Blue Crab Abundance

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.

Why is this outcome important?

Blue crabs have important commercial, recreational, ecological, and cultural value. Restoring populations of blue crabs would protect an iconic species of the region. They are the most valuable fished species in the Chesapeake Bay, both commercially and recreationally, as well as play an integral role in benthic ecosystems as both prey and predators.
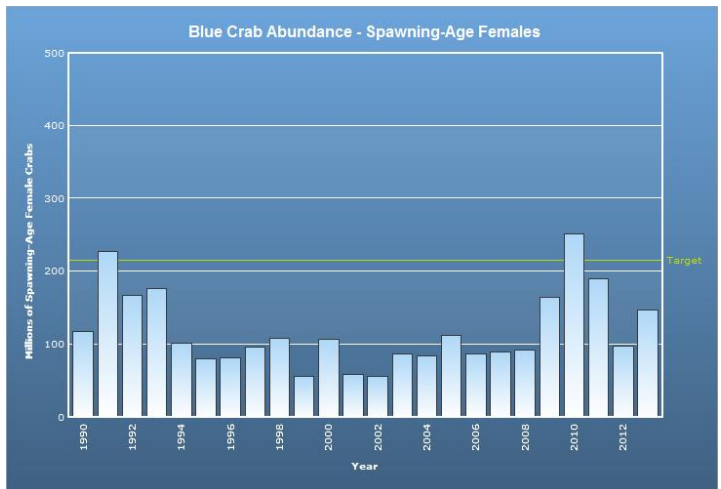
Current Conditions:

- 2011: 191 million female blue crabs (1+ years old)

- 2012: 95 million female blue crabs (1+ years old)

- 2013: 147 million female blue crabs (1+ years old)

- 2014: 69 million female blue crabs (1+ years old)

How was the outcome derived?
Who came up with it?

Every year from December through March, researchers from Maryland and Virginia are out on the Bay conducting the winter dredge survey of blue crabs. This survey provides fisheries managers an estimate of the number of blue crabs in the Bay including comprehensive estimates of the numbers of male, female, and juveniles.

See how Blue Crabs are doing at chesapeakebay.net

From the survey information, the Chesapeake Bay Stock Assessment Committee (CBSAC), which includes academic institutions, jurisdictional managers, scientists and federal partners, produces the annual Blue Crab Advisory Report. This document provides blue crab fisheries managers with a comprehensive break down of the status of the stock, and issues scientific recommendations to managers based on this data.

What was the basis or baseline?

Following the 2011 benchmark blue crab stock assessment, which recommended using a female-specific abundance target and threshold, CBSAC developed the new target of 215 million spawning-aged (1+ years old)_females – the number experts estimate is needed to rebuild the crab population, and also set the threshold, or minimum number, at 70 million spawning-aged female crabs. Fisheries managers have been pursuing these goals since Maryland, Virginia and the Potomac River Fisheries Commission adopted this new target and threshold in 2012.

For More:
http://chesapeakebay.noaa.gov/fish-facts/blue-crab
http://www.chesapeakebay.net/indicators/indicator/blue_crab_abundance_adults

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.

Why is this outcome important?
Blue crabs have important commercial, recreational, ecological, and cultural value. This outcome describes specific strategies and tools that will be explored to improve management of the blue crab fishery.

Current Conditions:

- Jurisdictions are currently partnering with industry representatives to develop and test initiatives to improve harvest accountability

- Stakeholders have engaged in initial discussions with jurisdictions regarding exploring a Bay-wide allocation-based management framework.

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How was the outcome derived?
Who came up with it?
The Sustainable Fisheries GIT Executive Committee and many stakeholders – the Chesapeake Bay Foundation, Environmental Defense Fund, Chesapeake Bay Commission and local state management agencies, including the Virginia Marine Resources Commission, Maryland Department of Natural Resources and the Potomac River Fisheries Commission – came up with this outcome. Additionally they discussed projects currently underway to improve harvest accountability and the importance of these efforts to improve the management. The group also discussed future consideration of a structure for managing the fishery based on allocations.

What was the basis or baseline?
The fisheries managers and stakeholders considered 2018 as an appropriate target date since the intervening time allows them to address the science and management questions associated with managing the fishery based on allocations. Further, the next benchmark stock assessment is expected in 2016 and the results of this effort may present new data analyses and inform any changes to the current management.

For More:
http://chesapeakebay.noaa.gov/fish-facts/blue-crab
http://www.dnr.state.md.us/fisheries/crab/
http://www.mrc.virginia.gov/index.shtm
http://www.chesapeakebay.net/indicators/indicator/blue_crab_abundance_adults

Continually increase finfish and shellfish habitat and water quality benefits from restored oyster populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.

Why is this outcome important?
Restored oyster populations and habitats would provide the Chesapeake Bay with improved water quality, additional habitat for fish species, and reestablish an iconic species to the region.
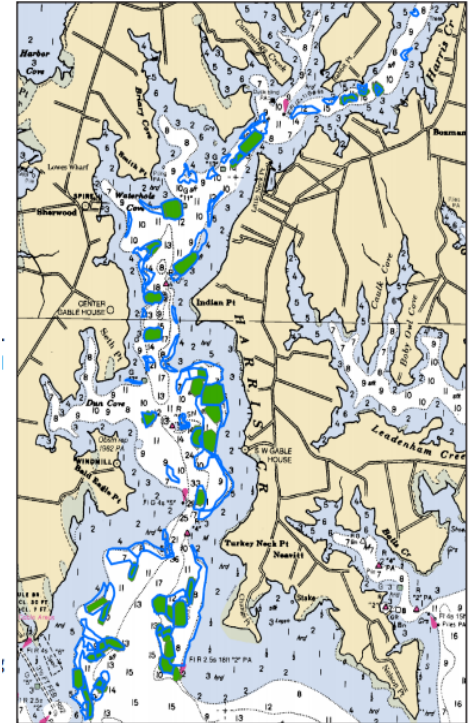
Current Conditions:

- Six tributaries have been selected for restoration by the Maryland and Virginia Oyster Restoration Interagency Workgroups: the Tred Avon and Little Choptank Rivers and Harris Creek in Maryland; the Lynnhaven, Lafayette and Piankatank Rivers in Virginia.

- Oyster restoration plans have been developed in three of these tributaries. In-water restoration work under these plans has started in two.

How was the outcome derived?
Who came up with it?
This outcome focuses on restoring oyster reefs for their ecological benefits and contribution to a healthy Chesapeake Bay ecosystem. The Sustainable Fisheries GIT recognizes the importance of oyster reefs in providing water quality benefits and habitat for many fish species. Although data has shown that several Bay tributaries have successful, living oyster reef habitat, none of the assessed rivers have fully restored oyster populations that meet the Oyster Restoration Success Metrics.

Based on experience with current restoration implementation and resource availability, stakeholders, including NOAA, USACE, Maryland Department of Natural Resources, and Virginia Marine Resources Commission, determined that an outcome of restoring native oyster habitat and populations in 10 tributaries by 2025 is an appropriate target for the next 10 years. USACE's Native Oyster Restoration Master Plan and MD DNR's Oyster Restoration and Aquaculture Development Plan also provided the foundation of this outcome.

What was the basis or baseline?
Executive Order 13508 *Strategy for Protecting and Restoring the Chesapeake Bay Watershed* established a goal of restoring oyster populations in 20 tributaries of Chesapeake Bay by 2025. Per this goal, a team of academics and state and federal agency staff developed Bay-wide oyster restoration success criteria.

For More:
http://www.chesapeakebay.net/indicators/indicator/native_oyster_abundance
http://www.chesapeakebay.net/issues/issue/oysters
http://www.chesapeakebay.net/fieldguide/critter/eastern_oyster

Restoration Progress in Harris Creek. Areas in green indicate where restoration has occurred; blue outlines show target restoration areas.

| Forage Fish | OUTCOME |

Continually improve the capacity to understand the role of forage fish populations in the Chesapeake Bay. By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay.

Why is this outcome important?

Forage species are an important link in the food web since they are prey for many valuable predator species in the Bay. Many of those predatory fish are both commercially and recreationally valuable to people. These smaller species are also "filter feeders", filtering nutrients from the Bay's waters as they eat. This outcome acknowledges the connections among different species in the Bay food web and strives to better understand those connections between forage fish and predators. It is a step toward multi-species, ecosystem management.

Current Conditions:

- Some existing fisheries-independent surveys measure certain aspects of some forage species in the Bay. More scientific information is needed to better understand forage species abundance and their ability to support predatory species.

How was the outcome derived?
Who came up with it?

The Sustainable Fisheries Goal Implementation Team and other stakeholders have discussed the importance of forage fish in the food web. A robust and healthy base of these fish is essential for supporting valuable commercial and recreational fisheries in the Bay. Understanding these kinds of predator-prey relationships will improve the ability to manage predator fish species because it takes into account ecosystem factors and the interconnections to forage fish species.

What was the basis or baseline?

2016 is an appropriate target for developing a strategy to assess the forage base as it gives adequate time for academic institutions and fisheries agencies to evaluate the data and information that currently exist and determine what information is needed in the future.

Results from the menhaden stock assessment, which is set to be complete in 2015, will contribute significantly to this outcome.

For More:
http://www.oceanconservationscience.org/foragefish/project/what.html

| Fish Habitat | OUTCOME |

Continually improve effectiveness of fish habitat conservation and restoration efforts by identifying and characterizing critical spawning, nursery and forage areas within the Bay and tributaries for important fish and shellfish and use existing and new tools to integrate information and conduct assessments to inform restoration and conservation efforts.

Why is this outcome important?

This outcome works toward the targeted protection and restoration of important fish habitat and better science to inform these efforts. It makes the connection between fisheries and habitat and, further, the role of healthy habitats in supporting fisheries. It also provides a broad perspective on fisheries and ecosystem health throughout the Bay watershed for multiple species.

Current Conditions:

- At present, there is limited information and spatial data delineation of how different fish use the various habitats in the watershed at different stages of their lives.

- Few assessments and tools currently exist that integrate habitat and fish data

How was the outcome derived?
Who came up with it?

The Sustainable Fisheries Goal Implementation Team (GIT) has discussed the importance of healthy habitat to fisheries productivity, especially regarding nursery, spawning, and forage habitat areas. The Fisheries GIT and the Vital Habitats GIT have collaborated to develop this outcome to address habitat and fisheries from an ecosystem-perspective.

What was the basis or baseline?

Targeting habitats that are utilized for spawning, juvenile nursery, and/or forage areas by fish species represent the specific ecological needs of these species at critical points in their life history. Available, healthy habitat to support these life stages is important in promoting a productive population.

For More:
http://chesapeakebay.noaa.gov/habitats
http://www.cbf.org/about-the-bay/more-than-just-the-bay/habitats-of-the-chesapeake