



**NATIONAL COALITION FOR MARINE CONSERVATION**  
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**TESTIMONY BEFORE THE SUBCOMMITTEE ON  
FISHERIES, WILDLIFE AND OCEANS  
U.S. HOUSE OF REPRESENTATIVES  
May 8, 2008**

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**Hearing on H.R. 3480, the Atlantic Menhaden Conservation Act,  
and H.R. 3481, a bill to prohibit the commercial harvesting of Atlantic  
menhaden for reduction purposes in the coastal waters and the exclusive  
economic zone**

My name is Ken Hinman, and I am here as president of the National Coalition for Marine Conservation, an independent non-profit organization devoted exclusively to conserving ocean fish and their environment. The NCMC was founded in 1973 by conservation-minded fishermen. I have been actively involved in marine fisheries issues since 1978, a period that corresponds with the evolution of marine fish conservation in the United States. During this time, I've witnessed the many changes Congress has made to our fisheries laws, in response to both the changing needs of our fisheries and our increasing knowledge about the fish, their behavior, their habitat and, more recently, the ocean ecosystems they are such a critical part of.

Madame Chairman, subcommittee members, I appreciate this opportunity to speak to you today on a pair of bills that underscore the frustration that many members of the public feel with the slow progress being made toward conserving and managing Atlantic menhaden in a way that respects and accounts for its vital role in the coastal food chain. Both bills, with somewhat different approaches, would impose a moratorium on the commercial harvest of menhaden for reduction purposes while promoting research into the health of menhaden populations in terms of their role as a filter feeder and a prey species, with the long-term goal of establishing ecologically-based catch limits.

There are compelling reasons to begin preserving the abundance of menhaden and other key forage fish in order to serve conservation of predator populations. During the past few decades, we've fished down the populations of

many ocean predators. We are now in the process of restoring their numbers. Demand for prey is going up and will only increase. It is critical, therefore, that we make sure – at least, as certain as we can be in a highly uncertain business – that we aren't pulling the rug out from under our few hard-won management successes.

Without question, a moratorium is a draconian measure. But those fishery managers and industry representatives who oppose such a measure without acknowledging the inadequacy of our present management system to the task at hand and without offering a constructive alternative, are the precise reason why we are here - talking about a moratorium - again.

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Yes, we've been here before. Five years ago, my organization, the National Coalition for Marine Conservation, circulated a petition calling for a moratorium on industrial fishing for menhaden in Chesapeake Bay and its tributaries, until such time as concerns about the long-term impact on striped bass and other predators are thoroughly evaluated in a scientific, ecosystem-based manner and alternative measures are implemented sufficient to protect the entire food web and the broader public interest.

At the 2003 Annual Meeting of the Atlantic States Marine Fisheries Commission, we presented circumstantial but compelling evidence of a pending ecological crisis. I'm attaching a copy of NCMC's 9-page statement to the ASMFC Menhaden Management Board of December 2003, which catalogues the environmental "red flags" associated with increasing predator demand due to rebuilding of overfished populations of striped bass and other species while prey availability, in Chesapeake Bay in particular, has hit an all-time low.

We pointed out, as the 2003 Menhaden Stock Assessment Peer Review noted, that the ASMFC's coastwide stock assessment does not measure the stock's capacity to provide adequate forage for other species, nor can it detect localized depletion. It considers only whether the stock is of a size capable of providing the maximum sustainable yield to the menhaden fishery. Whether that harvest – in terms of how many fish are taken, of what age/size and where they are caught – is in truth sustainable is precisely the question that must be answered. To say that menhaden are not "overfished (according to the single-species definition in the FMP) and therefore conclude that "ecosystem overfishing" is not occurring is to beg the question.

As a member of the NMFS Ecosystem Principles Advisory Panel and a co-author of its 1999 Report to Congress, "Ecosystem-Based Fishery Management,"

I've devoted much of my time over the last 10 years to implementing the panel's recommendation that protecting predator-prey relationships is the first step toward an ecosystem-based approach. In an effort to constructively give drive and direction to this effort as regards menhaden, the NCMC sought to work with the ASMFC on a constructive alternative to a moratorium, urging the Commission to begin amending the Menhaden Fishery Management Plan to address concerns about the diminished ecological role of menhaden, on a regional as well as coastwide bases.

Shortly after this, we joined forces with other fishing and environmental organizations who were expressing similar concerns about menhaden - the Chesapeake Bay Foundation, Coastal Conservation Association and Environmental Defense Fund - to form *Menhaden Matter*.

Our collective concerns were referred to the Menhaden Technical Committee for review, which affirmed that it could not answer the questions raised about "ecosystem overfishing." At our urging, a special scientific workshop was convened in October 2004 to assess menhaden's ecological status and the impact of the fisheries. I'm attaching a summary of the results of that workshop, which identified a possible diminished ecological contribution of menhaden as both prey and filter feeder and the need for more research.

*Menhaden Matter* then focused on implementing interim, precautionary management measures while scientific uncertainties are addressed, including a cap on the industrial harvest of menhaden in Chesapeake Bay and a well-defined research plan. In August 2005, the ASMFC approved a 5-year cap at recent levels and laid out a research agenda.

I recount these events to show how we came to our present situation, but also to emphasize that the fishing and conservation community has acted constructively, working through the established system, basing our recommendations on the best science available, and that we've been more than patient.

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So, what has changed 5 years later? Unfortunately, not very much. The ASMFC is to be commended for making some well-intentioned moves toward an ecosystem-based approach to managing the menhaden fishery, but the system still moves without urgency and continues to manage without caution.

Research is underway, but it's been slow to get going and it is not likely to produce applicable results before the cap expires in 2010. The Menhaden

Management Board has used the cap to take a vacation from menhaden matters, content to await those results even though, beginning in 2006 when the cap was implemented, we've urged them to make the most of the opportunity afforded them by this "timeout." They have not done so. And for that reason, they are unlikely to be prepared to incorporate new information into a new management regime when the present one expires.

We agree with the research priorities as they are defined: to study localized depletion of menhaden in Chesapeake Bay, predator deficiencies that may be the result of inadequate forage, and low recruitment. But we urged the Menhaden Management Board in early 2007 to provide much needed oversight. The studies outlined must not result merely in the production of absolute numbers, without context. We must understand these ecosystem processes both quantitatively and qualitatively. For example, if LIDAR studies to "determine menhaden abundance in Chesapeake Bay" produce estimates of the population of menhaden in 2009, these numbers alone will not tell us if this amount of menhaden is adequate for forage and filtering bay waters.

We need to put the new research and data into an historical and ecological context. We need to develop a means to compare current and future abundance to past levels of abundance and develop ecological reference points to determine what population of menhaden is adequate. These requirements apply equally to research to "determine estimates of removal of menhaden by predators." Without an historical and ecological context, we may learn what amount of predation is occurring, but not know what it means in terms of predator needs.

There must be oversight by the Menhaden Management Board to ensure that the information that results can be incorporated into *management* decisions. We must consider how the information will be used in existing and newly-developed multi-species models. To be useful in an ecosystem-based management approach, predator-prey linkages should be not only identified but *mapped* so that critical connections can be made from the data to ecological indicators, reference points and control rules.

We urged the Management Board to appoint an independent panel to begin developing ecological reference points for menhaden, including a threshold population size and age structure to serve as a proxy for allocation of the species as forage. So far, these deliberations have not occurred.

Today, in 2008, the red flags about the impact of menhaden harvests on the ecosystem are still flying, with at least one new one raised. The cap has not restrained the fishery, as we thought it would, primarily because the industry

can't find enough fish in the Bay. Recent catches there are at the lowest they've been in decades. As a result, they've shifted effort offshore.

NCMC supported a cap in the bay as a first priority because of concerns about localized depletion and the impact on striped bass and other predators. However, we recognized that a coastwide-cap on top of that would be the most precautionary action. The immediate threat is the concentrated removals of young menhaden from the Chesapeake, but we voiced concern that the large reduction boats, when faced with a bay-cap, would move outside the bay and target fish as they enter and leave that waterway, or move up or down the coast. This shift in effort could undermine the effectiveness of the Bay cap and aggravate problems elsewhere, putting more pressure on the spawning stock and possibly hurt recruitment during the interim management period.

Finally, while supporting a 5-year cap – the longest period given as an option - we preferred that limits stay in place until the necessary research is completed *and* ASMFC implements a revised management plan based on new ecological reference points that account for the role of menhaden in Chesapeake Bay and the coastal ecosystem.

As it is, we have a pledge from ASMFC to implement eco-based catch limits by 2010, a promise we are worried may not be fulfilled. We are worried that the 2009 stock assessment could, because of the lack of new data and new ecosystem models, simply replicate past assessments and be unable to conclude anything more than that the population is not overfished in a conventional coastwide, single-species sense.

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A major obstacle to making progress toward an ecosystem-based approach to fisheries management has been fishery managers and scientists who on the one hand claim we don't have enough science to consider the ecosystem effects of fishing, but at the same time offer up their own theories which invariably support current, maximum sustainable yield-based practices as ecologically sustainable. The only thing these contradictory positions have in common is that they are designed to defend the *status quo*.

The status quo, according to many fishery ecologists, is not only indefensible, it is inherently risky. Fishery ecologists involved in developing a science-based ecosystems approach to fishery management recognize that overfishing can occur before a single-species assessment would detect it. Collectively, we have a lot of experience dealing with overfishing on a single-species basis. There is mounting scientific evidence, however, that even so-called

“sustainable fishing” of species whose abundance strongly influences population size of predators or prey can cause dramatic shifts in ecosystem communities. As the NMFS Science for Ecosystem-Based Management Initiative at the Northwest Fisheries Science Center pointed out recently in a paper entitled “Ecologically Sustainable Yield,” “the cost of mismanaging a community might be far greater than the cost of mismanaging a fishery. Although overfished stocks have been known to recover, revival of communities that have changed states can be excruciatingly slow or even impossible.”

Fishery ecologists are asking if, considered in a broader, ecosystem-based context, fishing at or near maximum sustainable yield (MSY) is at ecologically sustainable? In other words, is it possible that a fish stock can be reduced to half or less its unfished biomass – that is the goal of MSY management – and kept at that level without ecological repercussions? Does not creating a fishing-induced equilibrium at such a reduced population level not dramatically alter the community in which that species exists?

If most of the assumed natural mortality for menhaden and other forage fish is a result of predation – and that is the assumption – the predator population is left with much less available food and that population must shrink in size in order to come into equilibrium with the amount of prey available.<sup>1</sup>

When we selectively harvest a stock at MSY, and take the surplus production, we are in fact taking food out of the mouths of other (non-human) predators and consequently limiting their numbers. (see graphic on last page) In fact, fishing a prey population down to the MSY level not only reduces the amount of prey, it reduces availability to predators in other ways. The reduction in spawning stock biomass causes a shift in the age/size composition toward younger, smaller fish and alters the geographic distribution of the population.<sup>2</sup> In other words, prey density changes in three ways: the number of prey (total population), type of prey available (size/age), and distribution throughout their natural range.

Predators require a certain amount and density of prey to maintain their populations at abundant levels. For every reduction in standing biomass of prey we realize through fishing, there is a direct and proportionate reduction in the ecosystem’s ability to support the predators which depend on that prey as a food source.

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<sup>1</sup> Rounsefell, G.A. Ecology, utilization, and management of marine fisheries. C.V. Mosby Co. 1975.

<sup>2</sup> Ragen, T.J. Maximum sustainable yield and the protection of marine ecosystems: A fisheries controversy in Alaska.

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In conclusion, I have two recommendations for the next step in conservation and management of Atlantic menhaden:

- First, catch limits and fishing mortality rates for menhaden (and other forage fish) should be set with a goal of rebuilding the stock to a level that is 75 percent of an unfished population. This is an emerging precautionary standard for conserving forage fish. It rejects the single-species, MSY concept as inappropriate for these critically important fish, and replaces it with a target population that is midway between the MSY level and a virgin biomass.
- Second, instead of using a moratorium on industrial fishing for menhaden to supercede the interstate management regime that is in place, congressional intervention could be used to reinforce that regime. Congress should reverse the approach outlined in these two bills and pass legislation that would impose a federal moratorium beginning in 2011 if the ASMFC has not amended its Atlantic Menhaden Fishery Management Plan to set catch limits that explicitly account for the needs of the many fish, seabirds and marine mammals that depend on menhaden as a key source of prey.

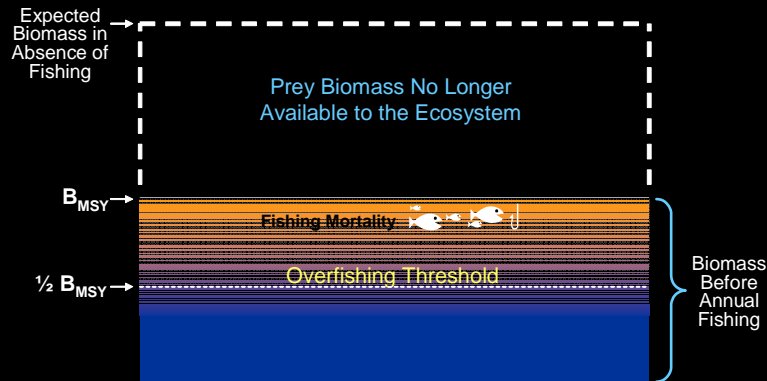
This approach, I believe, would be consistent with Congressional oversight of interstate fisheries management in the past - the Striped Bass Act, for instance - which has been so important to promoting interstate conservation by providing the necessary federal incentive for states to make the tough decisions.

That concludes my prepared statement. Thank you again for the opportunity to testify, and I'd be happy to answer any questions.

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Predator populations are food limited. If we reduce the standing population of a prey species, by fishing, then predation rate is applied to a smaller biomass, and the predator population must decrease.



Fishing, even at sustainable (MSY) levels, has ecosystem effects. The question is, how much can we reduce the food supply and not harm predator populations (and how do we define "harm"?)

National Coalition for Marine Conservation 2007