Jonah Crab Fishery Improvement Project
Work Plan
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Participants

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Status of the Fishery

- The status of the Jonah crab fishery is unknown as there is no stock assessment for Jonah crab.
- The management and governance for the Jonah crab fishery varies from state to state. Licensing is often, but not always, linked to the lobster fishery with input controls in place. In the federal management zones, harvest of Jonah crab is unregulated.
- Jonah crab is harvested using traps. Some landings are a result of bycatch in the lobster fishery. The majority of the volume landed is a result of directed harvest by lobster licensed fishermen with slightly modified traps to target crab.
- Available data on Jonah crab vary throughout the region and are not analyzed to develop an overall stock assessment.
- There are live markets and value-add markets for Jonah crab.

Sustainability Needs

Fishery-Independent Data Needs

- More information about patterns of abundance by life stage (life history, including eggs and fecundity, spatial patterns over time, size at maturity data, maturity schedules, growth, and molt frequency).

- Understanding of whether the Jonah crab resource comprises multiple or single stocks, including a characterization of the inshore/offshore fisheries (need definitions).

- Seasonality, inter-annual variations, and environmental influences on Jonah crab distribution, size, and abundance.

- Analysis of trophic interactions, including Jonah crab food and predators to inform eventual ecosystem-based management.

Fishery-Dependent Data Needs

- Clearly distinguishing Jonah crab from other crab species in reporting data.

- Information on performance of various gear types (e.g., vent sizes and shapes).

- Understanding the distribution of fishing effort, catch, landings, and types of gear used over time and space (including targeted versus bycatch) and what influences fishing effort (including price, availability, etc.).

Stock Assessment Need

A stock assessment is a critical need to inform a management plan, including appropriate effort and size restrictions. The Jonah crab FIP Work Group recommends a regular analysis of the best available data in the form of a stock assessment, inclusive of the data needs identified above.

Fishery Management Plan Need

A fishery management plan is necessary to ensure the long-term sustainability, and hence supply, of Jonah crab. Following are strategies and recommendations developed by the Work Group.

Strategies and Recommendations to Address Needs

Fishery Dependent and Independent Data

- Develop a standard list of data points that are recommended for all surveys, including:
    - Documentation of egg-bearing individuals.
    - Documentation of size of individuals captured (i.e., carapace width).
    - Abundance (i.e., how many were caught).
    - Weight of catch.
    - Sex of individuals caught.
    - Specifications on gear being used.

- Develop a sub sampling protocol for fishery-dependent data collection done by observers, including sizes and sexes of the individuals landed versus discarded.

- Analyze survey data to determine maturity for females by comparing egg-bearing females with size data.

- Conduct a distinct research effort to compare number of eggs to size of individual in females to establish baseline. Attempt to capture geographically distributed samples to understand differences in geography and continue to monitor episodically (every two years at outset).

- Determine maturity schedules for males through distinct research experiments that analyze male physiological and functional maturity (e.g., through laboratory dissection).

- Require all Cancer crab landed to be reported by species. Educate harvesters and dealers to achieve consistent species identification.

- Solicit industry participants as data collectors.

- Optimize gear selectivity for sustainability and marketability.

Management

- Incorporate the management of Jonah crabs into the lobster management plan through the ASMFC.

- Establish some baseline information to understand the fishery, including the proportion that is inshore versus offshore, how many harvesters have a lobster license, what gear is used (dominant gear type, different vent sizes), and the effort in the fishery (number of harvesters who are active, seasonal patterns, number of traps).
    - Pull data from each state/NOAA to describe landings, permits, active permits, effort, soak time, harvest locations, etc. Also identify information gaps.

- Tie the harvest of Jonah crab with the lobster license and trap tagging requirements. Require a lobster license in order to harvest Jonah crab. In the absence of a lobster license, require a license for the harvest of Jonah crab.

- Require a minimum size for Jonah crab based on the biological and market realities of the fishery.

- Prohibit the harvest of female Jonah crabs.

Table of Activity

Topic/Activity	Deliverables	Deadline	Status
Project Start Up	Work Group and Participation Agreement made public.	January, 2014	Completed
	Web site with FIP information established.	January, 2014	Completed
	MSC Pre-assessment drafted and made public.	January, 2014	Completed
	Work Plan made public.	April, 2014	Completed
	Distribute work plan to management entities for review and feedback.	April, 2014	Completed
Implement a Management Plan	Letter to the ASMFC from the FIP Work Group with recommendations, including integration of Jonah crab into lobster management.	April, 2014	Completed
	Presentation at the May ASMFC meeting, including integration of Jonah crab into lobster management.	May, 2014	Completed
	Require a lobster license and trap tags to harvest Jonah crab. Manage according to the conservation measures in place for the lobster fishery, including trap reduction programs.	May, 2015	Pending ASMFC Review/Action
	Implement a 5" minimum size limit for Jonah crab harvest along with a maximum tolerance level for errors.	May, 2015	Pending ASMFC Review/Action
	Require a male-only Jonah crab harvest.	May, 2015	Pending ASMFC Review/Action

Fill Data and Information Gaps	Develop protocols for data collection.	March, 2014	Not Completed
	Pilot implementation of data collection protocols.	August, 2014	Not Completed
	Require full reporting of Jonah crab landings.	May, 2015	Pending ASMFC Review/Action
	Assimilate and analyze available Jonah crab data.	September, 2014	Completed
	Solicit industry participants to capture needed data.	April, 2014	Completed
	Conduct research to compare number of eggs to size of individual in females to establish baseline. Attempt to capture geographically distributed samples.	June, 2015	Not Completed
	Determine maturity schedules for males through distinct research experiments that analyze male physiological and functional maturity (e.g., through laboratory dissection).	June, 2015	Not Completed
	Develop a Stock Assessment	May, 2017	Not Completed
Outreach and Communications	Host an industry stakeholder meeting to gather input.	November, 2013	Completed
	Update the Jonah crab FIP web site.	Ongoing	Completed
	Distribute an announcement to popular press and endemic media announcing the FIP.	February, 2014	Completed