab Fishery Improvement Project (FIP), a group of stakeholders including retailers, dealers, processors, fishermen, and academic, state, and federal scientists, who began to work together to promote sustainable use of Jonah crab.

The FIP presented the Jonah crab fishery to state and federal agencies as an issue of urgent importance. They explained that this emerging, unmanaged fishery has grown significantly in the past few years and has the potential to expand further. Fishery managers agreed the recent expansion of the fishery and resulting increased targeted fishing pressure may be compromising the sustainability of the resource. This concern prompted the Commission to initiate the development of a Jonah Crab FMP through its American Lobster Management Board. The Draft FMP will consider management objectives, proposed regulations to the commercial and recreational fishery, monitoring requirements, and recommendations for federal waters fisheries.

Due to the high percentage of Jonah crab caught in federal waters, the Commission will be working closely with the New England Fishery Management Council to develop a plan that will manage both state and federal harvest. The Board will review the first draft of the FMP at the Commission's Spring Meeting in May 2015.

ASMFC Seeks Advisors for Jonah Crab Advisory Panel

As part of the development of the FMP, the Commission will be forming a Jonah Crab Advisory Panel. Commission advisory panels are typically comprised of commercial and recreational fishermen, processors/dealers, and other stakeholders who are concerned about fisheries conservation and management and have expertise in the respective fishery. The Jonah Crab Advisory Panel will provide the Board with advice concerning fishery practices and management activities. Those interested in becoming a member should contact their state Commissioners.