

BLUE CRAB MANAGEMENT STRATEGY OVERVIEW

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Process

June 2014
Watershed
Agreement

June 2015
Management
Strategy
(2015-2025)

April 2016
Workplan
(2016-17)



Management Strategy: http://www.chesapeakebay.net/managementstrategies/strategy/blue_crab_abundance_and_management

Blue Crab Outcomes

Abundance Outcome

Maintain a sustainable blue crab population based on the current 2012 target of 215 million adult females. Refine population targets through 2025 based on best available science.

Management Outcome

Manage for a stable and productive crab fishery including working with the industry, recreational crabbers and other stakeholders to improve commercial and recreational harvest accountability. By 2018, evaluate the establishment of a Bay-wide, allocation-based management framework with annual levels set by the jurisdictions for the purpose of accounting for and adjusting harvest by each jurisdiction.

Management Strategy Outline

- Goal, Outcome, and Baseline
- Participating Partners
- Factors Influencing Success
- Current Efforts and Gaps
- Management Approaches
- Monitoring & Assessing Progress
- Adaptive Management



I. Introduction

The blue crab (*Callinectes sapidus*) is an icon for the Chesapeake Bay region. The blue crab commercial and recreational fisheries are some of the most economically valuable fishery sectors in the Bay. Blue crab is also an important component of the Chesapeake Bay ecosystem. Sound management is critical to ensure the sustainability of this resource. The Chesapeake Bay blue crab fishery is managed by three jurisdictions: the State of Maryland, the Commonwealth of Virginia, and the Potomac River Fisheries Commission.

Jurisdictions and blue crab fishery stakeholders have recently explored tools, such as electronic harvest reporting protocols, to improve management of the fishery. The Blue Crab Management Outcome promotes continuing these discussions, as well as evaluating the possibility of a Baywide allocation among jurisdictions as part of the management framework for the fishery. The fisheries managers and stakeholders considered 2018 an appropriate target date for this evaluation because the intervening time allows them to address the science and management questions associated with developing a jurisdictional allocation. Further, the next benchmark stock assessment is expected in 2016-17 and the results of this effort may present new data analyses and inform any changes to the current management.

Participating Partners

Management Jurisdictions

- Maryland Department of Natural Resources
- Potomac River Fisheries Commission
- Virginia Marine Resources Commission

Scientists

- Chesapeake Bay Stock Assessment Committee (CBSAC)
- Academic partners

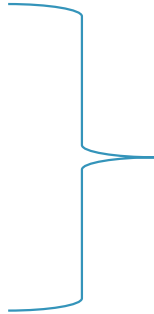
Fishery

- Commercial and recreational committees/advisory groups

Non-profits, interested public

Factors Influencing Success

- Harvest and Fishery Conditions
- Data Gaps
- Population Dynamics
- Ecosystem Factors



Blue crabs are impacted by a variety of **ecosystem factors** and **natural variability** in population dynamics that cannot be controlled or managed by the jurisdictions; instead managers and scientists rely on the **best available data** to understand the impacts and make informed management decisions.

Factors Influencing Success:

Ecosystem Factors

Environmental variability

Habitat Loss

Predation & prey availability

Hypoxia

Disease

Climate change

- Impacts vary across life stages (larval, juvenile, adult).
- Climate change could affect and/or magnify how these ecosystem factors affect blue crabs.

Current Efforts and Gaps

Annual surveys and 2011 stock assessment

- Baywide Winter Dredge Survey; MD and VA trawl surveys
- Baywide female-specific biological reference points
- Annual Blue Crab Advisory Report (CBSAC)

Harvest and effort data reporting

- Ongoing efforts to improve quality of catch and effort data across the jurisdictions

Gap: Reduce Uncertainty

- Reducing uncertainty is an ongoing priority (ex: recreational harvest estimates, natural mortality)

Management Approaches

(2016-17 Workplan)

- ❖ Continue Chesapeake Bay Stock Assessment Committee (CBSAC) annual review/report process
- ❖ Plan and implement the next stock assessment
- ❖ Continue efforts to improve harvest/effort data
- ❖ Evaluation of an allocation-based management framework

Manage for a stable and productive crab fishery including working with the industry, recreational crabbers and other stakeholders to improve commercial and recreational harvest accountability. By 2018, evaluate the establishment of a Bay-wide, allocation-based management framework with annual levels set by the jurisdictions for the purpose of accounting for and adjusting harvest by each jurisdiction.

Long term Target: Maintain a sustainable blue crab population according to targets determined by the best available science and evaluate an jurisdictional allocation framework.

2 year Target: Provide support for the annual winter dredge survey and the 2017 comprehensive stock assessment. Analyze the data from the dredge survey and stock assessment to determine the new target for blue crab abundance.

Management Approach 1: Planning and Implementing the next stock assessment.

Key Action** <i>Description of work/project. Define each major action step on its own row. Identify</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action.</i>	Participating Entity <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month & year) for each step</i>	Estimated Project Cost <i>Best estimate of total project cost (needed)</i>	Available funding <i>by Partner</i>	Factors Influencing and/or Gap <i>Identify related factor or gap in Management</i>
Finalize plans for the next stock assessment.	Finalize the terms of reference and scope of the assessment. Determine the timeline for each component of the assessment.	Fishery Managers (MD DNR, PRFC, VMRC), UMCES, VIMS, CBSAC	n/a	early 2016	Staff time	MD DNR, PRFC, VMRC, UMCES, VIMS, CBSAC staff time	Terms of reference have been finalized. Stock assessment timeline will be influenced by funding availability.
	Identify possible funding mechanisms to support the assessment.	MD DNR, PRFC, VMRC, NCBO	n/a	early-mid 2016	Staff time	GAP - stock assessment funding	
	Review proposal and scope of work for the assessment and distribute funding to Principal Investigators.	MD DNR, PRFC, VMRC, NCBO	n/a	mid 2016	Staff time	MD DNR, PRFC, VMRC, NCBO staff time	
Totals					Totals		
Conduct the next stock assessment.	Complete necessary research, modeling and analyses for the stock assessment.	UMCES, VIMS, MD DNR, VMRC	Maryland, Virginia, Potomac River	mid 2016 through 2017	Cost TBD (estimate ~\$400,000) + MD DNR, VMRC, PRFC staff time	GAP - stock assessment funding	Stock assessment
	Conduct regular check-ins with the Principal Investigators. Update the Fisheries GIT Executive Committee quarterly on progress.	NCBO and CBSAC	n/a	2016 and 2017	Staff time	NCBO and CBSAC staff time	

Chesapeake Bay Stock Assessment Committee (CBSAC)

Annual Blue Crab Advisory Report

- Winter Dredge Survey results
(population estimates, overwintering mortality)
- Harvest data and exploitation fractions
- Stock status based on female-specific reference points
(abundance and exploitation fraction)
- Management and research recommendations



Monitoring, Assessing Progress, Adaptive Management

- ❖ Continue to monitor the stock status relative to biological reference points.
- ❖ Use the best available data and incorporate new science.
- ❖ Management jurisdictions with stakeholder input will discuss management response when female population abundance and/or the exploitation fraction do not fall within the boundaries of the established reference points.
- ❖ Noted connection to forage, fish habitat, SAV, water quality, and climate change management strategies.

“Monitoring and quantifying climate change impacts would help managers and scientists better predict the effects on blue crab mortality.”

QUESTIONS?

Management Strategy:

http://www.chesapeakebay.net/managementstrategies/strategy/blue_crab_abundance_and_management

Sustainable Fisheries Goal Team:

http://www.chesapeakebay.net/groups/group/sustainable_fisheries

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