



Narrative Analysis

BLUE CRAB ABUNDANCE OUTCOME – NOVEMBER 14, 2019

THE NARRATIVE ANALYSIS SUMMARIZES THE FINDINGS OF THE LOGIC AND ACTION PLAN AND SERVES AS THE BRIDGE BETWEEN THE LOGIC AND ACTION PLAN AND THE QUARTERLY PROGRESS MEETING PRESENTATION. BASED ON WHAT YOU LEARNED OVER THE PAST TWO YEARS FROM YOUR SUCCESSES AND CHALLENGES, YOU WILL DESCRIBE WHETHER THE PARTNERSHIP SHOULD MAKE ADAPTATIONS OR CHANGE COURSE.

USE YOUR COMPLETED PRE-QUARTERLY LOGIC AND ACTION PLAN TO ANSWER THE QUESTIONS BELOW. AFTER THE QUARTERLY PROGRESS MEETING, YOUR RESPONSES TO THESE QUESTIONS WILL GUIDE YOUR UPDATES TO YOUR LOGIC AND ACTION PLAN. ADDITIONAL GUIDANCE CAN BE FOUND ON [CHESAPEAKEDECISIONS](#).

1. EXAMINE YOUR RED/YELLOW/GREEN ANALYSIS OF YOUR MANAGEMENT ACTIONS. WHAT LESSONS HAVE YOU LEARNED OVER THE PAST TWO YEARS OF IMPLEMENTATION?

SUMMARIZE WHAT YOU HAVE LEARNED ABOUT WHAT WORKED AND WHAT DIDN'T. FOR EXAMPLE, HAVE YOU IDENTIFIED ADDITIONAL FACTORS TO CONSIDER OR FILLED AN INFORMATION GAP?

Based on the analysis of our 2018-2019 logic and action plan, we have realized that future efforts toward the Blue Crab Abundance Outcome must focus on science and research needs rather than management actions and decisions. Blue crabs are a state-managed resource and therefore the Chesapeake Bay Program (CBP) and the Chesapeake Bay Stock Assessment Committee (CBSAC) have no jurisdiction over management issues, which creates challenges when goals and actions are management-focused (e.g. development of management triggers). Over the last two years, CBSAC has made the most progress on actions related to blue crab science and application of research results; thus, we intend to focus our future logic and action plans on prioritized research and analytical needs.

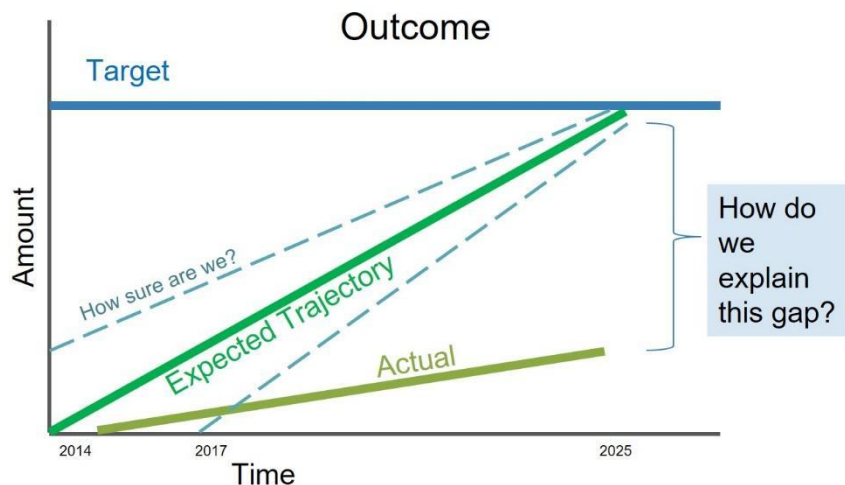
Although CBSAC lacks jurisdictional authority, the group has worked closely with managers to address actions and targets that were proposed in the previous logic and action plan. For example, the 2017 stock assessment update was completed and approved by the Sustainable Fisheries Goal Implementation Team (SFGIT) Executive Committee in 2019. Jurisdictional members of CBSAC and the Executive Committee have also discussed the need for a benchmark stock assessment and concluded that such an assessment is unnecessary at this point in time. The current female-specific management framework appears to be working, given the results of the stock assessment update and the higher abundances of crabs estimated by the Winter Dredge Survey (WDS) since management was implemented in 2008. Additionally, the blue crab fishery is unique in that the WDS provides an

accurate, annual assessment of the blue crab population, mitigating the need for stock assessment models to determine the population response to management. The managers on CBSAC and the Executive Committee have concluded that stock assessment updates will be conducted annually, but a benchmark assessment will not be necessary unless there are major discrepancies between the reference point updates and the current management framework.

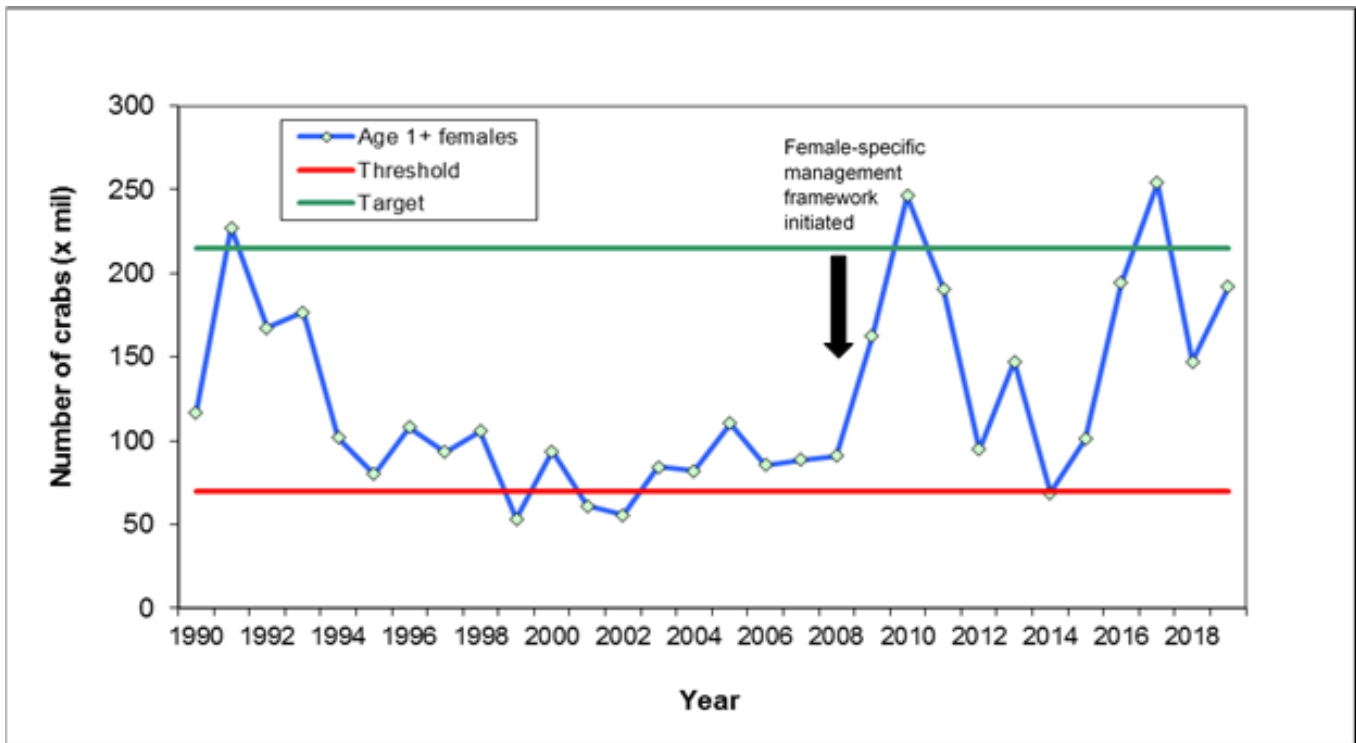
As in previous years, CBSAC successfully analyzed the WDS results and developed the Blue Crab Advisory Report (BCAR) in 2018 and 2019. CBSAC has also been focused on prioritizing the science needs laid out in the BCAR, the 2011 Terms of Reference (TORs), and the 2017 stock assessment update. A recent meeting between CBSAC and the SFGIT Executive Committee finalized the prioritization of these science needs. CBSAC will continue discussions about how these needs might be addressed. Recent analytical studies were also presented at the meeting and the two committees discussed how these new quantitative techniques could improve blue crab population modeling and assessment in the future.

In addition to developing and conducting studies and analyses that focus on blue crab ecology and management, our future logic and action plans will identify actions that will enhance communication and application of these results. For example, in the last SRS cycle, CBSAC provided a technical review of a derelict fishing gear study for the SFGIT Executive Committee, and the resulting materials and comments have been shared on the CBSAC website. Determining the applications and dissemination of the University of Maryland Center for Environmental Science (UMCES) ecosystem study results will likely be carried over into the next SRS cycle.

2. REGARDLESS OF HOW SUCCESSFUL YOUR SHORT-TERM PROGRESS HAS BEEN OVER THE PAST TWO YEARS, INDICATE WHETHER WE ARE MAKING PROGRESS AT A RATE THAT IS NECESSARY TO ACHIEVE THE OUTCOME YOU ARE WORKING TOWARD. THE EXAMPLE GRAPH BELOW ILLUSTRATES THIS CONCEPT.



USE THE *EDITABLE* GRAPH BELOW (OR YOUR OWN CHART) TO ILLUSTRATE YOUR PROGRESS. EXPLAIN ANY GAP(S) BETWEEN OUR ACTUAL PROGRESS AND OUR ANTICIPATED TRAJECTORY.



The graph above shows a time series of the abundance of spawning-age female blue crabs in Chesapeake Bay relative to the female-specific reference points established by managers. Since female-specific management was implemented in 2008, female abundance has increased and remained above the threshold (or at the threshold in 2014) of 70 million crabs, and even surpassed the target of 215 million crabs in 2010 and 2017. This graph represents the progress that has been made in maintaining a sustainable blue crab population and suggests that the current management framework is working.

3. WHAT SCIENTIFIC, FISCAL AND POLICY-RELATED DEVELOPMENTS WILL INFLUENCE YOUR WORK OVER THE NEXT TWO YEARS?

THIS MAY INCLUDE INFORMATION LEARNED AT THE PREVIOUS BIENNIAL SRS MEETING OR MORE SPECIFIC INFORMATION ABOUT YOUR OUTCOME SUCH AS AN INCREASE OR DECREASE IN FUNDING, NEW PROGRAMS THAT ADDRESS GAPS, AND NEW SCIENTIFIC DATA OR RESEARCH. DESCRIBE HOW THESE DEVELOPMENTS ARE LIKELY TO IMPACT YOUR RECOMMENDED MEASURE(S) OF PROGRESS, THE FACTORS YOU BELIEVE IMPACT YOUR ABILITY TO SUCCEED, AND NEWLY CREATED OR FILLED GAPS. THESE CHANGES SHOULD BE REFLECTED IN THE FIRST THREE COLUMNS OF YOUR REVISED LOGIC AND ACTION PLAN AFTER YOUR QUARTERLY PROGRESS MEETING.

CBSAC recently met with the SFGIT Executive Committee to finalize the prioritization of science and research needs, many of which focus on improving the models/assessment of the Chesapeake Bay blue crab population. There was also discussion about CBSAC’s analytical capacity to address these needs, which will inform and focus our goals for the next logic and action plan. Recent blue crab studies were also presented at the meeting to discuss potential management applications. Identifying research applications will likely be a large part of our

next logic and action plan. There are no immediate financial needs for the blue crab outcomes since we determined a benchmark stock assessment is not needed. If a future change in blue crab status indicates that a benchmark is required, we would need to identify funding sources because there are no planned resource allocations by the state or federal entities. In the previous SRS cycle, CBP was asked to help identify funding sources, but no finance plan was developed for the reasons stated above. Policy decisions regarding blue crab management are made at the jurisdictional level, and given that the current framework is working, there are no policy needs requiring CBP action.

4. BASED ON YOUR RESPONSE TO THE QUESTIONS ABOVE, HOW WILL YOUR WORK CHANGE OVER THE NEXT TWO YEARS?

DESCRIBE THE ADAPTATIONS THAT WILL BE NECESSARY TO MORE EFFICIENTLY ACHIEVE YOUR OUTCOME AND EXPLAIN HOW THESE CHANGES WILL LEAD YOU TO ADJUST YOUR MANAGEMENT STRATEGY OR THE ACTIONS DESCRIBED IN COLUMN FOUR OF YOUR LOGIC AND ACTION PLAN. CHANGES THAT THE WORKGROUP, GIT OR MANAGEMENT BOARD CONSIDER SIGNIFICANT SHOULD BE REFLECTED IN YOUR MANAGEMENT STRATEGY.

Over the next two years, the overarching goal of CBSAC is to continue providing the best available science to the management jurisdictions. Specifically, our next logic and action plan will focus on the high-priority scientific and analytical needs to improve the assessment models and parameters. There was also an agreement at the recent CBSAC meeting to conduct annual stock assessment updates and include the results in the BCAR. These updates, in addition to the WDS results, will provide insight into the effectiveness of the management framework.

5. WHAT, IF ANY, ACTIONS CAN THE MANAGEMENT BOARD TAKE TO HELP ENSURE SUCCESS IN ACHIEVING YOUR OUTCOME?

PLEASE BE AS SPECIFIC AS POSSIBLE. DO YOU NEED DIRECT ACTION BY THE MANAGEMENT BOARD? OR CAN THE MANAGEMENT BOARD DIRECT OR FACILITATE ACTION THROUGH OTHER GROUPS? CAN YOU DESCRIBE EFFORTS THE WORKGROUP HAS ALREADY TAKEN TO ADDRESS THIS ISSUE? IF THIS NEED IS NOT MET, HOW WILL PROGRESS TOWARD YOUR OUTCOME BE AFFECTED? THIS ASSISTANCE MAY INCLUDE SUPPORT FROM WITHIN A MANAGEMENT BOARD MEMBER'S JURISDICTION OR AGENCY.

To help ensure success in achieving this outcome, we ask that the Management Board continue to support science and research needs for blue crab management and population assessment. We are particularly interested in identifying training opportunities for GIT and CBSAC staff to improve/increase modeling and statistical capacity. This would ensure that the GIT and CBSAC are well-equipped to complete the analytical needs that were recently prioritized. The GIT has discussed conducting a gap analysis to identify the specific technical needs that would require additional support and resources from the Management Board and the Bay Program. In terms of funding the prioritized science needs, CBSAC and the management jurisdictions do a majority of the work in-house (e.g. winter dredge survey results, stock assessment updates); however, some of these needs may require additional funding due to the analytical capacity necessary for completion. For these cases, we ask the Management Board to help identify additional funding sources and/or take into consideration the uniqueness of the blue crab outcome when requesting proposals for GIT funding. Many of the science needs for this outcome are focused on fisheries analysis and management, and thus not relatable to other outcomes, as required by the GIT funding process. Therefore, the current GIT funding process may preclude some of the pressing analytical questions CBSAC has in working toward improving the blue crab models and assessments. If

the jurisdictions and CBP agree that there is value in pursuing ecosystem-based fisheries management, there may be future opportunities to submit proposals in collaboration with other GIT outcomes (e.g. climate, habitat, water quality) to examine ecological factors that affect blue crab population dynamics.