

Blue Crab Abundance Logic Table and Work Plan

Primary Users: Goal Implementation Teams, Workgroups, and Management Board | **Secondary Audience:** Interested Internal or External Parties

Primary Purpose: To assist partners in thinking through the relationships between their actions and specific factors, existing programs and gaps (either new or identified in their Management Strategies) and to help workgroups and Goal Implementation Teams prepare to present significant findings related to these actions and/or factors, existing programs and gaps to the Management Board. | **Secondary Purpose:** To enable those who are not familiar with a workgroup to understand and trace the logic driving its actions.

Reminder: As you complete the table below, keep in mind that removing actions, adapting actions, or adding new actions may require you to adjust the high-level Management Approaches outlined in your Management Strategy (to ensure these approaches continue to represent the collection of actions below them).

Long-term Target: (the metric for success of Outcome):

Two-year Target: (increment of metric for success):

KEY: Use the following colors to indicate whether a Metric and Expected Response have been identified.	
Metric	Specific metrics have not been identified
	Metrics have been identified
Expected Response	No timeline for progress for this action has been specified
	Timeline has been specified

Factor	Current Efforts	Gap	Actions (critical in bold)	Metrics	Expected Response and Application	Learn/Adapt
<i>What is impacting our ability to achieve our outcome?</i>	<i>What current efforts are addressing this factor?</i>	<i>What further efforts or information are needed to fully address this factor?</i>	<i>What actions are essential to achieve our outcome?</i>	<i>Optional: Do we have a measure of progress? How do we know if we have achieved the intended result?</i>	<i>Optional: What effects do we expect to see as a result of this action, when, and what is the anticipated application of these changes?</i>	<i>Optional: What did we learn from taking this action? How will this lesson impact our work?</i>
Scientific and Technical Understanding: Evaluate the blue crab population in a stock assessment.	Annual Winter Dredge Survey (WDS) estimates blue crab abundance in both MD and VA. Current blue crab stock assessment update is targeting selected terms of reference between full stock assessments.	Full stock assessments are needed to establish or revise targets/thresholds for abundance and harvest levels to inform management decisions.	1.1 , 1.2	No, we need to establish the agreed on frequency of stock assessments.	These actions will provide intermittent data to inform blue crab monitoring, and establish the schedule for future stock assessments.	
Government Agency Engagement at the Federal, State and/or Local Levels: Coordinate among jurisdictions and secure funding for benchmark stock assessment.	Terms of Reference have been discussed and agreed upon for future benchmark assessment.	In order to complete a benchmark stock assessment, a funding mechanism must be identified.	1.1 , 1.2			
Public engagement/comprehension: Presenting uncertainty around exploitation rates to stakeholders, developing options for management triggers	Blue crab advisory report is published each year, which analyzes the WDS results and gives an estimation of the population.	It is important to differentiate between benchmark stock assessment and update. Determining how to present uncertainty to stakeholders and developing management	1.3 , 1.5			

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		triggers will help the public understand specific management actions.				
Scientific and Technical Understanding: Continue to monitor the population with the annual Winter Dredge Survey.	The WDS measures the density of crabs (number per 1,000 square meters) at approximately 1,500 sites throughout the Chesapeake Bay. This survey provides an annual estimate of the number of over-wintering crabs by age and sex.	Data is still needed to better understand the blue crab population. For example, increased accountability and harvest reporting, gear efficiency, shallow-water survey to improve recruitment estimate, application of fishery independent survey data, fishery dependent data, analysis of non-harvest mortality, examination of the potential for sperm limitation, and further characterization of longevity, age structure, and growth rates would aid scientists and managers in determining population drivers.	<u>1.3</u>			

WORK PLAN ACTIONS

Green - action has been completed or is moving forward as planned **Yellow** - action has encountered minor obstacles

Red - action has not been taken or has encountered a serious barrier

Action #	Description	Performance Target(s)	Responsible Party (or Parties)	Geographic Location	Expected Timeline
1.1	Continue planning stock assessment update with selected terms of reference	Report progress on stock assessment update at Winter 2018 Chesapeake Bay Stock Assessment Committee meeting. <ul style="list-style-type: none"> Resolve issues with catchability / relative abundance of juveniles and adults. Review life history parameters (e.g. -variable M –by age, sex) Incorporate commercial CPUE as tuning index (Co-op dataset: 14 years // CPUE by gear, region, size, sex)	CBSAC	Baywide	January 2018
		Conduct stock assessment update on above selected terms of reference.	CBSAC	Baywide	February 2019
1.2	Evaluate timing, planning, and funding for the next benchmark stock assessment (full analysis and review of the stock condition, focusing on consideration of new data sources and new/improved assessment models)	Revisit terms of reference and evaluate when the next benchmark stock assessment is needed.	CBSAC	Baywide	January 2019
		Develop options for funding a benchmark stock assessment in coordination with the CBP Budget and Finance Workgroup.	CBSAC, Budget and Finance Workgroup	Baywide	February 2019
		Plan timeline, terms of reference, and expectations for the next benchmark stock assessment.	CBSAC	Baywide	February 2019
1.3	Analyze the Winter Dredge Survey results and develop annual Advisory Report.	Conduct annual Winter Dredge Survey.	MD DNR, VIMS	Baywide	December – March 2018 and 2019
		Analyze results of Winter Dredge Survey, develop management recommendations, and develop annual Advisory Report.	CBSAC	Baywide	March – April 2018 and 2019 (complete analysis); July 2018 and 2019 (report)
1.4	Complete the ecosystem factors	Complete the ecosystem factors affecting blue crab study and present results at the Spring 2018 Sustainable Fisheries GIT Meeting.	UMCES	Baywide	February 2018 (complete study); June 2018

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	affecting blue crab study.	Evaluate results of ecosystem factors affecting blue crab study and discuss how they will be applied to current management framework.	CBSAC	Baywide	June 2019
1.5	Respond to recent research and issues in the blue crab fishery.	Evaluate how to present uncertainty around estimate of exploitation. Consider how to present information to stakeholders and managers.	CBSAC	Baywide	Ongoing
		Provide technical review of "Ecological and Economic Effects of Derelict Fishing Gear in the Chesapeake Bay" to GIT Executive Committee	CBSAC	Baywide	Spring 2018
		Discuss options for developing blue crab management triggers.	CBSAC	Baywide	February 2019