

End Overfishing of Menhaden

Atlantic Menhaden: A Critical Link in the Ocean Food Chain



Menhaden have been called “the most important fish in the sea” because of the critical role they play in the marine ecosystem as prey for other fish and wildlife.

Menhaden provide a vital and unique link between primary production and higher organisms. Adult and juvenile menhaden feed by straining plankton—tiny floating plants and animals— from the water. Menhaden convert plankton into a usable form of energy for animals higher in the food web. Based on diet studies, many valuable and highly prized fish species—such as striped bass, bluefish, weakfish and sharks—as well as marine mammals, sea turtles, ospreys and loons depend on menhaden as a food source.

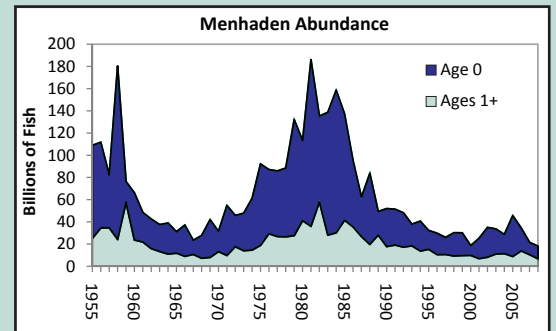
Because each species occupies a crucial niche in the ecosystem, excessive removal of prey species, like menhaden, disrupts an ecosystem’s natural balance and sustainability.

The Menhaden Coalition

www.SaveMenhaden.org

Important Fish Falls to All-time Low

Overfishing of Atlantic menhaden has occurred 32 out of the last 54 years and is still occurring, according to a 2010 stock assessment produced by the Atlantic States Marine Fisheries Commission (ASMFC), the 15-state regulatory body responsible for coordinating and overseeing management of menhaden along the East Coast. The population is now at record low levels.

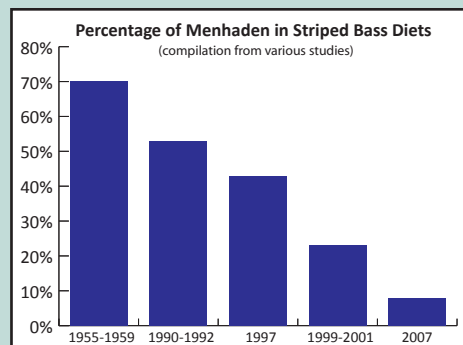


- ▶ The annual removal of adult fish by the fishery is 65% or higher, making it unlikely menhaden will have a chance to spawn more than once.
- ▶ The assessment, and a subsequent independent peer review, found that the stock has been reduced to less than 10% of the spawning potential of an unexploited stock.
- ▶ Recruitment—the number of juvenile fish produced that survive to enter the adult population - has been poor for twenty years.

(Source: 2010 ASMFC Stock Assessment and Peer Review)

Striped Bass and Other Predators at Risk

A scarcity of juvenile and adult menhaden puts important species such as striped bass, ospreys and weakfish at risk. Warning signs include:



- ▶ Surveys in Chesapeake Bay, the primary menhaden nursery, show menhaden now account for less than 8% of the diet of striped bass. Historically, young menhaden have comprised as much as 70% of the prey consumed by adult stripers.
- ▶ Striped bass in the Bay have shown signs of malnourishment with reduced weight-to-length ratios.
- ▶ Resident Chesapeake stripers—up to 70% of fish sampled - are infected with mycobacteriosis, a

stress-related and typically fatal disease. Poor nutrition increases the severity of infections. Mortality is significantly higher in infected bass than in those without the disease.

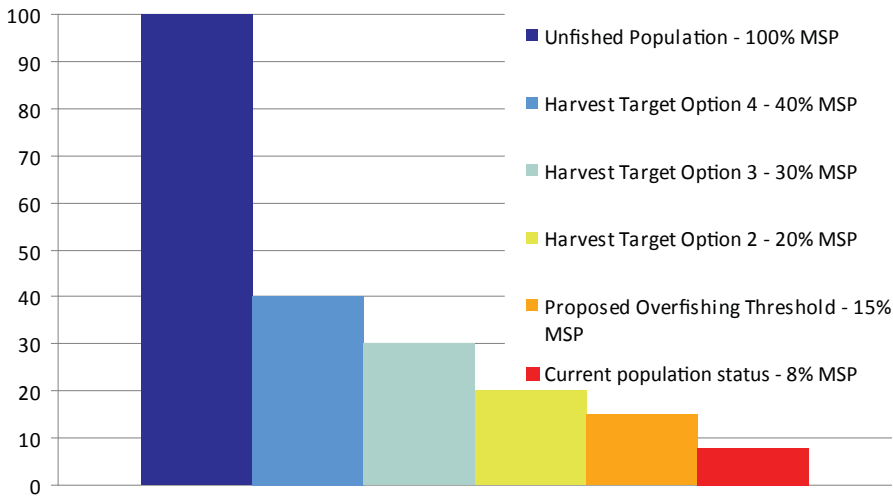
- ▶ Striped bass stock assessments indicate that natural mortality is increasing in Chesapeake Bay, the spawning ground for about 75% of the Atlantic migratory population.
- ▶ Weakfish are depleted due to a rise in natural mortality, primarily predation and starvation. Studies indicate low abundance of menhaden has striped bass out-competing weakfish and other predators for prey, as well as feeding on juvenile weakfish.
- ▶ Ospreys depend heavily on menhaden. Studies in Virginia have shown that menhaden made up 75% of the diet of osprey nestlings in the 1980s. Today it’s only 28%. While the number of nests throughout the bay is up, survival of nestlings is as poor as it was in the DDT era.

(Sources: ChesMMAP, VIMS; University of Maryland CES; Maryland DNR; U.S. Geological Survey; NOAA Oxford Lab; 2008 Review of ASMFC Weakfish Fishery Management Plan; 2009 NOAA Chesapeake Bay Fisheries Science Symposium)



Save the Menhaden

Menhaden Fishery Management Options Expressed as Maximum Spawning Potential (MSP)



Why is Maximum Spawning Potential Important?

Maximum spawning potential (MSP) is a percentage used to evaluate the current condition of the spawning stock relative to its unfished state. The current state of Atlantic menhaden—8% MSP—is alarmingly low, as the 2010 peer review panel noted. This low spawning potential is not surprising given the depleted condition of the adult population, a spawning stock made up mostly of younger, less productive fish that are targeted by the fishery. Rebuilding to a conservative target, such as 30-40% MSP, would significantly increase abundance.

[Note: Scientists recommend a target stock level for forage species as *high* as 75 percent of an unfished population. Smith ADM et al (2011)]

The ASMFC is Changing the Way They Manage Menhaden

- ▶ In May 2010, the ASMFC's Menhaden Management Board responded to the 2010 stock assessment recommendation that new, more conservative reference points (i.e., population targets and fishing limits) are needed by initiating the development of ecologically-based reference points that explicitly account for predator demand for menhaden. It may take a number of years for the ASMFC's scientific advisors to complete this work.
- ▶ In the interim, the Board drafted **Addendum V to the Interstate Menhaden Fishery Management Plan**. Addendum V proposes a more protective overfishing limit of 15% MSP to keep more fish in the water.
- ▶ To prevent exceeding the new overfishing limit of 15% MSP, managers must set a fishing target set safely above the limit. Addendum V includes target options of 20%, 30% and 40% MSP. While rebuilding to a target of 20% MSP (Target Option 2, equivalent to the status quo) would represent an increase in abundance, it would not provide sufficient buffer from 15% MSP. The more conservative options of 30% MSP (Target Option 3) and 40% MSP (Target Option 4) are safely above the limit and are more in line with scientific recommendations for protecting the ecological role of menhaden as prey.
- ▶ Through Addendum V, the Board is also seeking public input on management tools that should be developed in a subsequent addendum in order to manage the menhaden fishery to the new reference points. Managers should act quickly to implement new management tools, including a coast-wide limit on the amount of menhaden that can be taken from the ocean, for the 2013 fishing year.

Take Action for Menhaden!

The public comment period for Addendum V is now open until 5:00 EST on November 2nd, and a number of hearings have been scheduled along the eastern seaboard. Make your voice heard! Attend a hearing or write to the ASMFC telling them that you support:

- Adopting **Threshold Option 2**, an overfishing level corresponding to 15% of menhaden's maximum spawning potential (MSP).
- Managing the fishery to a new target that is safely above the threshold, significantly increases abundance, and takes into account menhaden's ecological role as a forage fish. **Target Option 3**, a fishing level corresponding to 30% MSP, **should be the minimum target for rebuilding menhaden**, since it is a standard measure for a sustainable fishery.
- Including a coast-wide total allowable catch (TAC) as a management option in the subsequent addendum for implementation by the 2013 fishing year.

Visit www.asmfc.org/atlanticMenhaden.htm for the public hearing schedule and for instructions for submitting comments. Comments can be emailed to Toni Kerns at tkerns@asmfc.org.



In 2010, the industrial reduction fishery, which grinds menhaden into fish meal and oil, harvested over 400 million pounds of menhaden, about half of which was taken from the Chesapeake Bay.