

## **Comments for the Chesapeake Bay Work Group Submitted by Ocean Harvesters & Omega Protein**

Ocean Harvesters and Omega Protein submit these comments for consideration by the Chesapeake Bay Working Group, which was formed pursuant to the following motion adopted at the Menhaden Management Board's Summer Meeting:

Moved to establish a Board workgroup to consider and evaluate options for further precautionary management of Chesapeake Bay menhaden fisheries, including time and area closures, to be protective of piscivorous birds and fish during critical points of their life cycle.

To put it charitably, the motion puts the proverbial horse before the cart, assuming that "further precautionary management" measures – *i.e.*, measures beyond the precautionary Chesapeake Bay reduction fishery cap 51,000 metric tons ("mt") – are needed to protect piscivorous birds and fish. There is no evidence, however, that the menhaden bait and reduction fisheries in the Bay are having any adverse impacts on avian or fish predators. Nor is it likely that the current menhaden fishery in the Chesapeake Bay is having adverse effects given that it is currently being prosecuted at some of the lowest levels in the past 150-plus years and the unitary, migratory menhaden stock is both highly abundant and conservatively managed.

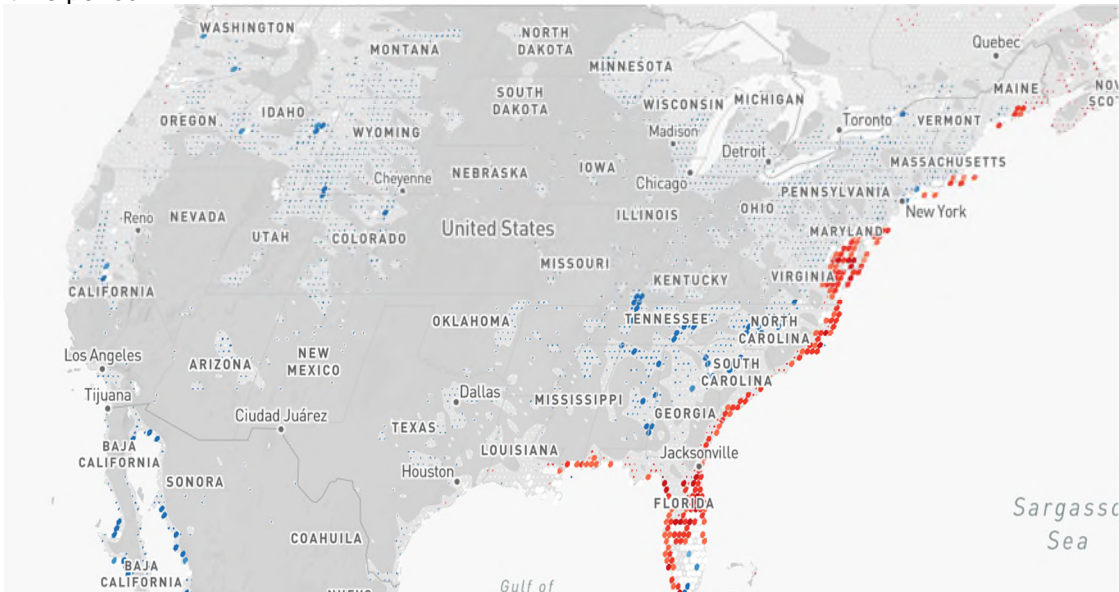
It is unclear what information the Working Group intends to base any recommendations upon. At the Summer Meeting, the Menhaden Board was presented with a detailed presentation by the U.S. Geological Survey ("USGS") on what is known, and not known, about the present state of local populations of osprey in the Chesapeake Bay region. The Board was informed that, overall, the regional osprey population increased 1,801% between 1966 and 2022. The USGS scientists noted that over a shorter timeframe – 2012-2022 – there had been a slight decline in their numbers within the mainstem of the Bay and its tributaries (though increased populations inland). That decrease appears to be more pronounced in the Maryland portion of the Bay, but it is a trend that has been seen all along the Atlantic Coast. (*See* Figure 1, below.)

Importantly, the USGS does not know exactly what accounts for this trend. One of the scientists mentioned that it is not uncommon for recovering populations to increase levels past carrying capacity, though did not speculate that this is the cause of the general coastal decline in osprey populations. They did note likewise increasing trends for competitor species, such as bald eagles, cormorants, pelicans, gulls, etc. Competition can lead to intraspecific competition for nest sites and prey and depredation. Other things they identified include weather events which are becoming more frequent and severe with climate change, disease like the avian influenza epidemic currently underway, environmental contaminants, and water quality. None of these have been specifically implicated in the current decline in breeding success seen along the Atlantic coast.

The USGS team did indicate, however, that a study is currently underway to investigate historical and present-day availability of prey for osprey. Those results are expected at the end of 2025. It would be prudent to postpone any such management actions until that study is complete.

**Figure 1: Osprey (*Pandion haliaetus*) Trends In Abundance 2007-2021  
Breeding season, 14 Jun - 13 Jul**

This map depicts the cumulative change in estimated relative abundance from 2007 through 2021 with circles representing 27km x 27km regions. Red indicates decline and blue indicates increase. The darker the color, the stronger the trend. White circles represent locations where the trend estimate is not significantly different from zero (i.e., the 80% confidence interval contains zero). Circle sizes are scaled by the estimated relative abundance at the middle of the time period.



Source: eBird data from 2007-2021. Estimated for 2021. <https://science.ebird.org/en/status-and-trends/species/osprey/trends-map>

Beyond the lack of scientific information to inform any management action, another reason to avoid a narrow focus on the menhaden fisheries is that it is far from the only or even most important food source for osprey. USGS presented information that only in the large mid-Bay region, where salinity is about 8-13 parts per million, do menhaden comprise a significant portion of ospreys' diet. And in that region, osprey are even more dependent on striped bass, an overfished population currently subject to a rebuilding program. In the southern portion of the Chesapeake Bay, where the reduction fishery is concentrated, menhaden comprise only about 24% of osprey diet, with spotted sea trout being the dominant forage fish.

If the primary factor in recent declines is lack of forage, then the Working Group should focus on the full suite of forage available to osprey, which, of course, are generalists when it comes to feeding. Indeed, it would be responsible to look at whether environmental factors, such as water temperature, salinity, and dissolved oxygen levels during breeding season may be influencing fish availability.

There is only one study that purports to identify the menhaden fishery as the culprit in the lack of nesting success in one small portion of the Chesapeake Bay. That report, "[Food supplementation increases reproductive performance of ospreys on the lower Chesapeake Bay](#)," authored by master's candidate Michael H. Academia and Bryan D. Watts, director of the College of William & Mary's Center for Conservation Biology ("CCB"), focuses on observed low rates of

reproductive success among osprey inhabiting Mobjack Bay, an area along the western side of the lower Chesapeake Bay. The study found that providing fish to nests improves survival of the young birds.

Going beyond the evidence, the authors conclude that the Chesapeake Bay menhaden fishery—specifically the reduction, and not the bait, fishery—could cause osprey populations to “decline precipitously, threaten population stability, and eventually lead to widespread population collapse.” They call for a return to the 1980s levels of menhaden in the Bay to be accomplished by further reducing or eliminating the reduction fishery’s Bay harvest. These recommendations are not supported by the study’s findings. In fact, as shown below, it is highly unlikely that the fishery has any impact on foraging issues facing osprey in this small area.

There is reason to suspect that foraging success by adult osprey in Mobjack Bay has declined based on CCB provisioning studies over the years. But nothing suggests that menhaden abundance is a cause. For example, compared to the last study in 2007, **menhaden comprised a higher percentage of fish delivered to nests in 2021**. So, while the amount of forage fish caught by or available to osprey (which are generalists when it comes prey) may be lower than years past, menhaden are *relatively* more abundant than other stocks compared to 2007.

Beyond that, overall menhaden biomass has been high for decades. In 2021, the year of the study, it was at its second highest level since 1961. Within the Chesapeake Bay, the menhaden young-of-the-year index for the two mid-Bay rivers, the Choptank and Patuxent, were at their highest and fifth highest levels in 2021, meaning there were abundant small menhaden in this region. For the Bay overall, recruitment of menhaden was the highest in the late 1970s and into the 1980s when environmental conditions were favorable and the striped bass population had crashed. As striped bass recovered menhaden recruitment declined, suggesting that osprey may be competing with that stock.

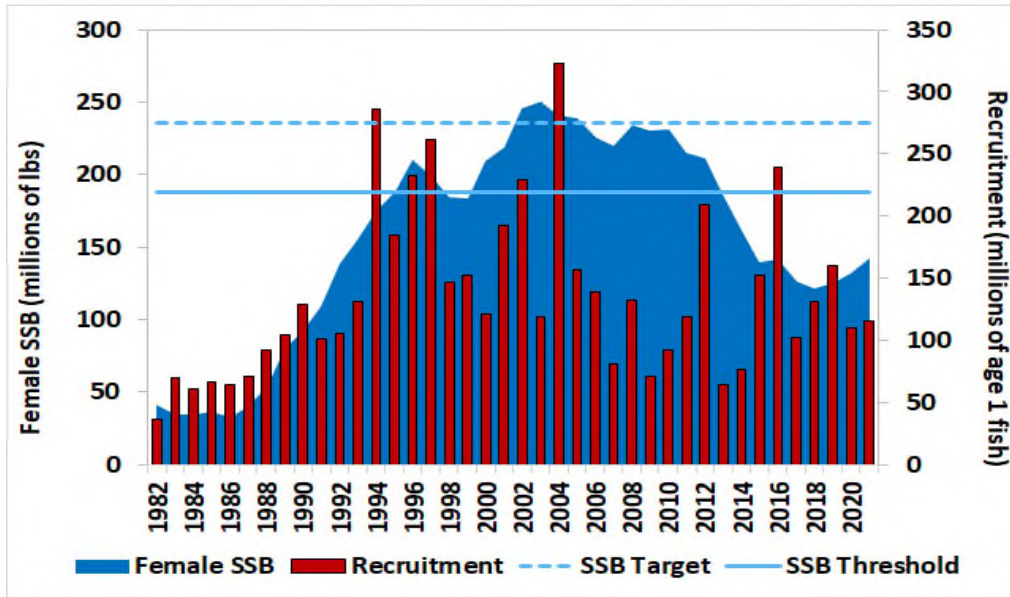
Finally, the Chesapeake Bay menhaden fishery is currently at its lowest sustained levels on record due to decreases in the Bay reduction fishery cap and actions by Omega Protein and Ocean Harvesters to reduce their Bay footprint and minimize user conflicts. Importantly, this fishery has been prosecuted in the Chesapeake Bay since the 1850s. For most of that time, menhaden removals from the Bay have been three or more times higher than currently. More importantly, the only reduction fishing that occurred during the study period in May 2021 when most nests failed was north of Mobjack Bay and thus had no impact on that area.

The researchers never asked why there are fewer forage fish of all types in Mobjack Bay, such as whether its environmental conditions have become less favorable. Given that osprey are declining all along the east coast, it appears broader forces are at work.

The are many reasons the Chesapeake Bay menhaden levels are not likely to return to levels of the mid-1970s to the 1980s. Chief among them is the fact that that was a period when the population of menhaden’s chief predator, striped bass, had crashed, leading the ASMFC to impose a moratorium on striped bass fishing in 1981. The population did not rebuild until 1994.

**Atlantic Striped Bass Female Spawning Stock Biomass and Recruitment**

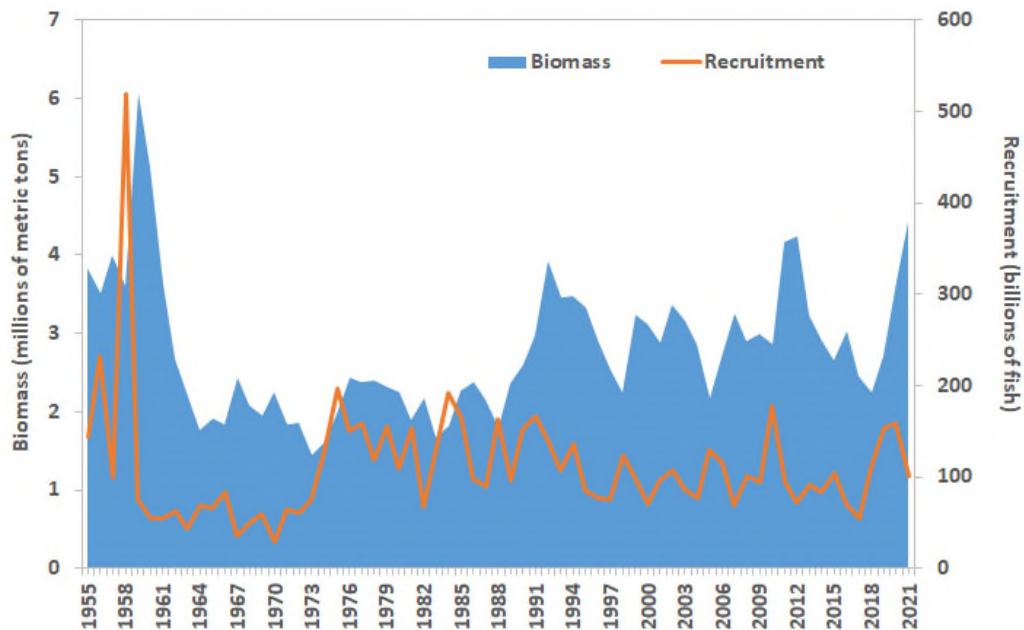
Source: Atlantic Striped Bass Stock Assessment Update, 2022



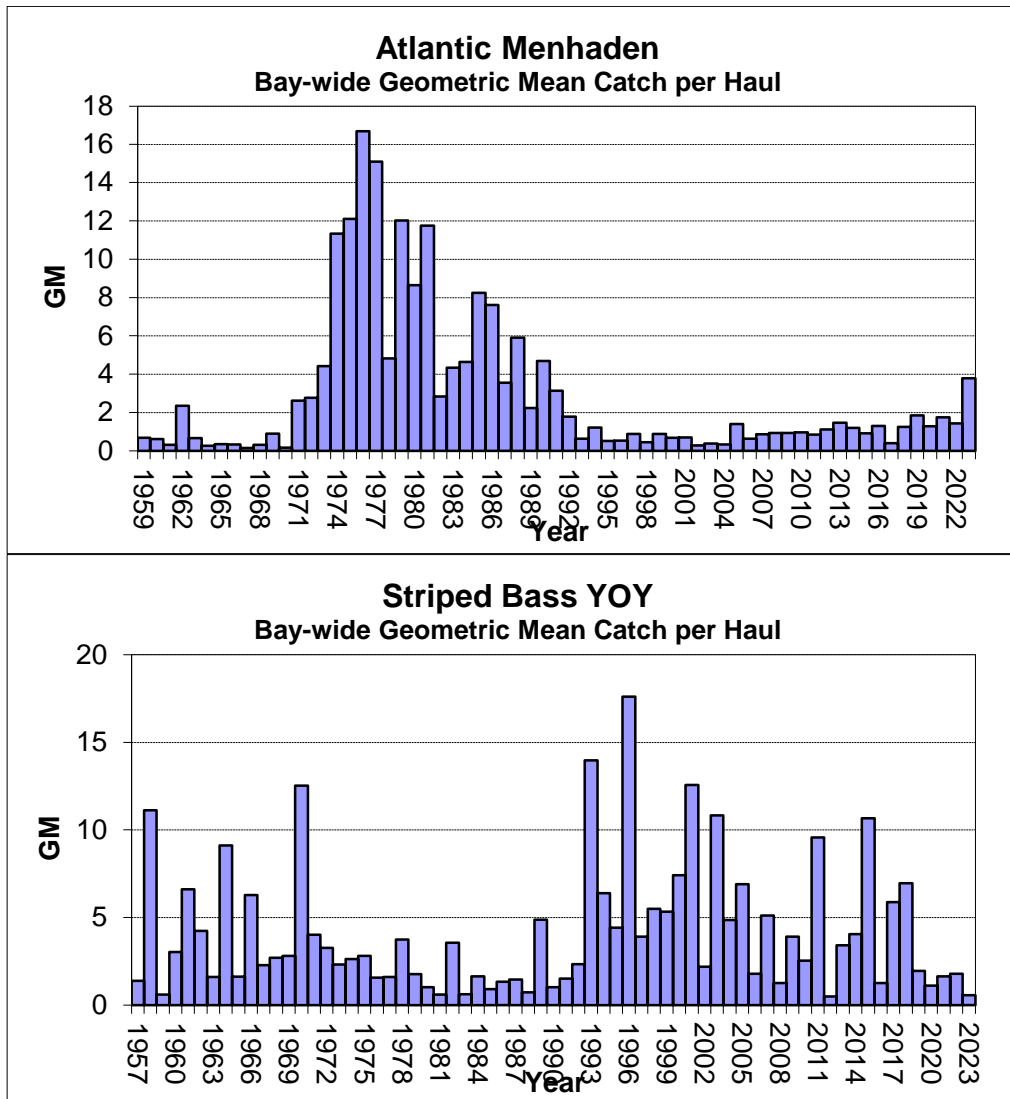
Meanwhile, the Atlantic menhaden population currently at some of its highest levels of biomass.

**Atlantic Menhaden Biomass and Recruitment**

Source: ASMFC Atlantic Menhaden Stock Assessment Update, 2022

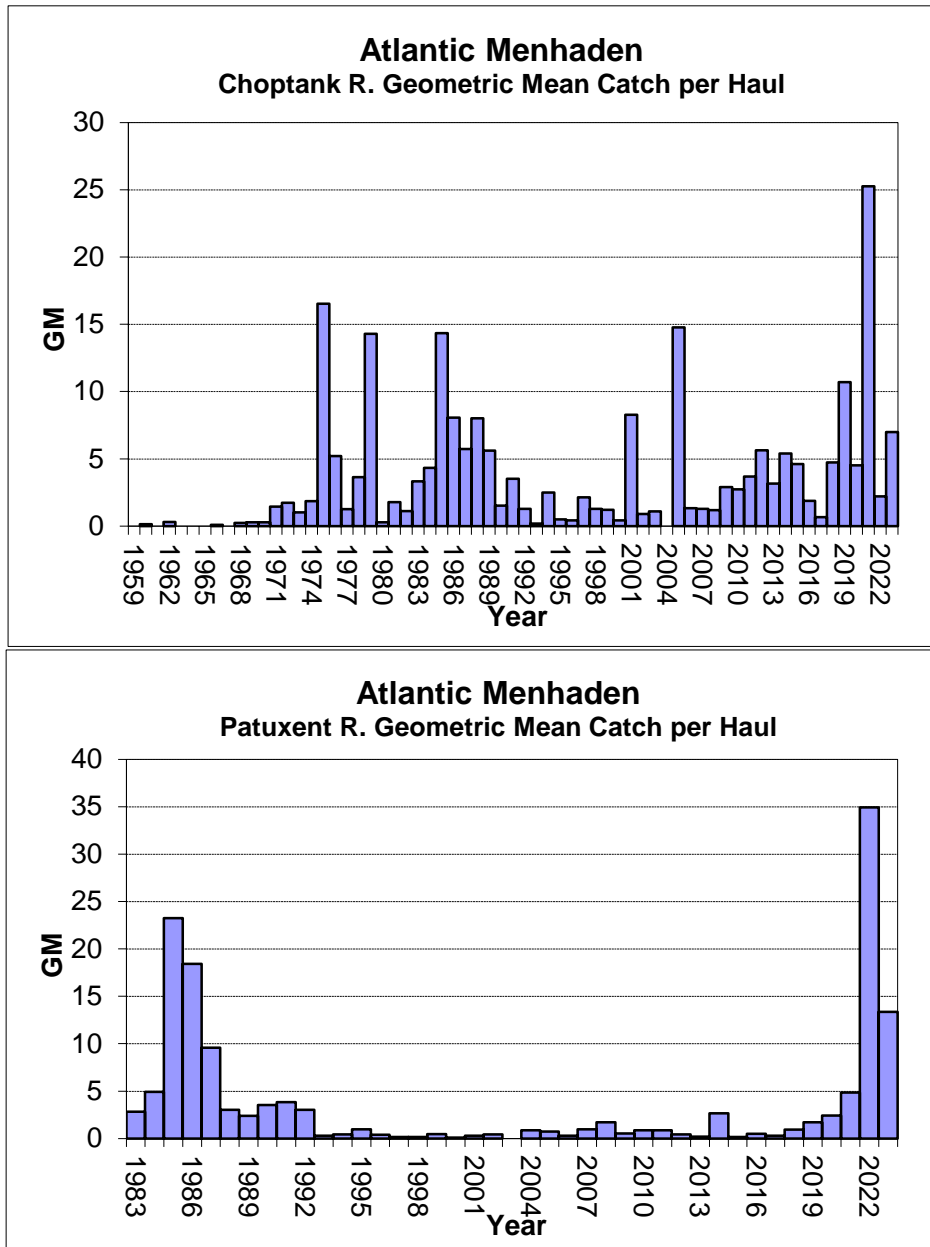


While, as the figure above shows, the coastwide population of menhaden was at some its lowest levels in the 1970s and 1980s, trends were significantly different in the Chesapeake Bay. As the young-of-year indices for menhaden and striped bass from the Maryland Department of Natural Resources show, that was a time of the highest recruitment for menhaden and the lowest for striped bass. It is likely that the lack of predation pressure from striped bass and favorable climatic conditions<sup>1</sup> combined to create a uniquely favorable conditions for menhaden recruitment in the Chesapeake during this period.



<sup>1</sup> The Atlantic Multidecadal Oscillation (AMO) is the most significant factor in determining menhaden recruitment success, with phases of the AMO correlated with recruitment success in the Chesapeake Bay and Southern New England. (Buchheister et al. (2016).) Conditions favored Chesapeake Bay recruitment during the 1970 and 1980s with a shift favoring Southern New England recruitment in the 1990s and into the 2000s. Also, weather conditions in March brought on by an early appearance of the Azores-Bermuda High favors recruitment of shelf spawners like menhaden, while prolonged winter conditions facilitated by the dominance of the Ohio Valley High favor spawning success of anadromous species, such as striped bass. Research has found a shift in conditions favoring anadromous species beginning in 1992. See ASMFC, Atlantic Menhaden Stock Assessment and Review Panel Reports, Stock Assess. Rpt. 10-02 (May 2010) (citing Wood (2000), Wood et al. (2004), Austin (2002), Wood and Austin (2009)).

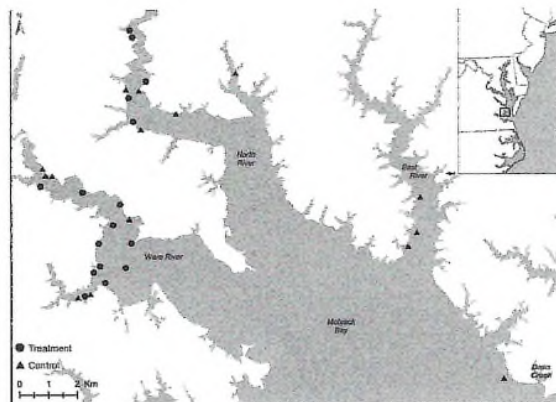
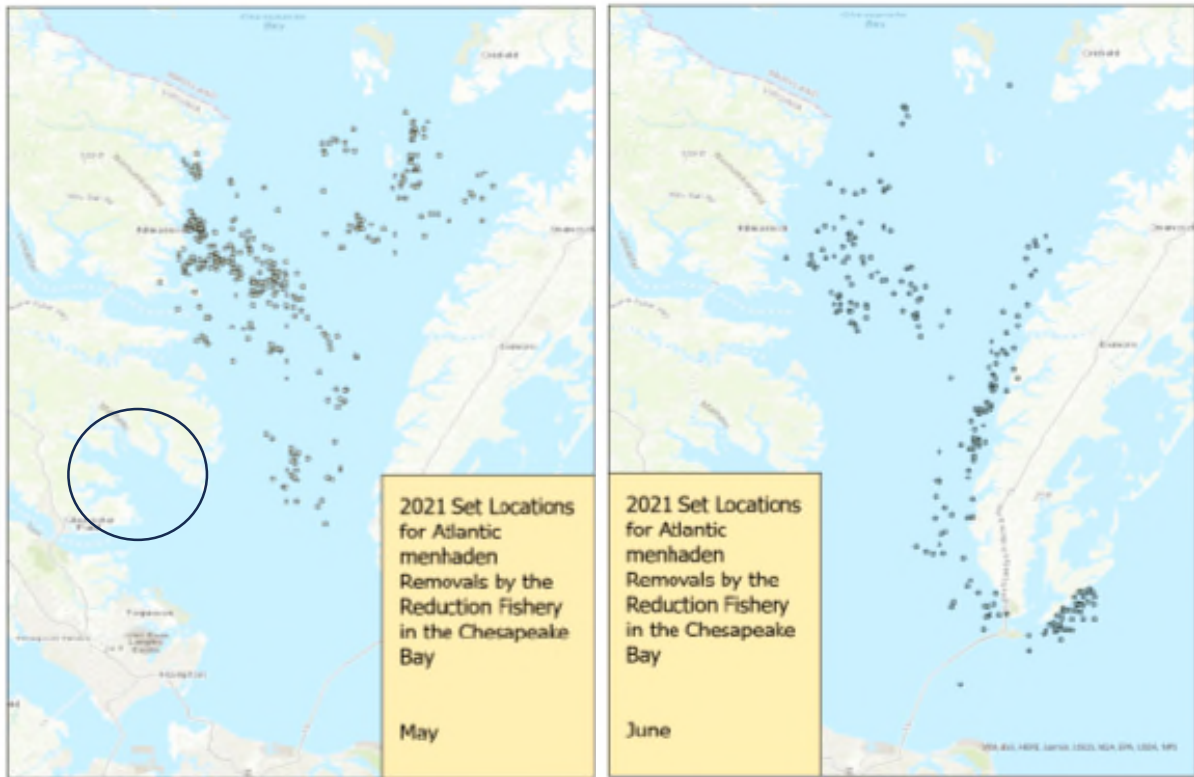
There is also some evidence of increased recruitment and young-of-year menhaden within the relevant region during the 2021 study period. While, as noted above, the overall menhaden abundance index for the Maryland portion of the Chesapeake Bay has been relatively stable over the past five years, the indices for two mid-Chesapeake Bay river systems, the Patuxent and Choptank, have had some of the highest mean catch per haul levels for menhaden in recent years.



As the figures show, the recruitment index for the Choptank river was the highest in the time series in 2021, while that year's index for the Patuxent River was the fifth highest (and 2022 was the highest). While these areas are north of Mobjack Bay, they do indicate a higher presence of juvenile menhaden in the mid-Bay.



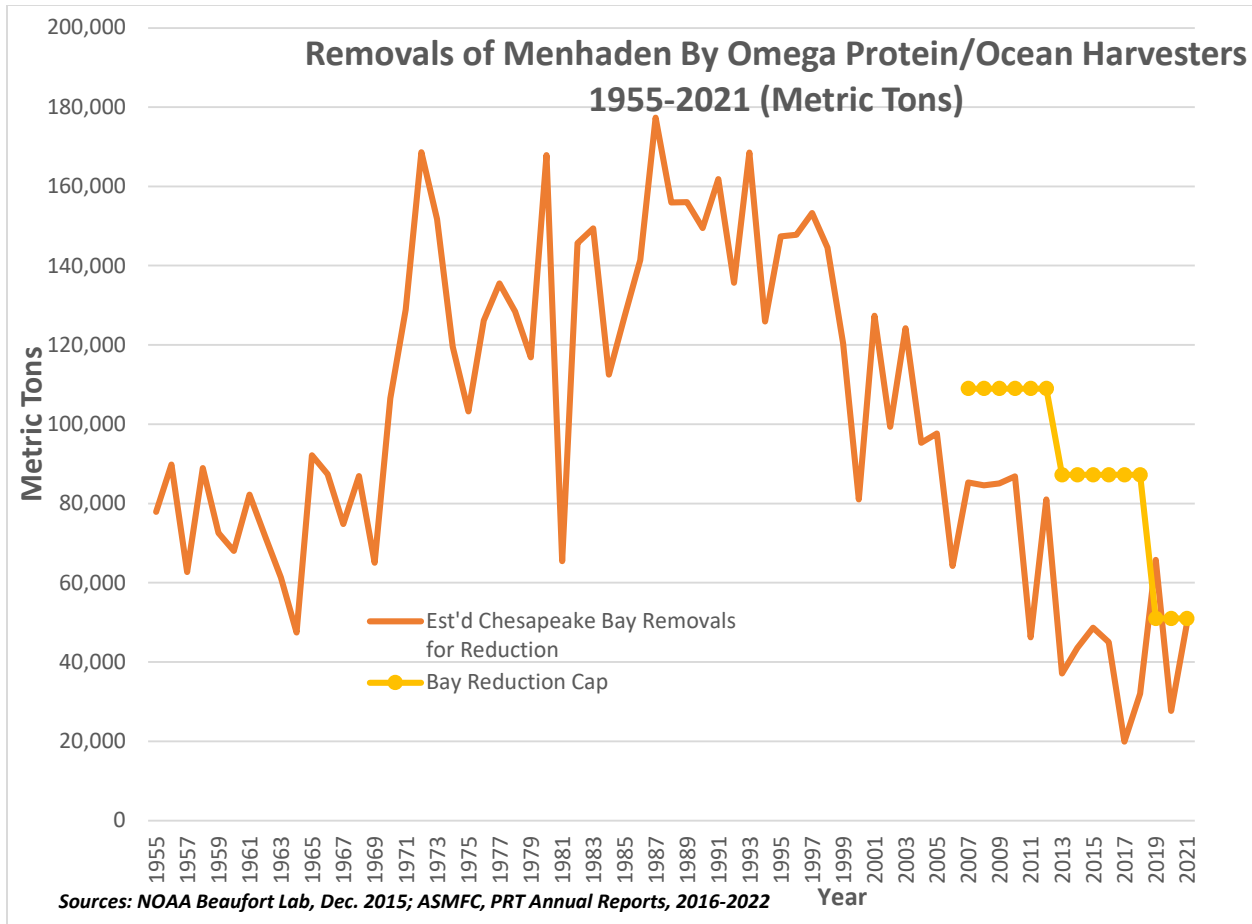
The timing and location of the menhaden fishery do not suggest that it could have had an impact on the availability of menhaden in Mobjack Bay. At the recent meeting of the Ecological Reference Point Working Group meeting, Dr. Watts indicated that the highest number of nest failures in 2021 occurred in May. However, that month, none of Ocean Harvester’s vessels made all of its sets above the study area, indicating that menhaden had entered the Bay, but apparently did not choose to enter Mobjack Bay in significant numbers. Likewise in June, no sets were made anywhere near the nesting sites.



**FIGURE 1**  
Map of the experimental area of Mobjack Bay on the lower eastern region of Chesapeake Bay, VA, USA. The locations of the control group (N = 15) represented by black triangles and the food addition group (N = 16) represented by black circles.

As the retired National Marine Fisheries Service biologist and the leading expert on the menhaden fishery, Joe Smith pointed out, historically few sets occurred in the region that includes Mobjack Bay (2 percent of all landings during the 2013 and 2014 fishing seasons). Those catches come from outside the Mobjack Bay, far from the western rivers systems where the nests in the study area are located. (Figure at left.)

It is important to keep in perspective the current levels of menhaden fishing effort in the Chesapeake Bay. Due both to management action (the Bay Reduction Cap) and efforts by Ocean Harvesters to minimize its footprint in this estuary, current harvest levels are about a third of those during the 1980s when the first big osprey feeding habits study was conducted. It is also worth bearing mind that this fishery has been in operation since the mid-1800s and over most of that time, the reduction fishery in the Chesapeake Bay and coast-wide landed far more menhaden than it does today.



Additionally, catch levels above are only for vessels owned and operated by Omega Protein/Ocean Harvesters. Prior to 2006 when the second to last reduction plant (Beaufort Fisheries in Beaufort, N.C.) closed, there were many other companies and vessels operating in the Chesapeake Bay. Thus, the catch levels for early periods are lower than actual Chesapeake Bay removals.



Finally, the authors assume that the fishery could be the only cause of the osprey's lack of foraging success, as opposed to environmental factors within Mobjack Bay or other causes.<sup>2</sup> The authors fail to note, however, that menhaden actually comprised a higher proportion of fish delivered to nests compared to a 2009 study in the same area. While total fish deliveries were down, this suggests that menhaden were relatively more available within Mobjack than other prey species. Thus, whatever is causing the lack of foraging success, it appears to be impacting all forage fish.

At a larger scale, larger forces appear to be at play than just the menhaden fishery in the Chesapeake Bay. As Figure 1 above shows, there has been a coastwide decrease in osprey abundance and an increase in inland areas between 2007 and 2021. As the menhaden stock is high and abundant throughout its range, and the reduction fishery operated in only a small part of the osprey's range, that fishery cannot be the cause of this coastwide trend.

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The Chesapeake Bay Working Group has been given a task greater in difficulty than that of the Ecological Reference Point Working Group. Specifically, it has been asked to determine the needs of all predatory fish and birds at each life-stage and time of the year, and then to develop a highly calibrated system of time/area closures and catch levels throughout the Chesapeake Bay such that the "need" for menhaden among the full suite of predators is fully met.

Any pretense of an impartial, science-driven process would be informed by basic information that is simply not available. These include: dietary demands of all predators in the region relative to the time-varying amount of migratory menhaden within the Bay and biomass of all other prey species; the impact on populations of interest (*e.g.*, osprey, striped bass) of competition not only among avian predators, or among species of predatory fish, but of competition between birds, fish, terrestrial and marine mammals, etc., and humans for a fixed set of resources in specific locations and times of the year; and, of course, a basic understanding of the patterns of movement of menhaden and other prey species within the Chesapeake Bay throughout the year, along with the environmental factors favoring or disfavoring their abundance in a particular area.

A cynic might surmise that the Working Group was given the authority to develop "precautionary" measures precisely because there is simply no way to make any credible scientific recommendations. However, before the Menhaden Board considers further restrictions on the Chesapeake Bay menhaden fishery, it should at least have some evidence that menhaden availability is itself contributing to a particular harm and that the fishery is the cause, rather than any number of environmental factors discussed above. Thus, for example, the Board should at least wait for the USGS study.

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<sup>2</sup> For instance, local menhaden abundance has been tied to abundance of copepods and other invertebrate zooplankton. Friedland, K. D., Lynch, P. D., & Gobler, C. J. (2011). Time series mesoscale response of Atlantic menhaden *Brevoortia tyrannus* to variation in plankton abundances. *Journal of Coastal Research*, 27(6), 1148-1158. The perceived lack of menhaden in Mobjack Bay may be reflective of the prevailing planktonic community during the study period.

In conclusion, the Atlantic States Marine Fisheries Commission's mandate is to "to promote the better utilization of the fisheries, marine, shell and anadromous, of the Atlantic seaboard by the development of a joint program for the promotion and protection of such fisheries, and by the prevention of the physical waste of the fisheries from any cause." ASMFC Compact, Art. I. Constraining economically and socially important use of the menhaden resource in the Chesapeake Bay for bait and reduction purposes when there is no evidence or indication that current harvest levels are problematic is not consistent with the Commission's mandate to use the best scientific information available.

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**From:** Debbie Campbell <debbiescampbell@icloud.com>  
**Sent:** Friday, September 6, 2024 7:43 AM  
**To:** Comments  
**Subject:** [External] Atlantic Menhaden Work group  
**Attachments:** Menhaden Resolution (2).pdf

Work Group Members,

As you consider localized depletion of menhaden in the Chesapeake, consideration should be given to how the constant pressure of reduction has impacted our rural county. As far as I can tell, this important resolution from our county was summarily dismissed.

Please review and give this the serious attention it deserves.

The industrial reduction fishing ships need to be in the open ocean out of BA state waters.

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Sincerely,  
Debbie Campbell  
Silver Beach VA

**From:** Roberta Kellam <sophieandfolly@yahoo.com>  
**Sent:** Friday, September 6, 2024 9:16 AM  
**To:** Comments  
**Cc:** Toni Kerns; James Boyle; Roberta K  
**Subject:** [External] Atlantic Menhaden Workgroup  
**Attachments:** Menhaden Resolution (2).pdf

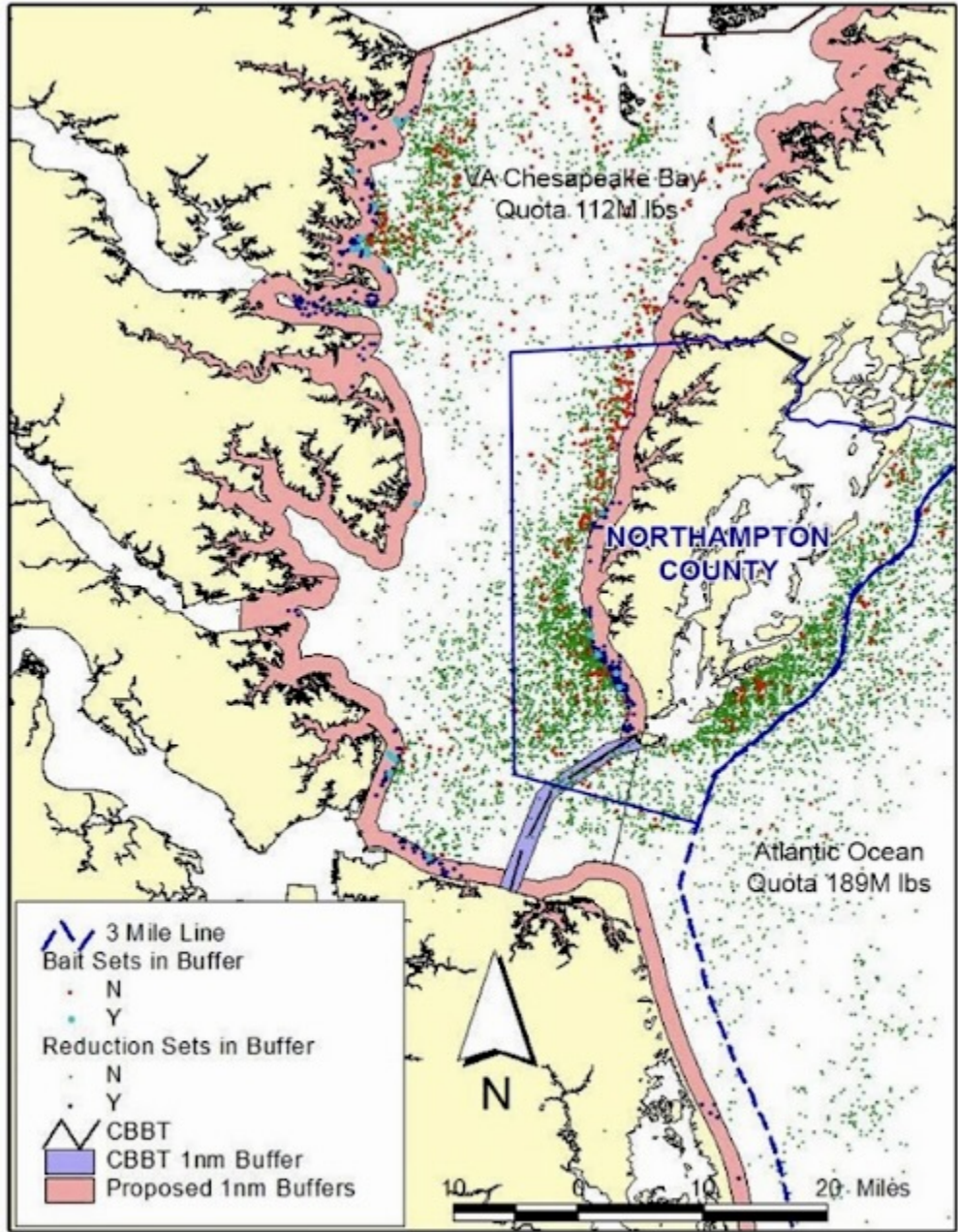
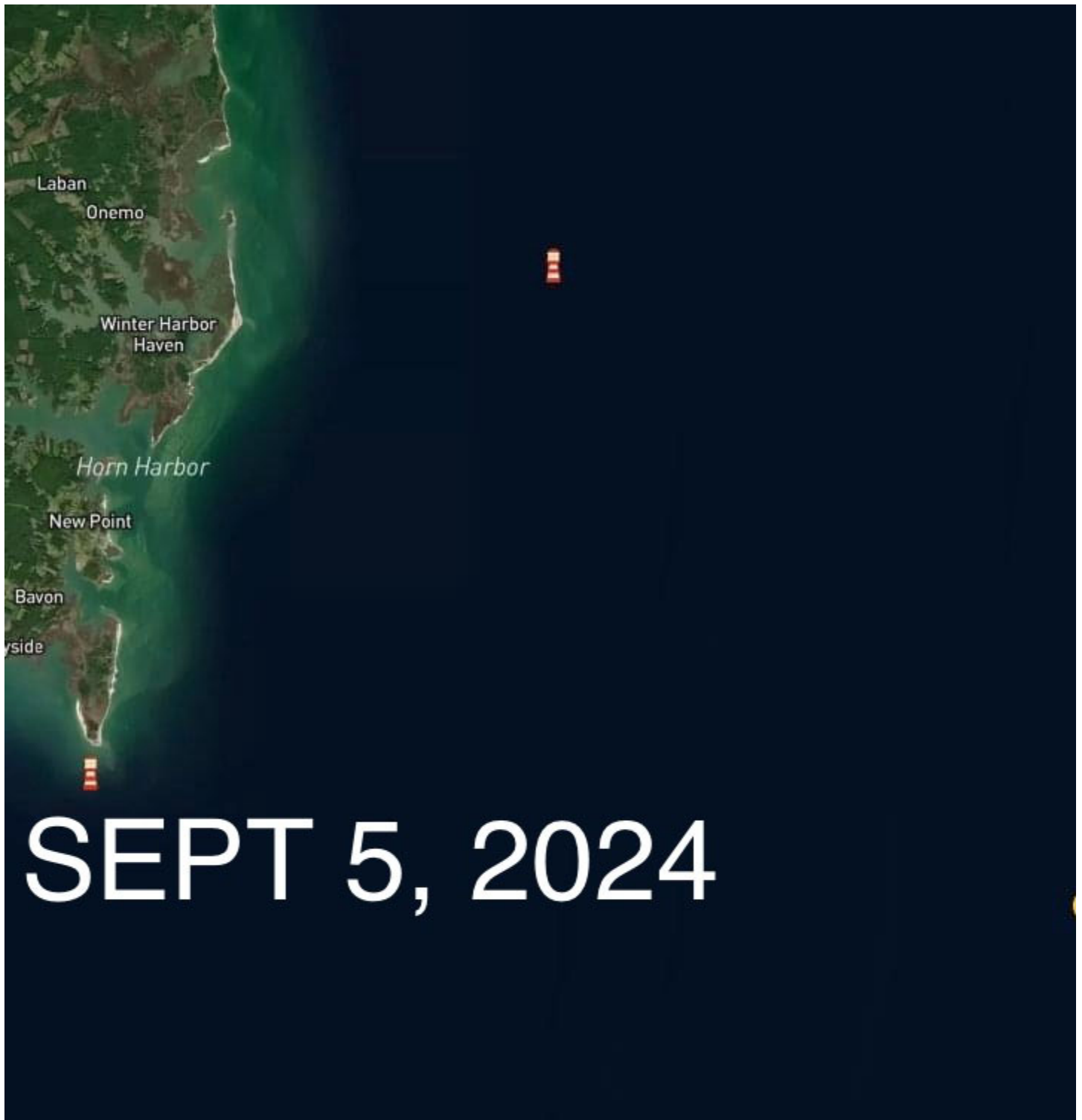


Image: Virginia Marine Resources Commission, 2022  
Locations of bait sets 2018-2022 and Locations of reduction sets 2016-2020







I am writing regarding the study group work plan for determining menhaden fishing impacts to breeding ospreys in the Chesapeake Bay watershed and the nearshore fishing on the Atlantic Ocean side of Northampton County, Virginia. Northampton County, Virginia, experiences the most impacts from the industrial menhaden fishery of any County on the Eastern Seaboard of the United States. From the human impacts, such as incessant airplane noise, bacterial laden discharges, frequent fish spills soiling the beaches, and depletion of recreational fishing, to the biological impacts of loss of osprey, dolphins, striped bass, etc., Northampton County is subjected to all of the negative impacts including tourism revenue losses to the local economy. There are no regulations that restrict the industrial menhaden fishery from fishing close to the lands of Northampton County.



I am a lifelong birder and resident of Northampton County, Virginia. I volunteer for "Osprey Watch" which is an osprey survey project run by Dr. Bryan Watts, PhD, Director of the Center for Conservation Biology at the College of William and Mary in Williamsburg, VA. No discussion of ASMFC's menhaden strategy would be complete without consulting Dr. Watts for his input on the osprey breeding situation in the Bay watershed.

In 2024, I studied two nests that are located on Warehouse Creek (a branch of Nassawadox Creek), Franktown, Virginia, and were included in Dr. Watt's survey. One nest had a video camera installed. A neighbor on the main stem of Nassawadox Creek has a video camera installed at another nest. Our local observations confirm a high rate of chick mortality. My neighbor documented 3 chicks hatched this year, and all perished, one by one, during ages 3-4 weeks. The deaths occurred shortly after Omega Proteins boat's were observed at the mouth of Nassawadox Creek. The two nests that I observed each produced one living chick that fledged. Video showed very small fish during critical growth times. Observations showed near constant fishing by the male osprey with occasional short fishing forays by the female osprey which left the chick vulnerable to predation. Although there are frequent public accusations that bald eagles are "the problem," even with two bald eagles patrolling Warehouse Creek on the daily, I observed 100% victory by the osprey over the bald eagles. Bald eagles did attempt to steal fish and in my observations, were not successful. Bald eagles have a varied diet which includes road kill; i.e., other abundant options with less effort.

As part of your study, the timing of Omega Protein's inshore fishing should be correlated with nesting time. The critical time for nesting here on the lower Eastern Shore of Virginia is late March to late August. Fledglings are learning to fish during July and August and are usually completely independent by the end of August. The two osprey nests in my study were already on eggs before the end of March. As Northampton County is a peninsula located in the Coastal Flyway, a significant number of ospreys migrate through here during fall. The Coastal Virginia Wildlife Observatory has data showing that thousands of ospreys migrate through here. The impact of the industrial menhaden fishery on the migrating osprey population should also be studied.

In addition to fishery timing, the methodology of Omega Protein's fishing boats should be studied. The boats and spotter planes cluster around schools and prevent any movement of ANY fish into the bayshore creeks of Northampton County. The spotter planes appear to use noise as part of the fishing strategy. The results are very clear - complete depletion of the menhaden schools, along with all other "bycatch" fish, in localized areas, impeding fish movements into the Northampton county bayside creeks. You will see from Dr. Watts' results that Osprey nesting productivity in the Nassawadox Creek watershed was very poor. It is very easy to correlate the poor reproductivity to the location and methodology of the menhaden reduction fishery fishing operations because the boats and planes are geolocated. Northampton County residents also photograph and record the fishing operations from local beaches.

The osprey reproduction rate in some areas of the Chesapeake Bay are already below that which led to the population crashes of the DDT era. ASMFC should not let this happen again.

Attached please find (1) the Northampton County resolution regarding the menhaden fishery, (2) map of the Eastern Shore showing menhaden reduction fishery boat locations, (3) example maps of plane and boat locations showing the industrial menhaden reduction fishery overfishing and depleting all fishery resources along the mouths of creeks in Northampton County, Virginia.

Sincerely,  
Roberta Kellam  
PO Box 205

Franktown VA 23354

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**From:** Dale William Neal <dalewilliamneal@gmail.com>  
**Sent:** Thursday, September 5, 2024 3:44 PM  
**To:** Comments  
**Subject:** [External] Atlantic Menhaden Work Group - first meeting comment

Dear menhaden workgroup members,

Please be aware that the menhaden issue in the Chesapeake Bay is not just about recreational fishing or marine birds. While both of these are huge factors in the fight to save an abundant menhaden stock in the bay, there are also needs that hit much closer to home in your mission to manage sustainable fisheries.

The small bait fisheries in Maryland, The Potomac, and Virginia are all suffering considerably this year. Talk to the gill netters, pound fishermen, and crabbers in the Chesapeake. Something is wrong.

The other sector that has been hard hit is the subsistence fishermen. They struggle to catch bait on their own, or find local sources if they can afford to buy it.

Yes, there are other factors involved besides the impact of reduction fishing, like warming waters, migratory changes, pollution and the pervasive blue cat. All the more reason to conserve what is left of the menhaden stock in the bay.

The Chesapeake Bay should be managed for menhaden abundance. Restrict reduction fishing, leave the bay for the bait industry. You have a great opportunity for a success story.

Thank you for your service on this important matter.

Sincerely, Dale William Neal  
Richmond, VA  
Advocate for Atlantic and Gulf Menhaden  
[www.saveourmenhaden.org](http://www.saveourmenhaden.org)

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POSITION REGARDING THE LOCALIZED DEPLETION OF ATLANTIC MENHADEN IN THE  
CHESAPEAKE BAY

*“In Maryland, we have no menhaden. None.” – Russell Dize, Maryland Delegate to the Atlantic Menhaden Management Board and Commercial Waterman, August 6, 2024.*

Executive Summary

The Save Our Menhaden Coalition is demanding an end to purse seine industrialized harvesting of Atlantic menhaden in Virginia waters to end the ecological and economic devastation occurring in the Chesapeake Bay due to localized depletion. See reference (a) and Figure 1.

These restrictions are already in place in Maine, Connecticut, New York, New Jersey, Pennsylvania, Delaware, North Carolina, South Carolina, Georgia, and Florida. See Figure 2 below.

Localized Depletion of Atlantic Menhaden in the Chesapeake Bay

The formal definition of localized depletion of menhaden in the Chesapeake Bay is given in reference (b):

“Localized depletion in the Chesapeake Bay is defined as a reduction in menhaden population size or density below the level of abundance that is sufficient to maintain its basic ecological (e.g. forage base, grazer of plankton), economic and social/cultural functions. It can occur as a result of fishing pressure, environmental conditions, and predation pressures on a limited spatial and temporal scale.”

What is occurring in the Chesapeake Bay is precisely the above definition of localized depletion.

Simply capping the reduction harvest in the Chesapeake Bay to an unscientific quota, and ignoring the entrance to the Bay, is irrational, ineffective, and violates common sense. See reference (c).

## Striped Bass

As documented in the Ecological Reference Point Assessment, Striped Bass are highly dependent on Atlantic menhaden for their survival. The mortality rate of Striped Bass is directly tied to the mortality rate of Atlantic menhaden. See reference (d) and Figure 3.

According to the latest empirical data, over 60% of the Atlantic Coast Striped Bass stock begin as spawn in the Chesapeake Bay and its tributaries. Depletion of Striped Bass in the Chesapeake Bay impacts the entire Atlantic Coast. Hence, the present Striped Bass emergency is occurring. See reference (e) and Figure 4.

Furthermore, allocating over 2 / 3 of the total allowable catch for the entire Atlantic Coast to the Virginia reduction fishery is in violation of the goals and objections of Atlantic Menhaden Management Board (AMMB) of the Atlantic States Marine Fisheries Commission. See references (f), (g) and (h). See Figure 1.

According to the Maryland Department of Natural Resources, the Striped Bass juvenile young-of-year index has decreased from a long-term value of more than 11.0 down to 1.0 in 2023. See reference (i).

According to NOAA, since 2016, the striped bass recreational harvest in Maryland and Virginia has decreased by 72% from 11.9 million pounds to 3.4 million pounds. See reference (j).

According to the Southwick Associates study of 2016, the Maryland and Virginia striped bass recreational GDP was over \$900 million dollars and responsible for over 11,000 jobs. See reference (k).

## Economic Loss to Maryland and Virginia

What is the economic loss in GDP and employment per year due to a 72% reduction in the recreational harvest in Maryland and Virginia waters? \$500 million dollars? 5,000 jobs or more?

## Striped Bass Recovery in New York

Since the New York Legislature prohibited purse seine harvesting of menhaden in April of 2019:

- The striped bass recreational harvest in New York has increased by 50%, from 7 million pounds to over 10 ½ million pounds. See reference (k) and Figure 5.
- The New York for-hire recreational business base has increased; and whales, predator fish, and birds have returned to New York waters in abundance. This has been documented in a two minute video produced by Tim Regan, a fishing guide and professional videographer. <https://youtu.be/qTVIjW-1gVQ?si=bdxgKuO9S0W9cvka>

## Osprey

According to Dr. Bryan Watts of the College of William and Mary reductions in menhaden stocks have caused osprey reproductive productivity to decline to below DDT-era rates. This is based on 50 years of research. Dr. Watts provided sworn testimony before the Virginia Marine Resources Commission on 8/22/23. He stated the following:

“The reason we decided to finally to begin to make statements about this issue is that we had moved from several hundred chicks starving in the nests to now thousands of chicks starving in the nests in the lower Bay.”

He went on to state “If you look at the relationship between reproductive rates over the last 40 years and the Atlantic menhaden relative abundance index, they are directly related.”

<https://www.youtube.com/watch?v=hf58Z9SLNlg> (14:43)

Michael Academia documented the latest study of osprey in the main stem of the Chesapeake Bay in reference (l).

## Summary

End purse seine fishing in Virginia waters now. This is exactly what other Atlantic States have done with great success.

## This action:

- Is supported by the latest science as documented in the ERP assessment of 2019 (See Figure 3);
- Is supported by the latest empirical data provide by NOAA;
- Will not impact Virginia’s quota;
- Will not it impact Omega Protein’s reduction harvest quota by one fish;
- Will end bycatch of important recreational fish species in Virginia waters;
- Will end fish spills on Virginia beaches. See references (e) and (d);
- Is supported by over 50 years of osprey research as documented by Dr. Bryan Watts of the College William and Mary



Phil Zalesak



Save Our Menhaden Coalition Member

President

Southern Maryland Recreational Fishing Organization

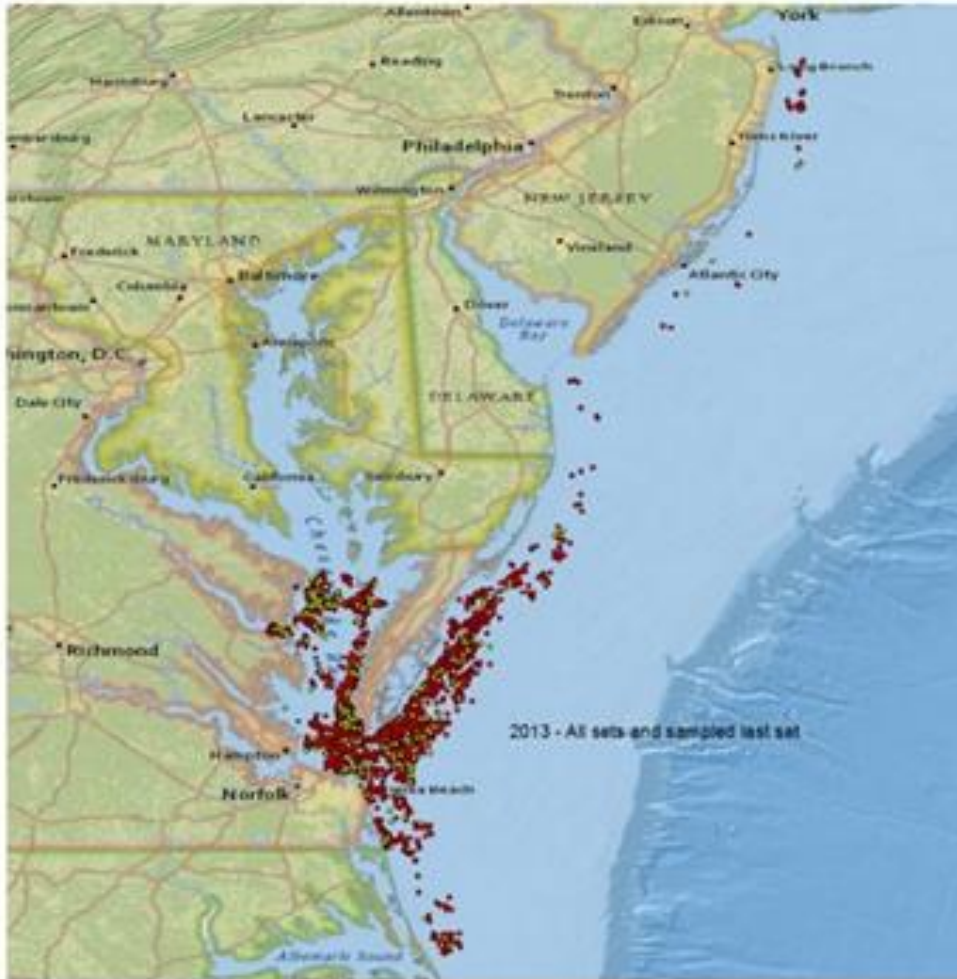
Corporate Facebook Page: <https://www.facebook.com/profile.php?id=61552422541232>

Membership Facebook Page: <https://www.facebook.com/groups/598428253621775>

#### References

- (a) [Take Action - SAVE OUR MENHADEN](#) – action 6
- (b) [Report on the evaluation \(noaa.gov\)](#) – page 4
- (c) [5a4c02e1AtlanticMenhadenAmendment3\\_Nov2017.pdf \(asmfc.org\)](#) page v
- (d) [Atlantic Menhaden Ecological Reference Point Benchmark Stock Assessment Report \(asmfc.org\)](#) – pages iii and 375
- (e) [66th Northeast Regional Stock Assessment Workshop \(66th SAW\) Assessment Report \(noaa.gov\)](#) – page 806
- (f) [FOR IMMEDIATE RELEASE \(asmfc.org\)](#)
- (g) [Vol. 36 Iss. 19 \(Final Regulation\) 4VAC20-1270, Pertaining To Atlantic Menhaden May 11, 2020 \(virginia.gov\)](#)
- (h) [5a4c02e1AtlanticMenhadenAmendment3\\_Nov2017.pdf \(asmfc.org\)](#) – page ii
- (i) [Chesapeake Bay 2023 Young-of-Year Striped Bass Survey Results Announced \(maryland.gov\)](#)
- (j) [Fisheries One Stop Shop \(FOSS\) | NOAA Fisheries | Landings](#)
- (k) [McGraw-Striped-Bass-Report-FINAL\\_compressed.pdf](#) – pages 25 and 44
- (l) [Atlantic Menhaden Ecological Reference Point Benchmark Stock Assessment Report \(asmfc.org\)](#)
- (m) [Fisheries One Stop Shop \(FOSS\) | NOAA Fisheries | Landings](#)
- (n) [Frontiers | Food supplementation increases reproductive performance of ospreys in the lower Chesapeake Bay \(frontiersin.org\)](#)

**Figure 4.1.3.4.3.** Locations of all purse-seine sets by Omega Protein vessels (red) and last sets of trips that were sampled for age and size composition of the catch (= port samples; green) during 2013; data are from CDFR data base.



<https://sedarweb.org/documents/sedar-40-stock-assessment-report-atlantic-menhaden/>

Figure 1. Typical Deployment of Omega Protein Purse Seine Sets in Red.

<b>ATLANTIC MENHADEN REDUCTION FISHING RESTRICTIONS</b>				
	<b>State</b>	<b>Action</b>	<b>Ended</b>	<b>Source /Date</b>
<b>1</b>	<b>Maine</b>	<b>End of mid-water trawling (reduction fishing)</b>	<b>2009</b>	<b>Megan Ware, 8/18/20</b>
<b>2</b>	<b>New Hampshire</b>	<b>No ban on reduction fishery</b>	<b>Ongoing</b>	<b>Cheri Patterson, 12/29/22</b>
<b>3</b>	<b>Massachusetts</b>	<b>No ban on reduction fishery</b>	<b>Ongoing</b>	<b>Dan McKiernan, 1/25/23</b>
<b>4</b>	<b>Rhode Island</b>	<b>Legislation with restrictions on Narragansett Bay harvesting</b>	<b>Early 2000s</b>	<b>Conor McManus, 12/29/22</b>
<b>5</b>	<b>Connecticut</b>	<b>Prohibited the use of purse seines</b>	<b>2000</b>	<b>Matthew Gates, 8/19/20</b>
<b>6</b>	<b>New York</b>	<b>Legislation to prohibit the use of purse seines to take menhaden</b>	<b>2019</b>	<b>James J. Gilmore, 1/18/23</b>
<b>7</b>	<b>New Jersey</b>	<b>Legislation prohibit taking menhaden by factory ships for fish meal reduction was signed into law</b>	<b>2002</b>	<b>Joe Cimino, 1/4/23</b>
<b>8</b>	<b>Pennsylvania</b>	<b>Commission does not permit any commercial fishing operations in the PA waters of the Delaware River and Estuary</b>	<b>1982</b>	<b>Kristopher M. Kuhn, 1/13/23</b>
<b>9</b>	<b>Delaware</b>	<b>Prohibition of purse seines</b>	<b>1992</b>	<b>John H. Clark</b>
<b>10</b>	<b>Maryland</b>	<b>Use of purse seines in Maryland waters was prohibited</b>	<b>1931</b>	<b>Lynn Waller Fegley, 12/22/22</b>
<b>11</b>	<b>Virginia</b>	<b>ASMFC quotas only</b>	<b>Ongoing</b>	<b>ASMFC</b>
<b>12</b>	<b>North Carolina</b>	<b>Unlawful to take menhaden or herring with a purse seine net deployed by a mother ship and one or more runner boats in coastal fishing waters</b>	<b>2012</b>	<b>Chris Batsavage, 8/23/24</b>
<b>13</b>	<b>South Carolina</b>	<b>The state did outlaw the use of purse seines in state waters in 1988</b>	<b>1988</b>	<b>Mel Bell, 1/4/23</b>
<b>14</b>	<b>Georgia</b>	<b>Use of purse seines in Georgia's territorial marine waters was prohibited in the late 1950's</b>	<b>1950's</b>	<b>Spud Woodward, 8/19/20</b>
<b>15</b>	<b>Florida</b>	<b>Commission net size restrictions to 500 square feet which precludes reduction fishing</b>	<b>1994</b>	<b>Jacob Espittia, 1/26/23</b>

Figure 2. Restrictions to Purse Seine Harvesting by State

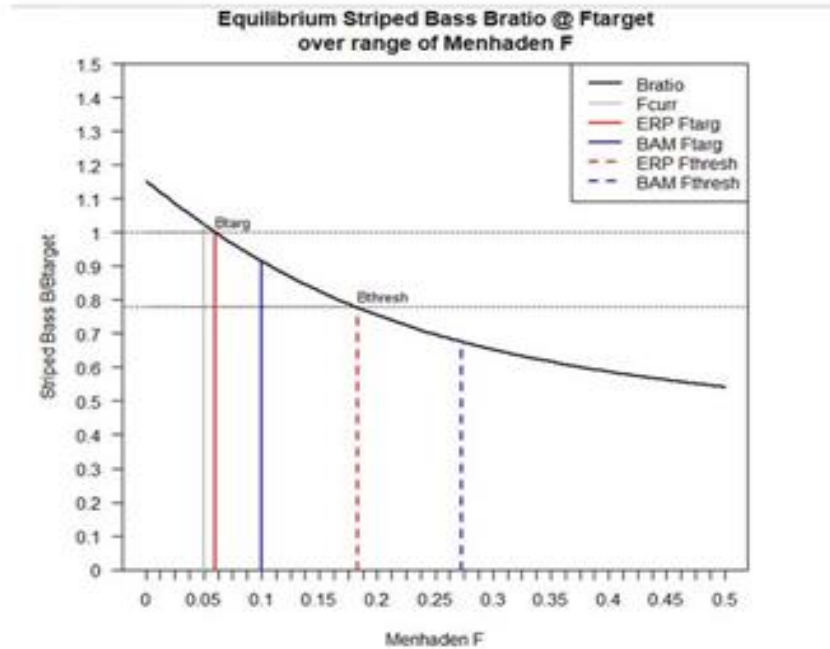


Figure 148. Terminal year biomass ratio ( $B/B_{TARGET}$ ) from the NWACS-MICE model for age 6+ striped bass over a range of Atlantic menhaden  $F$  with striped bass fished at their  $F$  target. Vertical solid and dotted lines indicate the BAM single-species target and threshold  $F$  as well as the current  $F$  and the proposed ERP target and threshold  $F$  for Atlantic menhaden.

Figure 3. The higher the mortality rate of menhaden, the higher the rate of Striped Bass will be.

# Ecological Impact

## Striped Bass

### Chesapeake Bay Contribution to Coastal Stock (>60%)

## Striped Bass

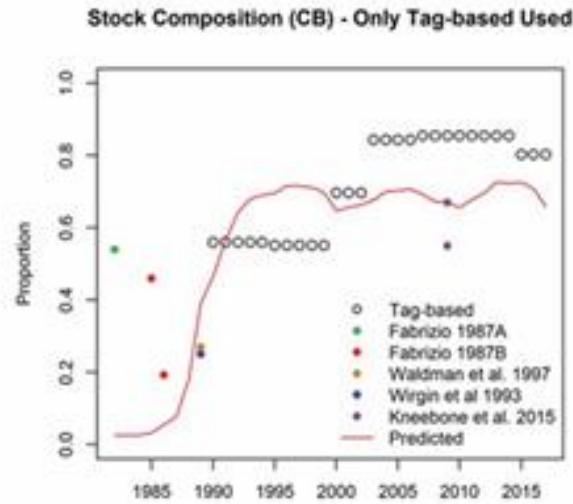


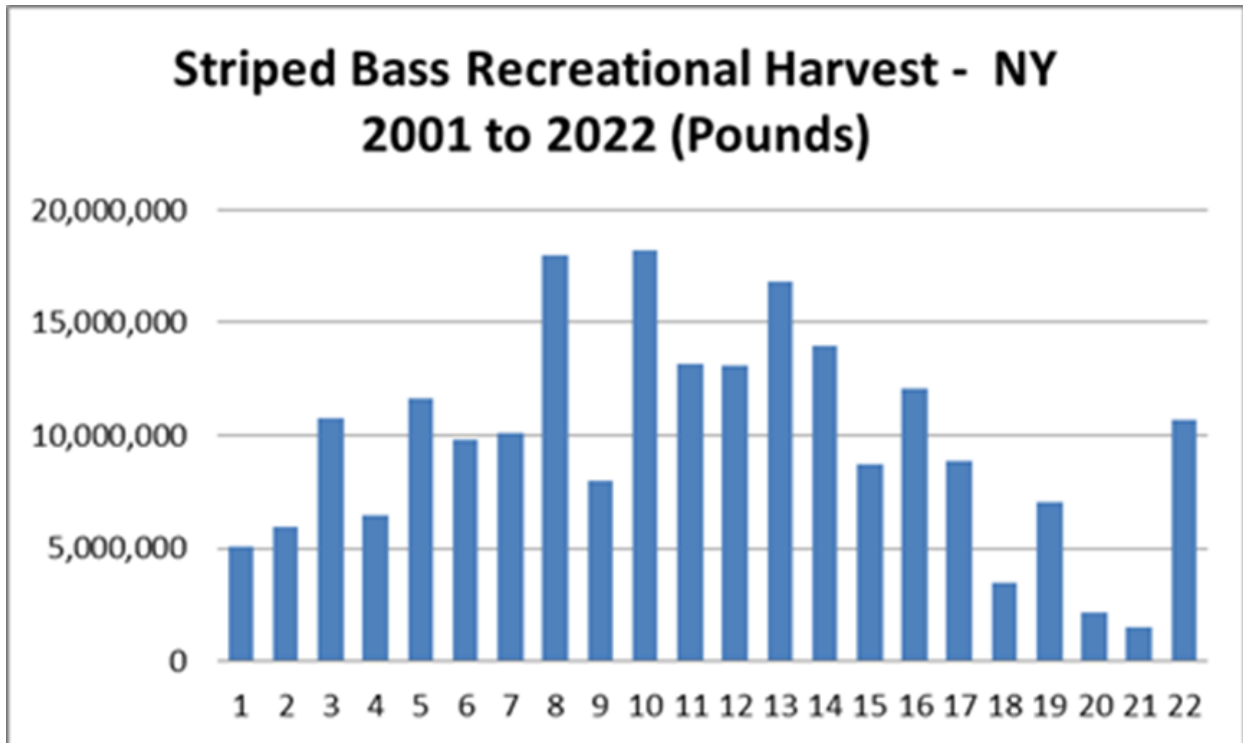
Figure B7.9. Observed versus predicted stock composition for the Chesapeake Bay stock. Literature values not used in the model fitting are indicated by the solid circles for comparison.

See reference (s)

<https://repository.library.noaa.gov/view/noaa/23031>

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Figure 4. Chesapeake Bay contribution of Striped Bass to the Coastal Stock



<https://www.fisheries.noaa.gov/foss/f?p=215:200:.....>

Figure 5. Recovery of Striped Bass Recreational Harvest in New York Waters



## Caitlin Starks

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**From:** Robert B. Pollard <rbpollard46@comcast.net>  
**Sent:** Thursday, September 5, 2024 5:31 PM  
**To:** Comments  
**Subject:** [External] Menhaden work group

Please move industrial reduction fishing out of the bay until some science can be obtained that proves that the stock is not over fished in the bay.

Sent from my iPhone

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**From:** Mimi Stitt <mimistitt@gmail.com>  
**Sent:** Tuesday, August 6, 2024 10:27 AM  
**To:** Comments  
**Subject:** [External] Menhaden Moratorium

To Whom It May Concern

I live on the Chesapeake Bay in Northampton County Virginia. & have witnessed several fish kills on the lower shore over the years.

Please consider what the Menhaden catch ,in the bay ,impact is to all species.

My question is why is Virginia the only state that allows menhaden catch in the bay ?

Sincerely

Mimi Stitt

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## Tina Berger

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**From:** Comments  
**Subject:** FW: [External] Fw: RE Atlantic Menhaden work group-comments

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**From:** Tom Lilly <[foragematters@aol.com](mailto:foragematters@aol.com)>  
**Sent:** Thursday, September 5, 2024 11:30 PM  
**To:** [comments@asmfc.com](mailto:comments@asmfc.com); Tina Berger <[TBerger@ASMFC.org](mailto:TBerger@ASMFC.org)>  
**Subject:** [External] Fw: RE Atlantic Menhaden work group-comments

Tina could you please confirm this was received and sent to the work group members?  
Did the scans come through ok? Thanks

**Subject:** Are fewer menhaden migrating into the bay each year ? What are the likely causes and can this be corrected?  
Bay specific data is available if requested.

To the work group.

The two charts plot factory landings in the Bay and ocean from 2017-2023. The landings for May have steadily declined from the 2017-20 average of 22,000 mt to just 2,000 mt in 2023 a 90% decline .

The declining menhaden in the bay and the mid Atlantic in May indicates there was even less there in March and April when our striped bass spawning stock needed abundant available menhaden to get to spawning condition. This is also when ospreys need menhaden to feed rapidly growing chicks. Sadly we know that our spawning stock has failed for five years now and that thousands of baby ospreys are starving to death. These are your ERP indicator species for improper menhaden harvests.

If factory fishing did not start until say June 15 that would allow the bay's forage base to rebuild but that alone will not solve this. As long as the factory fishes in the bay and at the bay entrance they will catch and remove about 75,000 mt of menhaden 90% of which are age 2 or younger fish. That is about 7500 10 ton schools. These are the fish whose genes are programmed to have them return to the bay and mid-Atlantic to mature year after year for five or six or more years and spawn year after year but this stock is not returning to the bay , it is not spawning. It has been decimated by decades of factory fishing..This is where protective management is needed the most to protect that stock.

Marylanders and their children are losing out on the joy and excitement they could be having if our bays fish and wild life were restored, and the first item on the agenda should be providing our wildlife with an abundant sure supply of menhaden and clearly just the opposite is happening. We are asking the group members from New York and New Jersey to advise the group of the benefits to their states ecology,economy and jobs when factory fishing was confined to the US Atlantic.

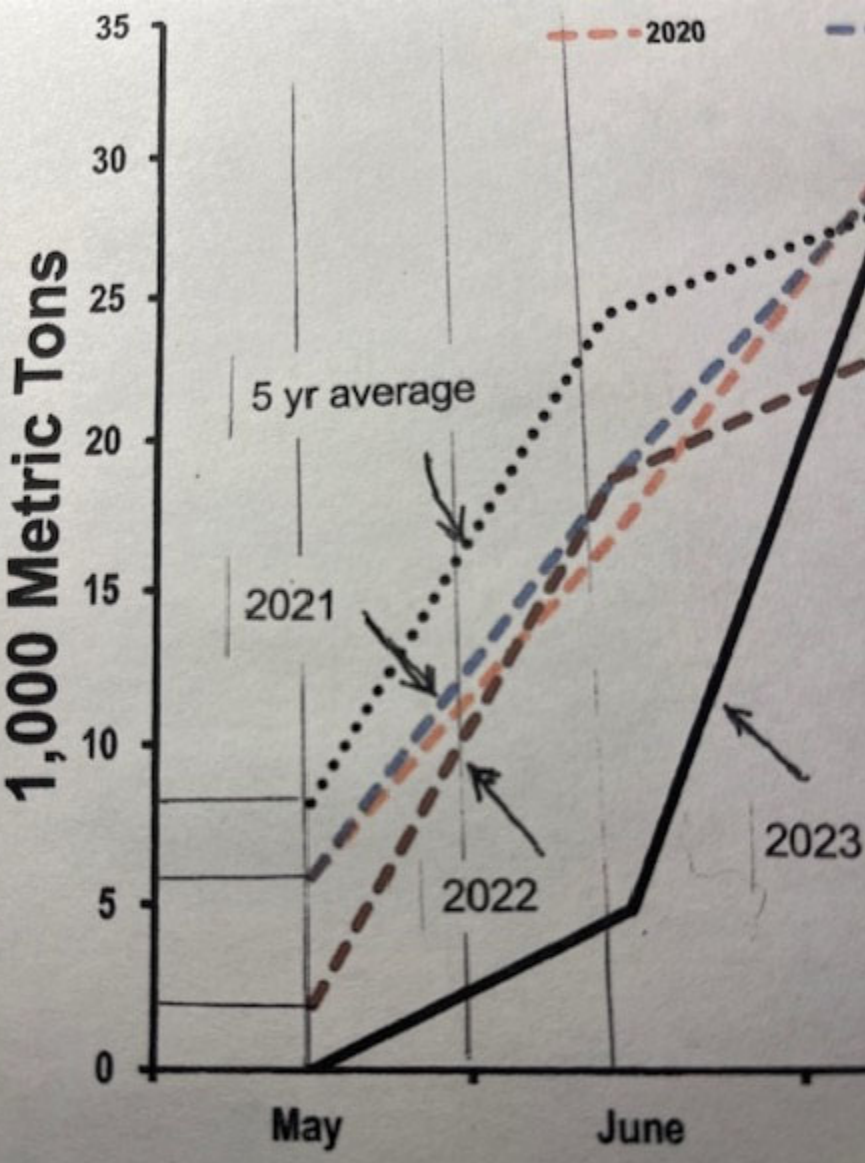
We are asking this work group a seemingly simple question. Each of your states has acted to protect itself, it's ecology and it's fisherman by moving the factory fishing into the US Atlantic and I believe each of you knows how important that was to accomplish and the benefits you have received. Maryland is the only state that cannot take this action because it cannot control what happens in Virginia. That is really what this is all about. Unlike your states, Maryland must ask you to give Marylanders and Chesapeake Bay the same protection you have given yourselves from the factory fishing . Will you do that?

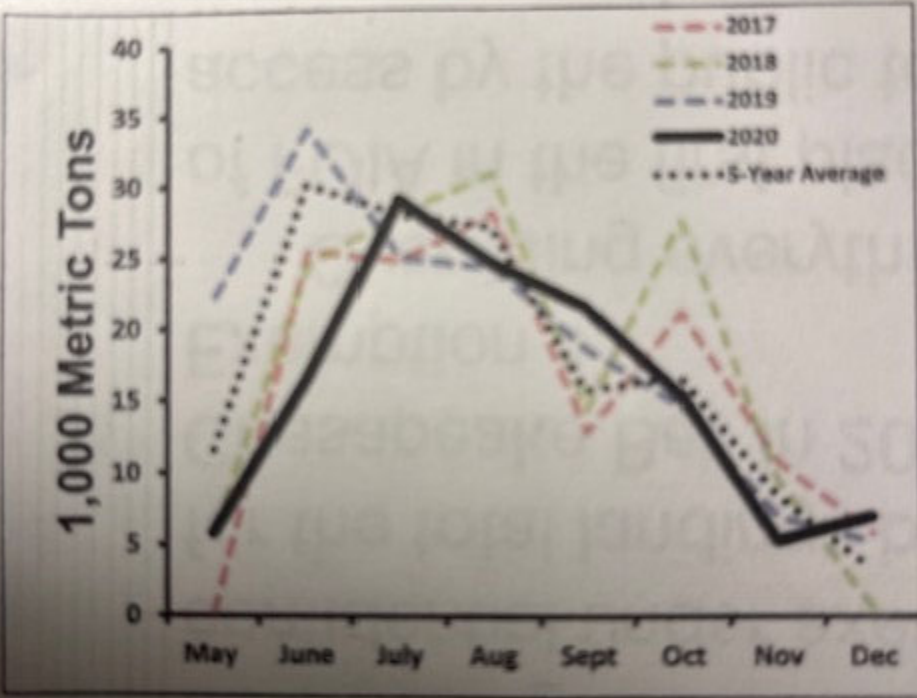
Will the group (or the staff at their request) ask for the weekly landing data for the factory fishing, separated out for Chesapeake Bay for May and June of this year and the previous five years at least ? According to Ray Mroch the weekly factory landings for the bay are taken from the CDFRs and sent to the Commission each week for quota monitoring. For five years this is only 30 data points , ten years 60, so the group could have the benefit of bay specific trends on decreased menhaden we have discussed. I think this data could show significant bay trends. According to Mr Mroch all menhaden delegates can access confidential data by requesting it from him and they will be "guided through the process " as he puts it.

The group could also have access to the total bay reduction landings for 2023 to see if the cap quota was reached. You can reach Ray Mroch at [Ray.Mroch@noaa.gov](mailto:Ray.Mroch@noaa.gov) or at 252-666-7460

Thank you Tom Lilly Whitehaven,

Md .





**Figure 4. Atlantic Menhaden landings by month, 2017-2020.**

These two charts appear in the Beaufort lab's annual review of the menhaden season. We have added dates and arrows to the first chart for clarity.

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