



# Creating The Chesapeake Bay Marine Protected Area



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NATURE, VIRGINIA'S ECONOMY, AND THE CLIMATE THREAT

## Abstract

The Chesapeake Bay provides economic benefits to its surrounding states in the form of tourism, fishing, recreation, and ecosystem services. However it is not sufficiently protected by these states and is suffering the consequences. This precious habitat needs more protection to ensure the long-term survival of the wildlife and services it provides. Creating a Marine Protected Area (MPA) at the mouth of the Chesapeake Bay and extending out in to the Atlantic Ocean will protect multiple habitats and fish populations, which will in turn improve the health of the Bay (Narula 2014). This MPA will restrict harmful fishing, drilling, dumping, and extraction techniques, while still allowing for large-scale commercial fishing so as to not hurt the industry (Brown et al. 2010). No-take zones are a small but vitally important part of any MPA, and will protect commercially important species to ensure their long-term survival (Wenzel 2011). A no-take zone is a designated area where any and all extractive fishing practices are prohibited. These zones offer the best protection available for the animals and habitat they protect. The designation of an "MPA" is a federal status, meaning the state government is not going to be entirely responsible for funding and enforcing this MPA. Instead, the National Oceanic and Atmospheric Administration, the US Fish and Wildlife Service, and the US Coast Guard will take on the responsibilities of enforcing the area (USA 2005).

## Why Do We Need A Marine Protected Area?

Virginia's economy is highly dependent on the Chesapeake Bay. People use it for recreation, tourism, food, and for the ecosystem services it provides. Without proper protection, the Bay will see serious consequences of the overfishing, exploitation, and habitat destruction that is currently occurring. Some of these consequences include:

- Increased fishing pressure on certain species disrupts the food web and causes a reduction of economically important species such as the blue crab and Atlantic menhaden.
- Sea level rise due to climate change disrupts sensitive coastal habitats by displacing species and flooding wetlands.
- Deterioration of ecosystem services such as nutrient cycling leads to eutrophication and algal blooms.

Many fish species cannot recover their population numbers once they have been overfished, even 15 years since fishing pressure stopped (Hutchings 2002). However, under protections from Marine Protected Areas, populations increase in both average fish size and total biomass (Brown et al. 2010), resulting in stronger fisheries.

The proposed area for the MPA is important spawning waters for two economically important species, the blue crab and the Atlantic menhaden. Additionally, these species will be important to the Bay as the climate changes because they keep phytoplankton and zooplankton populations in check. If left unmonitored these populations can result in dangerous algal blooms as the climate changes and pollution into the bay increases (McLeod 2009). These species live in the upper Bay and migrate to the mouth of the Chesapeake to spawn, where the larvae develop using the nutrient rich environment as a nursery. By protecting this area these populations can grow larger and uninhibited, which will increase yield and biomass in the commercial fisheries.



Figure 1. An Atlantic Menhaden.  
Source: omp.gso.uri.edu



Figure 2. A Chesapeake Blue Crab.  
Source: www.cbf.org

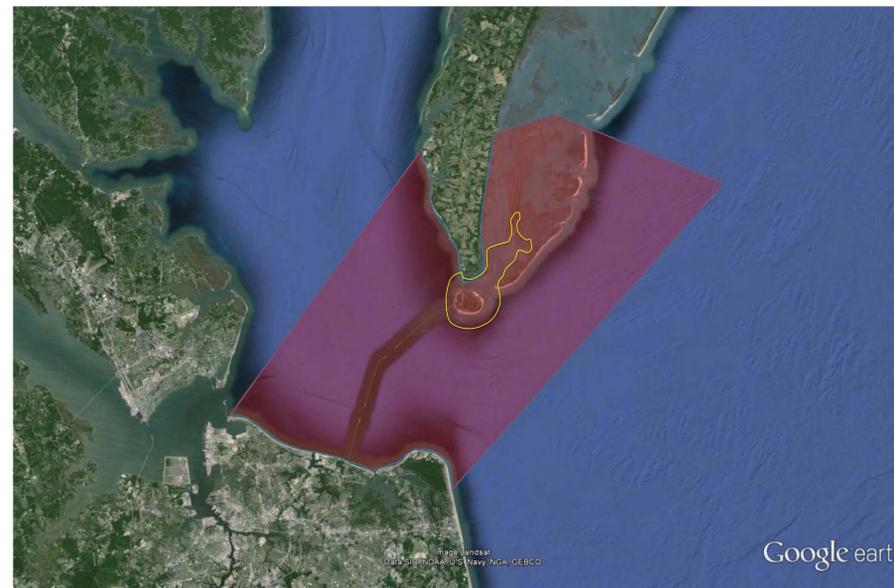


Figure 3: Map of the proposed MPA site. The borders are designed to line up with landmarks for simplified policing of the boundaries. The Western border is drawn from Cape Charles to the Southern bank of the James River. The Eastern border from the edge of 64<sup>th</sup> street in VA Beach, to where the 15 mile Northern border ends out in the Atlantic. The Northern border starts near Cobb Mill Creek, moves through Sand Shoal Channel, and out to the ocean through Sand Shoal Inlet.

## What Is This Marine Protected Area Going To Do?

The most successful MPAs have 5 criteria to ensure the best protection. The categories are age, size, sufficient enforcement, continuous isolated habitat, and no-take zones (Edgar et al. 2014). This MPA will be roughly 500mi<sup>2</sup>, increasing the minimum recommended MPA size fivefold, and covers sandy bottom and seagrass habitats. Having a no-take zone is one of the most beneficial things an MPA can do for the fish and wildlife it protects (Edgar et al. 2014), so this MPA will have one large no-take zone where fish populations can recover.

### Where is this MPA going to be located?

This roughly 500mi<sup>2</sup> will surround the mouth of the Chesapeake Bay to protect the species that use these waters to spawn (Figure 3). The areas classified as no-take zones will protect part of the estuarine habitats off the Eastern Shore, which filter nutrients and provide nursery habitat for many different commercially important species (Lipcius 2003).

- The no-take zone (yellow outline in Figure 3) encompasses the Fisherman Island National Wildlife Refuge, a federally protected island. The no-take zone will add to the protection of this habitat and ensure the optimum level of preservation available.
- The no-take zone also covers an oyster restoration bank, which will assist the recovery of a species of great importance economically and ecologically to the Bay.
- The perimeter was drawn using the Bay's natural landscape as a guide to make enforcement easier.

## Prohibited Actions

This MPA will be classified as a "sustainable production" area which means it is "established and managed wholly or in part with the explicit purpose of supporting the continued extraction of renewable living resources" (Wenzel and D'Lorio 2011). Under this classification commercial fishing practices are still allowed and encouraged, though only if they are non-destructive. Examples of prohibited fishing practices in the MPA include:

- Dredging of the ocean bottom, including trawling.
- Drilling or extraction of minerals (i.e.. oil).
- Extraction of living resources (except fish and crabs).
- Dumping of waste or chemicals within MPA limits.

## Who's In Charge?

A Marine Protected Area is a federal classification, meaning there are national organizations that are charged with enforcement and protection of all Marine Protected Areas once the states have completed that application. Various organizations are in charge of the different kinds of MPAs. The Chesapeake Bay MPA will be patrolled and enforced by the US Coast Guard (USCG), the National Oceanic and Atmospheric Administration (NOAA), US Fish and Wildlife Service (USFWS), the National Parks Service (NPS), and state agencies. Additionally, there is federal funding available:

- The National MPA Fund is a resource for financing National MPAs.
- There are currently 254 Marine Protected Areas under this program
- The National MPA Fund is renewed every year, but provides funds for only one year, allowing the MPA to have the kick-start it needs to get going.



Figure 4. The Chesapeake Bay at sunrise. Source: Scenicvirginia.org

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