Thank you for this opportunity to submit my views concerning the regulation of menhaden fishing and menhaden sustainability in the Chesapeake Bay region of Virginia; I am sincerely appreciative.

As I support in my comments below, I ask that the Atlantic States Marine Fishery Commission (ASMFC):

1) Conduct a comprehensive multi-year study and tracking of menhaden in the Chesapeake Bay region, utilizing best scientific practices;
2) Evaluate the impacts, benefits, and costs associated with moving the extant Chesapeake Bay menhaden reduction fishing operation out of the Bay and/or into the Atlantic Zone, with that evaluation spanning ecologic, social, and economic factors in conformance with ASMFC Amendment 3;
3) Impose a complete moratorium on Chesapeake Bay commercial menhaden fishing, to last indefinitely and at least as long as is required to scientifically recommend for or against the acceptability of relaxing such a moratorium.

I am both Virginia native and resident in the Chesapeake Bay region. In my younger years, I sailed competitively up and down the Chesapeake Bay. As an adult, I have variously been an award-winning NASA research engineer, turned award-winning economic development leader across several Mid-Atlantic states, now entrepreneur. Throughout, I have loved and long enjoyed the bounty that is our State: the waters; the land; the citizenry; the wildlife.

I assert that, in the Chesapeake Bay region, menhaden fish are over-fished, and that the problem is a very serious if not dire one. I also take the position that commercial fishing of menhaden regionally must be significantly limited, if not eliminated altogether.

I base those assertions on myriad scientific reports – through the last 10, 5, and even more recent years, as well as multi-year personal observation – that convincingly point to this unwelcome conclusion. Parallel findings of dangerously reduced or compromised populations of both marine and avian species that are vitally dependent on menhaden in the Chesapeake Bay for their survival are red flags that must not be ignored any longer.

Anecdotally and very personally, from my own careful observations through the last 10 years in the area where I live in Hampton Roads at the mouth of the Elizabeth River, the exclusively menhaden-dependent Osprey population – thriving 10 years ago – has now crashed. Ten years ago, there were numerous successful nesting pairs in my immediate surroundings, along with Ospreys living on my own property. Back then and on more than one occasion, I personally took photographs of upwards of 20 Ospreys at a time hunting over the river, however such a scene sadly has not lasted. Five years ago, the one remaining nest of the year in my environs failed. Last year, I almost never saw an Osprey with a menhaden catch. And now, as of this late April, 2023 date of these comments, I have yet to see my first Osprey anywhere in the area.

It is imperative that comprehensive direct study and tracking of menhaden regionally be undertaken such as those conducted for other marine species (e.g., certain other fish, crabs, etc.). In the absence of such scientifically robust data, it is impossible to prove that any proposed or attempted restrictive menhaden fishing efforts – short of a complete moratorium – has merit. Moreover, it is entirely invalid to assert, without such data, that the Chesapeake Bay menhaden population is sustainably healthy and not over-fished.

Indeed, I ask that ASMFC:

1) Conduct a comprehensive multi-year study and tracking of menhaden in the Chesapeake Bay region, utilizing best scientific practices;
2) Evaluate the impacts, benefits, and costs associated with moving the extant Chesapeake Bay menhaden reduction fishing operation out of the Bay and/or into the Atlantic Zone, with that evaluation spanning ecologic, social, and economic factors in conformance with ASMFC Amendment 3;
3) Impose a complete moratorium on Chesapeake Bay commercial menhaden fishing, to last indefinitely and at least as long as is required to scientifically recommend for or against the acceptability of relaxing such a moratorium.

It is an undeniable red flag that all states **but** Virginia have enacted strong protections against factory fishing. Indeed, the Virginia Marine Resources Commission groundlessly defeated a limited effort made late in 2022 to restrict regional menhaden commercial fishing. That effort was essentially only cosmetic, however, and not at all substantive as it was primarily directed to reducing the occurrence of menhaden kills such as those occurring in 2022 that might cause closed beaches in holiday times.
To be clear: The hypothetical future absence of fish-kills similar to those suffered in 2022 will neither be evidence of a healthy menhaden population, nor of sustainable commercial fishing practice.

We need, in dramatic contrast, substantive real efforts toward protecting our Chesapeake Bay and regional menhaden population and its sustainability.

Some points in closing:

1) Current Chesapeake bay/regional menhaden fishing and protection practices are based on the unsubstantiated position taken thus far by the Atlantic States Marine Fisheries Commission that the Chesapeake Bay's menhaden population is healthy and sustainable despite such assertion having no foundation on robust, principled, scientific study such as that I am calling for herein. In other words, there is no direct scientific basis for any claim that our regional menhaden population is indeed healthy, sustainable, and not over-fished. Moreover, neither the Virginia Marine Resource Commission nor any credible source has the scientifically valid data needed to support such a claim, because such does not exist.
   Simply: the Chesapeake Bay/regional menhaden population has been catastrophically, and profoundly irresponsibly, over-fished.

2) The lone Chesapeake Bay/regional commercial menhaden reduction fishing operation has never been willing to even attempt to demonstrate that its fishing practices are truly sustainable,

although the burden of such proof should ideally be borne by the industry and not the government. Serious measures must be enacted to comprehensively transform that fishing operation in the sustainable manner our waters and the creatures living within warrant.

3) Not only is the lone Chesapeake Bay/regional commercial menhaden reduction fishing operation foreign-owned – which means profits at the highest level do not accrue regionally – the limited jobs it supports regionally cannot on any legitimate basis be traded against the sustainability of the Chesapeake Bay's menhaden population.

Please feel free to contact me with any questions. Thank you again for this opportunity.

A. M. Lindemann
Norfolk, VA

Via email to: tberger@asmfc.org, jboyle@asmfc.org, kdrew@asmfc.org

From:	Bill Dunn
To:	James Boyle; bellm@dnr.sc; Tina Berger
Cc:	Jamie.Green@mrc.virginia.gov; Patrick Geer; Bryan Plumlee
Subject:	[External] Public Comment for Item 4. Review Report on the Atlantic Menhaden Fishery in Virginia (P. Geer) at ASMFC Meeting May 1st 2023
Date:	Thursday, April 27, 2023 1:27:43 PM
Attachments:	purse seine net per MSC.PNG

To: Atlantic Menhaden Management Board and Virginia VMRC delegation

Re: Proper gear type use in the Chesapeake Bay portion of Virginia pertaining to depth of current nets utilized and its relationship to the depth of waters within the Chesapeake Bay waters

Currently "Ocean Harvesters", a subsidiary of Omega Protein is utilizing purse seine nets that extend 50 to 60 feet down in the shallow water column within the confines of Virginia's portion of the Chesapeake Bay. This has been causing many of the past and recent issues with massive fish kills of both the primary target of menhaden as well as fish kills of game fish such as Red Drum this past year. This is because of improper gear type usage in waters that are allowing these nets to not only scrape across the bottom destroying sea life and vegetation but also not allowing game fish that feed on menhaden to escape through the bottom per design of the net before it is closed (or pursed). In addition these nets when dragged along the bottom due to current etc. cause net tears which if the net has been "pursed" causes many now dead or dying fish to be released into the waters.

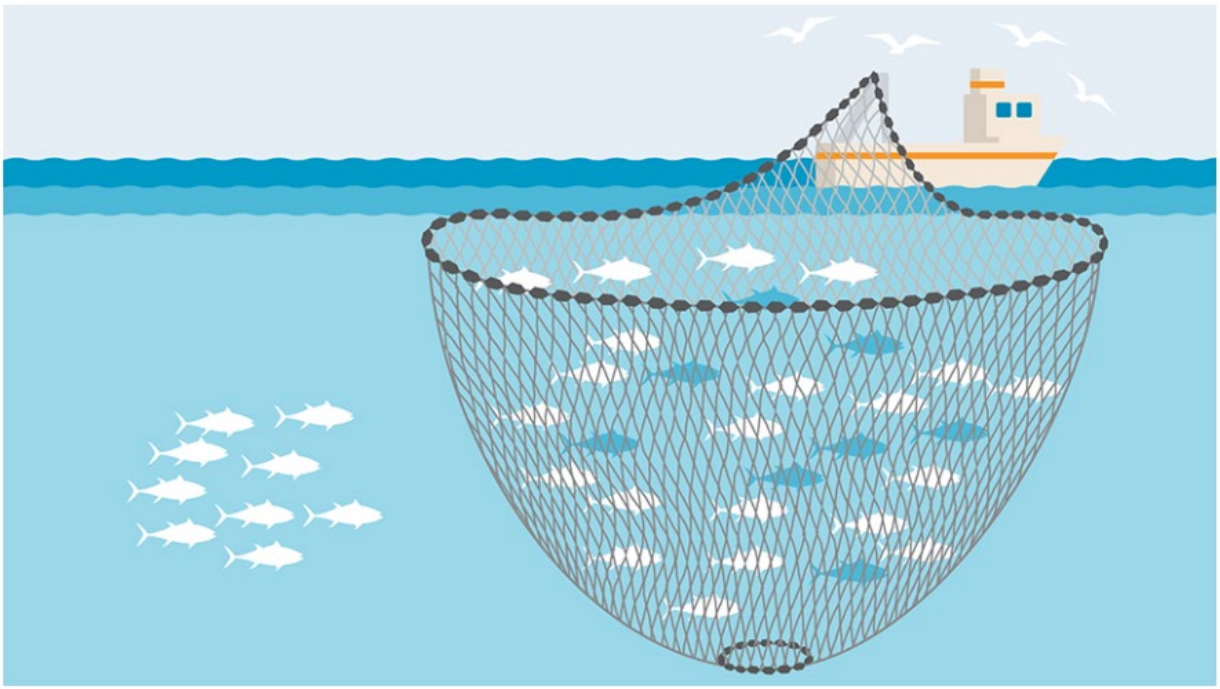
Most recent description of net depths by Ocean Harvesters was evidenced in the Dec 6th VMRC meeting seen at approximately 3:06:40 here of 50' to 60' by Capt. Thomas Moore of Ocean Harvesters:

https://www.youtube.com/watch?v=Cn-ow-dNfsE (May have to click on "Browse YouTube)

This practice of ensuring a "Safety Zone" below the net when deployed is documented in many publications and is specifically outlined in the Marine Stewardship Council (MSC) that Omega Protein has gone through great lengths to become an accredited member of. MSC states that **"Purse-seine fishing in open water is generally considered to be an efficient form of fishing. It has no contact with the seabed and can have low levels of bycatch (accidental catch of unwanted species)."** https://www.msc.org/what-we-are-doing/our-approach/fishing-methods-and-gear-types/purse-seine

Purse seines are used in the open ocean to target dense schools of single-species pelagic (midwater) fish like tuna and mackerel.

A vertical net 'curtain' is used to surround the school of fish, the bottom of which is then drawn together to enclose the fish, rather like tightening the cords of a drawstring purse.



Purse-seine fishing in open water is generally considered to be an efficient form of fishing. It has no contact with the seabed and can have low levels of bycatch (accidental catch of unwanted species).

Purse seines can also be used to catch fish congregating around fish aggregating devices. This fishing method can result in higher levels of bycatch.

MSC certified fisheries using purse seines must ensure that they leave enough fish in the ocean to reproduce. This can be achieved by using a mesh size large enough to allow smaller fish to swim free.

Purse Seine net design dictates that the net be deployed to a depth that is above the sea bottom in order for the issues above to be alleviated but for some reason their use in the shallow waters of the Chesapeake Bay has been overlooked by the management groups controlling their use and need to be addressed as a **gear type use restriction** issue. Currently per Va Code 28.2-410 VMRC only regulates a mesh size of these nets to not be less than 1 ¾" **with no net depth restrictions listed to ensure a safety zone below the net when deployed.**

Please address this information to utilize best practices in the regulation of the depth of these nets within the shallow waters of Virginia's Chesapeake Bay which will greatly eradicate the vast majority of these fish spill/kills of menhaden and other fish species that target them as a food source as well as protecting the sea bottom within the Chesapeake Bay.

Thank you for your consideration on this important currently unaddressed gear type restriction matter.

Wm Dunn
Dunnsville, Virginia
dunnsville@gmail.com

Virginia Saltwater Sportfishing Association, Inc (VSSA)
3419 Virginia Beach Blvd #5029
Virginia Beach, VA 23452
www.ifishva.org

April 27, 2023

Atlantic Menhaden Management Board
ASMFC
1050 N. HIGHLAND ST. STE. 200 A-N
ARLINGTON VA 22201

I write as a representative of thousands of saltwater anglers in Virginia to urge you to take action at your May meeting to protect menhaden in the Chesapeake Bay.

We have attempted to have the VMRC reduce the bay harvest of these important fish without success. As you may know that board is dominated by commercial interests including three from the Reedville area, home of the reduction industry. I implore you to do what others are unwilling to do.

We acknowledge that menhaden are not overfished but that assessment does not consider conditions in the Chesapeake Bay where we believe there is likely localized depletion from intense netting of these fish during the summer months, particularly along the eastern side of the bay. This area has also seen a number of damaging and wasteful net spills, and last summer a massive bycatch incident killing hundreds of prized Red Drum. While there is a lack of available science on bay menhaden, I want to point out several important facts:

1. It is clear that the VMRC board will not act to protect menhaden in the bay. They could not even pass a modest regulation proposed by the Governor last year to help reduce future net spills. A recent (unenforceable) MOU agreement may help this situation but does nothing for menhaden conservation.
2. Scientists all agree that menhaden make up at least 30% of the striped bass diet. As menhaden go, so go striped bass. The striped bass fishery in the bay is not recovering and it only makes sense to conserve their primary forage fish in their primary nursery.
3. Depletion of menhaden in the bay is also having a significant economic impact on charters, bait shops, marinas, commercial fishermen and related small business. For example, in the past decade alone, the economic value of the striped bass fishery to Virginia has declined by over 50%. (McGraw Center for Conservation Leadership, Striped Bass Report, 2019)
4. VMRC mentioned that its actions must be based on the science. The truth is there is minimal science on bay menhaden, but there are a number of “red flags” that strongly suggest the need for caution. It appears both Osprey and Striped Bass are suffering in reproduction in the most important nursery on the east coast. Further, anglers have observed a reduction in bay menhaden schools, both size and frequency, over the past 15-

20 years. Is it a coincidence that the industry took until mid-September last year to hit their "bay cap" in spite of prioritizing the bay for fishing all summer? The location of their net sets tells a powerful story with intense netting along the eastern side where recreational fishing is in decline. Coincidence? The scientists at ASMFC have stated it will take 7-10 years to get spatially explicit data on bay menhaden. Further, it is alarming that the industry lobbied against a comprehensive menhaden study bill in this year's General Assembly (SB 1388) and had it scaled way back. Why is the industry against science? **It is precisely because we do not have comprehensive science that reduction fishing in the bay should end or be significantly curtailed. Until it can be shown that such a large-scale fishery is not harming the bay ecosystem.** With multiple predator fish (e.g., striped bass, bluefish, and grey trout) in serious decline, we can no longer afford to take this risk.

5. The bay quota as set by ASMFC only applies to the reduction industry. It can be lowered without impacting Virginia's bait industry so there will be no impact to our crabbers and others who rely on menhaden bait.
6. Lowering the bay quota would not put Omega Protein out of business. It means they would need to fish more often in the ocean.
7. Standard 4 of the code of Virginia (section 28.2-203) requires that conservation and management measures shall not discriminate among user groups. Yet that is exactly what is happening as industrial menhaden fishing has been given priority over recreational fishing and the bait fishery. Menhaden are an important public resource…citizens are entitled to their share and we choose to leave ours in the water where they can help restore the bay to its original glory.
8. By allowing the industry to harvest from the bay at a reduced cost versus the ocean, Virginia in effect is subsidizing this operation with no regard for the impact on the broader ecosystem.
9. There are also great concerns about the environmental impact of using large purse seine nets that are 60-70 feet deep in the shallow waters of the bay. These nets drag across the bottom and no doubt damage the benthic zone while also increasing the likelihood of deadly bycatch. If this purse seine fishery was just arriving in the bay, would we allow it to begin without an environmental assessment? Of course not!

We ask you to consider this and other stakeholder input and act now to protect these important forage fish.

Sincerely,

Steve Atkinson

Tina Berger

From: Phil Zalesak <flypax@md.metrocast.net>
Sent: Friday, April 28, 2023 9:45 AM
To: Mel Bell
Cc: James Boyle; Tina Berger; PHILIP ZALESAK; Josh.kurtz@maryland.gov; DAVE GOSHORN
Subject: [External] Public Comments of Phil Zalesak to the ASMFC Atlantic Menhaden Mangement Board on 5/1/23
Attachments: Enclosure 1 - 2023-0501 Localized Depletion of Atlantic Menhaden.pdf; Enclosure 2 - VA Purse Seine Menhaden Fishery MOU_2023-04-20.pdf

Chairman Bell,

Localized depletion of Atlantic menhaden is occurring in the Chesapeake Bay and is adversely impacting predators dependent on Atlantic menhaden for their survival. This includes striped bass, bluefish, weakfish, and osprey. See enclosure (1).

This position is supported by ASMFC referenced data as well as 50 years of science documenting the decline of osprey in the main stem of the Chesapeake Bay.

The Virginia Marine Resources Commission (VMRC) held two hearings last fall in response to a number of complaints regarding the purse seine reduction fishery in and around the Chesapeake Bay.

At the October meeting they heard sworn testimony concerning the following:

- Overharvesting of Atlantic menhaden in the Chesapeake Bay (**localized depletion**) to the detriment of recreational fishing and the marine environment;
- Fish spills on beaches impacting the health and safety of Virginia residents;
- Violations of the Code of Virginia; and
- Adverse impact to the sustainability of osprey in the Chesapeake Bay

At the November meeting the VMRC heard further sworn testimony concerning the following:

- Purse seine nets scraping the bottom of the Bay and increasing the bycatch of predators;
- Violations of the Code of Virginia;
- **Localized depletion** of Atlantic menhaden in the Bay;
- Inability of spotter pilots to determine if predator fish are in or around schools of menhaden; and
- Charter captain testimony that Virginia does not have a healthy fishery for recreational fishermen.

The VMRC finally voted on an MOU which only addressed **fish spills**, **reducing purse seine fishing days** around three holiday weekends, and **coastline buffer limitations** on where purse seine fishing cannot occur. **No other concerns were addressed.** See the MOU attached as enclosure (2).

The MOU which was signed on April 20, 2023:

- is not legally binding according to the VMRC;
- cannot be considered a fishing regulation as it violates the fishing regulations process;
- was not a consensus agreement (Commissioners voted 5 to 4 for the MOU); and

- did not include signatures other than the VMRC chairman and representatives of the purse seine industry.

Chairman Bell, I thank you for the time.

Phil Zalesak
President
Southern Maryland Recreational Fishing Organization
www.smrfo.org
https://www.facebook.com/groups/598428253621775/

Localized Depletion of Atlantic Menhaden in the Chesapeake Bay and
Its Impact on the Virginia and Maryland Economies and Marine Environment by
Phil Zalesak, President of www.smrfo.org
May 1, 2023

The Problem

Striped Bass are dependent on Atlantic menhaden for survival based on the latest science as documented in reference (a). Although there are plenty of Atlantic menhaden in the Atlantic Ocean, there are insufficient numbers in the Chesapeake Bay and its entrance during the period of industrial reduction harvesting of Atlantic menhaden.

Localized depletion of Atlantic menhaden occurs when there is very little migration into and out of the Chesapeake Bay and intense industrial reduction fishing is occurring at the same time. There is little migration at the entrance of the Chesapeake Bay from June until October which is the prime season for the Atlantic menhaden reduction fishery (b). See Figure 1.

An industrial reduction fishery located in Reedville, Virginia is harvesting over 3/4 of a billion Atlantic menhaden from the Chesapeake Bay and waters just outside the Bay. See the table below and references (c), (d), and (e). This has increased the mortality rate of Striped Bass in the Chesapeake Bay and has impacted the recreational fishing industry in Virginia and Maryland.

Allocation	Percentage	Metric Tons	Pounds	Fish*
Atlantic Coast	100.00%	233,550	514,884,330	1,119,313,761
Virginia	75.20%	175,630	387,193,016	841,723,948
Reduction Fishery	67.71%	158,137	348,628,592	757,888,243
Chesapeake Bay	21.84%	51,000	112,434,600	244,423,043
Atlantic Ocean	45.87%	107,137	236,200,420	513,479,174
Other States	24.80%	57,920	127,691,314	277,589,813
* .46 pounds per fish				

The Data

Striped Bass Metrics

The latest science has determined that there is a direct relationship between the mortality rate of Atlantic menhaden and the mortality rate of striped bass. The morality rate of striped bass increases when the mortality rate of Atlantic menhaden increases.

Up until 2006 there was no harvesting quota for the Atlantic menhaden reduction fishery in the Chesapeake Bay. The first quota was 110,400 metric tons. It was then lowered to 87,216 metric tons from 2014 to 2018. Finally, the quota was lowered to 51,000 metric tons in 2018 where it remains today. See reference (c).

51,000 metric tons of Atlantic menhaden is over 112,434,600 pounds or a total **244,423,043** fish at .46 pounds per fish.

Currently, the reduction fishery is allocated 158,137 metric tons. 51,000 metric tons or **244,423,043** fish are being harvested from the Chesapeake Bay (e). The remaining 107,137 metric tons or **513,479,173 fish** are being harvested from just outside the Bay along the Atlantic Coast. That's a total of 348,628,592 pounds or **757,888,761** fish.

There is no science which supports removing three quarters of a billion Atlantic menhaden from the Chesapeake Bay and its entrance.

The **recreational harvest of Striped Bass** in the Chesapeake Bay has **declined over 60%** from a high in 2006 of over 2 million fish to a little over 750,000 fish in 2020. See Figure 2.

The **commercial harvest of Striped Bass** in the Chesapeake Bay has **declined over 50%** from a high of over 1 million fish in 2000 to around 500,000 fish in 2020. See Figure 3.

The purse seine nets used by the reduction fishery can be as long as 1400 feet long by 65 feet deep and often scrape the bottom of the Bay floor when harvesting Atlantic menhaden. The Chesapeake Bay **reduction fishery Striped Bass bycatch** could easily be **greater than total Chesapeake Bay commercial harvest for the year** as the striped bass feeding on the menhaden can't escape when the nets are scraping the bottom.

In 2020 the **Striped Bass** commercial harvest in the Chesapeake Bay was **492,400 fish** (Figure 3). The total **Atlantic menhaden** reduction harvest was **244,423,043 fish**. If the bycatch of Striped Bass is greater than to .2 % of the total number of fish caught by the reduction industry, then the **reduction fishery is killing more Striped Bass than is being harvested by the Striped Bass commercial fishermen in the Chesapeake Bay.**

We know that striped bass pursue schools of menhaden during the reduction harvesting process. So, the striped bass bycatch is more likely to be larger than .2 % or **2 fish out of 1000** caught in their nets. This could account for a significant reduction in the striped Young-of-Year index for the last 4 years. See Figure 4.

Striped Bass Economic Impact

Virginia

- In 2016 the GDP associated with recreational fishing for Striped Bass in Virginia was over $241.551 million dollars and accounted for over 3,420 jobs. See Figure 5.
- In 2016 the GDP associated with the commercial sector for Striped Bass in Virginia was $1.379 million dollars and accounted for 42 jobs.

Maryland

- In 2016 the GDP associated with recreational fishing of Striped Bass in Maryland was over $802.791 million dollars and accounted for 10,193 jobs. See Figure 6.
- In 2016 the GDP associated with the commercial sector was $10.9 million dollars and responsible for 584 jobs.

Summary for Virginia and Maryland

- From a **dollars** standpoint the economic impact of Striped Bass **recreational fishing** was over **90 times more significant** than commercial fishing. See the table below.
- From a **jobs** standpoint the economic impact of Striped Bass **recreational fishing** was **22 times more significant** than the commercial fishing.

	Recteational GDP	Commercial GDP	Recreational Jobs	Commercial Jobs
Virginia	**$241,551,000**	**$1,379,000**	**3,420**	**42**
Maryland	**$802,791,200**	**$10,191,000**	**10,193**	**584**
Total	**$1,044,342,200**	**$11,570,000**	**13,613**	**626**

Bluefish and Weakfish Metrics

Commercial harvest data for Bluefish and Weakfish, which are dependent on Atlantic menhaden for their survival, are shown in figures 7 and 8. The **Bluefish** commercial harvest has been **devastated** and the **Weakfish** have been **depleted** in the Chesapeake Bay.

For-Hire Fishing Decline

During the period of 2000 – 2019, the **number of Virginia For-Hire active vessels** declined from a high of 390 in 2009 to 269 in 2019 for a **31% decline**, and the number of **fishing trips** went from a high of 108,631 in 2001 to 33,197 for a **70% decline.** The decline in Virginia the For-Hire business base is documented in Figures 9 and 10.

During the period of 2000 – 2019, the **number of Maryland For-Hire active vessels declined** from a 428 high to 212 for a **51% decline**, and the number of **fishing trips** went from 18,199 to 9,571 for a **47% decline**. The decline in Maryland For-Hire business base is documented in Figures 11 and 12.

Osprey Metrics

According to Dr. Bryan Watts of the College of William and Mary reductions in menhaden stocks have caused osprey productivity to decline to below DDT-era rates. These rates are insufficient to support the osprey population within the main stem of the Bay. This is based on 50 years of research. See reference (f).

Michael Academia, a graduate assistant at the College of William and Mary, updated this data set in 2021 and documented his findings in a paper he presented at the International Raptor Research Foundation Conference. This paper was awarded the prestigious Andersen Memorial Award at that meeting. His research can be viewed via video at https://youtu.be/IKR-DHwlZlU

Conclusion

Localized depletion of Atlantic menhaden in the Chesapeake Bay and the entrance to the Bay is devastating to the Virginia and Maryland recreational fishing industries and the Chesapeake Bay marine environment

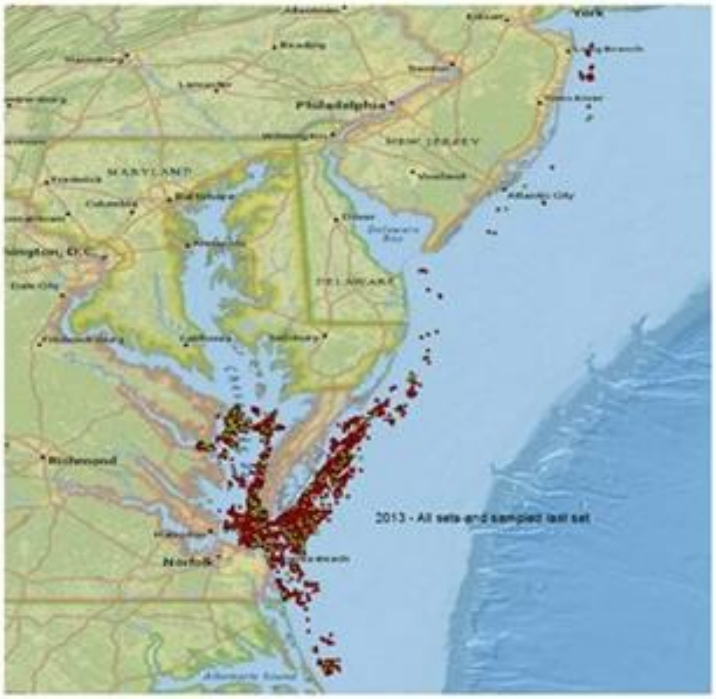
Recommendation

End the Atlantic menhaden reduction fishery in Virginia waters and limit reduction fishing to federal waters east of the 3 nautical mile Exclusive Economic Zone.

References:

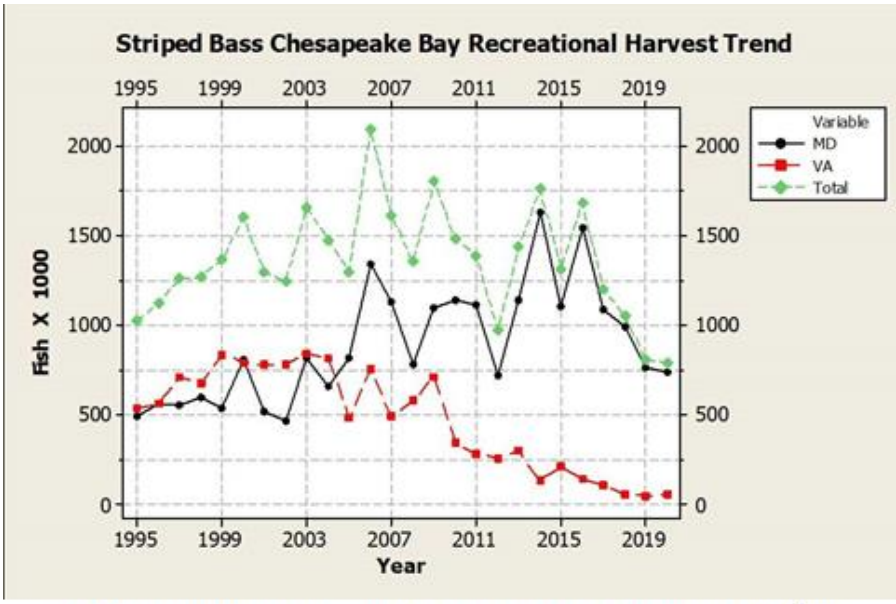
(a) SEDAR 69 Ecological Reference Points Stock Assessment Report on Atlantic Menhaden dated January 2020, pages iii and 375
(b) Estimation of movement and mortality of Atlantic menhaden during 1966–1969 using a Bayesian multi-state mark-recovery model Emily M. Liljestrand, Michael J. Wilberg, Amy M. Schueller, Published online 2/2019
(c) Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden November 2017, page v
(d) ASMFC Press Release: Atlantic Menhaden Board Sets 2023 TAC at 233,550 MT & Approves Addendum to Address Commercial Allocations, Episodic Event Set Asides, and Incidental Catch/Small-scale Fisheries
(e) Virginia Administrative Code, Chapter 1270, Pertaining to Atlantic Menhaden
(f) Dr. Bryan Watts Letter to Virginia Governor Ralph Northam, 8/20/2020

Omega Protein Purse Seine Settings and Migration



Ref: SEDAR 40 Stock Assessment Report Atlantic Menhaden, January 2015, page 10

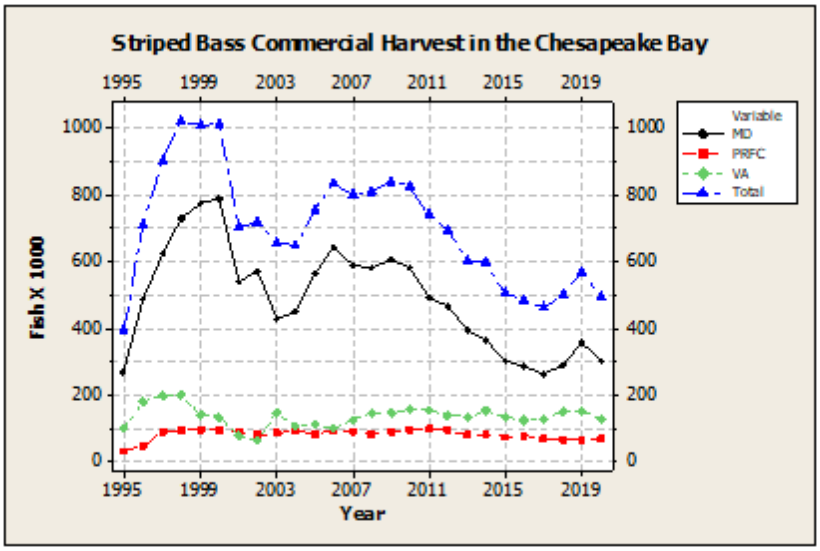
Figure 1



Draft Amendment 7 to the Interstate FMP for Atlantic Striped Bass, Table 18, page 135 - 2/2022

Figure 2

Decline in Striped Bass Chesapeake Bay Commercial Harvest



Draft Amendment 7 to the Interstate FMP for Atlantic Striped Bass, Table 15 page 132 - 2/2022

Figure 3

Chesapeake Bay 2022 Young-of-Year Survey Results

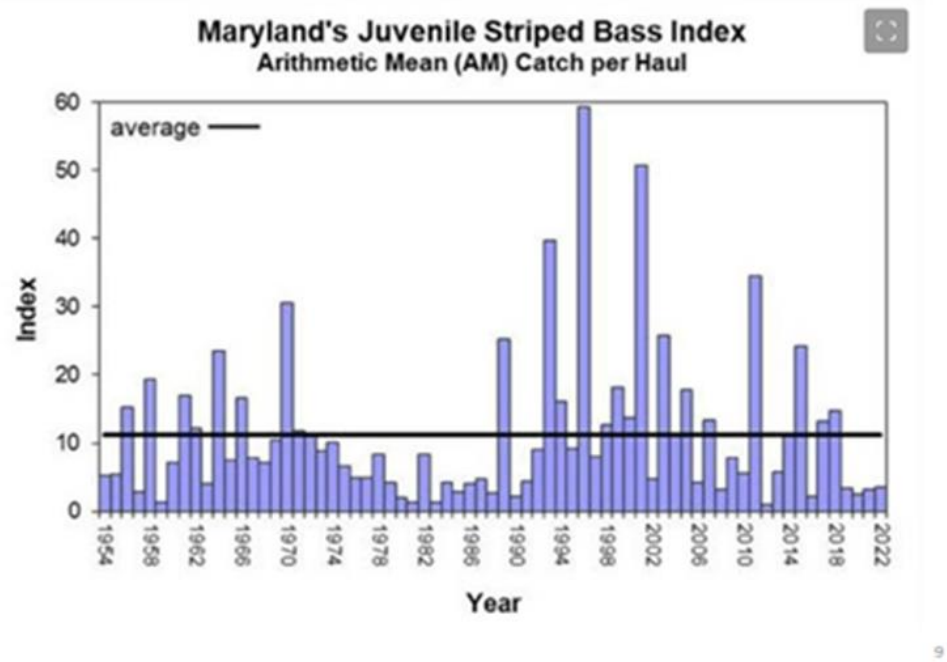


Figure 4

Striped Bass Economic Impact to Virginia (2016)

Commercial GDP: **$1,379,900**
Commercial Jobs: **42**

Recreational GDP: **$241,551,000**
Recreational Jobs: **3,420**

Comparisons Between the Fisheries

Table RI-8. Comparison of commercial and recreational impacts: Rhode Island 2016

	Commercial Fishery	Recreational Fishery	Total	Commercial Fishery	Recreational Fishery	Total
Pounds landed (000s)	174.7	1,775.6	1950.3	9%	91%	100%
Jobs supported	42	3,410	3452	1%	99%	100%
Income ($000s)	$984.6	$155,293.5	$156,278.1	1%	99%	100%
GDP ($000s)	$1379.9	$241,551.0	$242,930.9	1%	99%	100%

Ref: The Economic Contributions of Recreational and Commercial Srtiped Bass Fishing, Southwick Associates, page 42

Figure 5

Striped Bass Economic Impact to Maryland (2016)

Commercial GDP: **$10,919,100**
Commercial Jobs **584**

Recreational GPD: **$802,791,200**
Recreational Jobs **10,193**

Comparisons Between the Fisheries

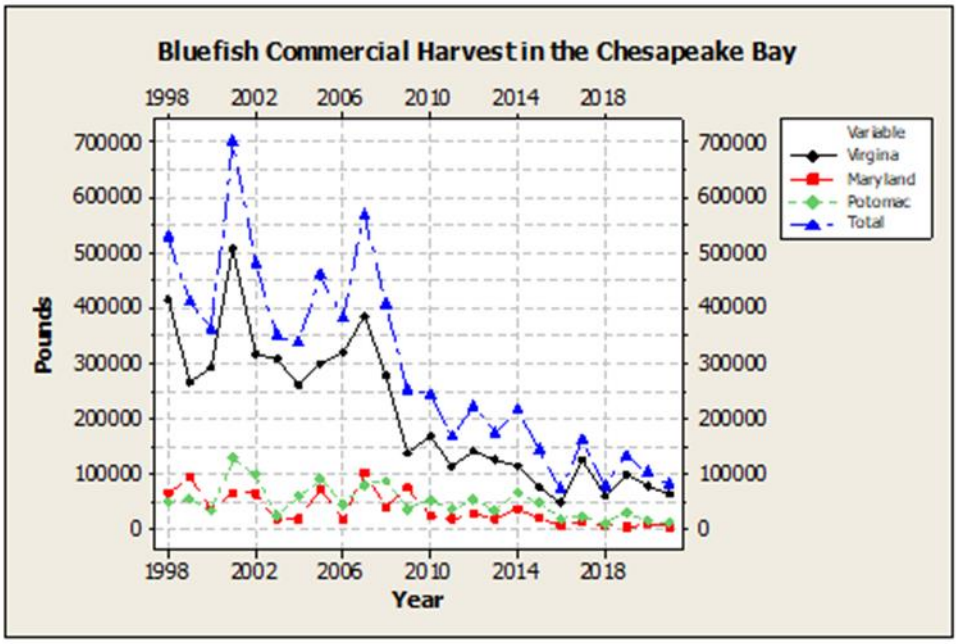
Table MD-8. Comparison of commercial and recreational impacts: Maryland 2016

	Commercial Fishery	Recreational Fishery	Total	Commercial Fishery	Recreational Fishery	Total
Pounds landed (000s)	1,709.4	10,919.1	12628.5	14%	86%	100%
Jobs supported	584	10,193	10,777	5%	95%	100%
Income ($000s)	$12,569.6	$496,859.8	$509,429.7	2%	98%	100%
GDP ($000s)	$17,109.7	$802,791.2	$819,900.9	2%	98%	100%

Ref: The Economic Contributions of Recreational and Commercial Striped Bass Fishing, Southwick Associates, page 26, 4/12/19

12

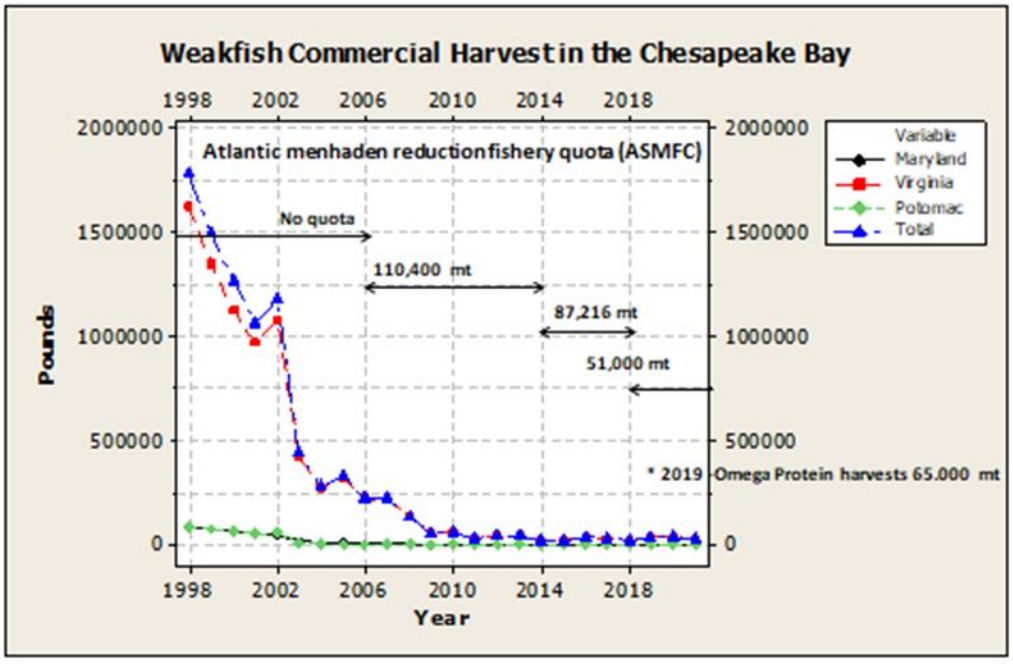
Figure 6



References: MD DNR, VMRC, PRFC

10

Figure 7

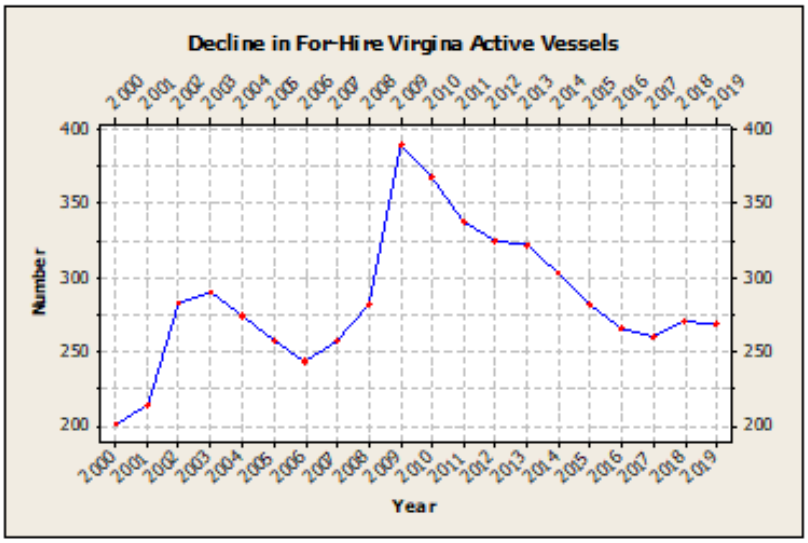


References: MD DNR, VMRC, PRFC, ASMFC

11

Figure 8

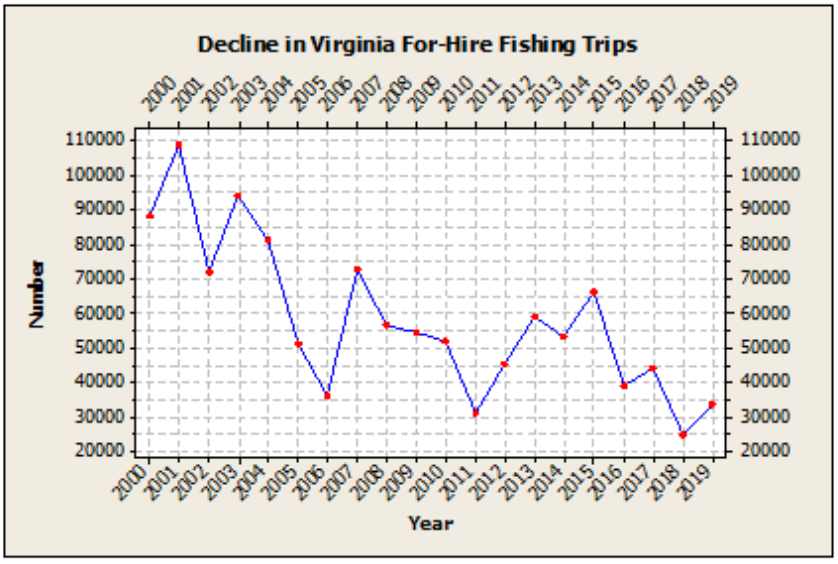
Decline in Virginia For-Hire Active Vessels



VMRC. Stephanie Iverson-Cason, 1/10/23

Figure 9

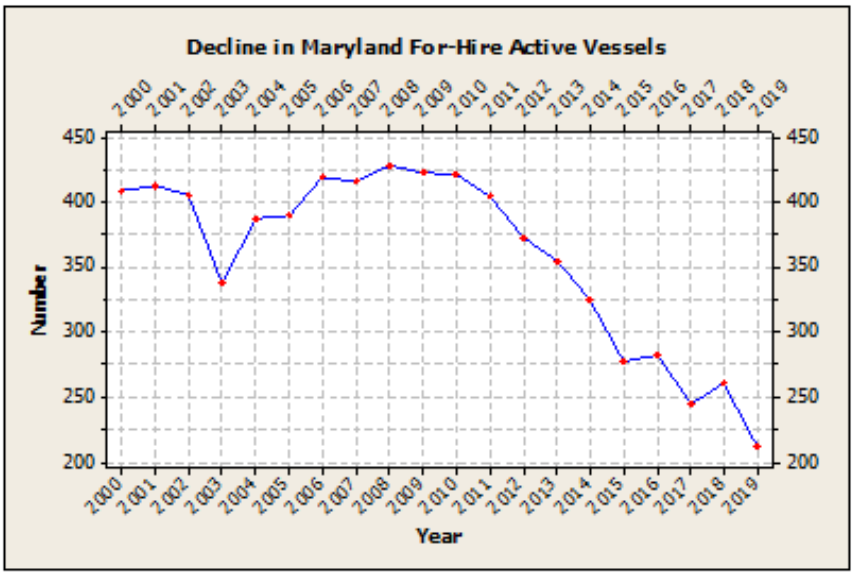
Decline in Virginia For-Hire Fishing Trips



VMRC, Stephanie Inverson-Cason 1/10/23

Figure 10

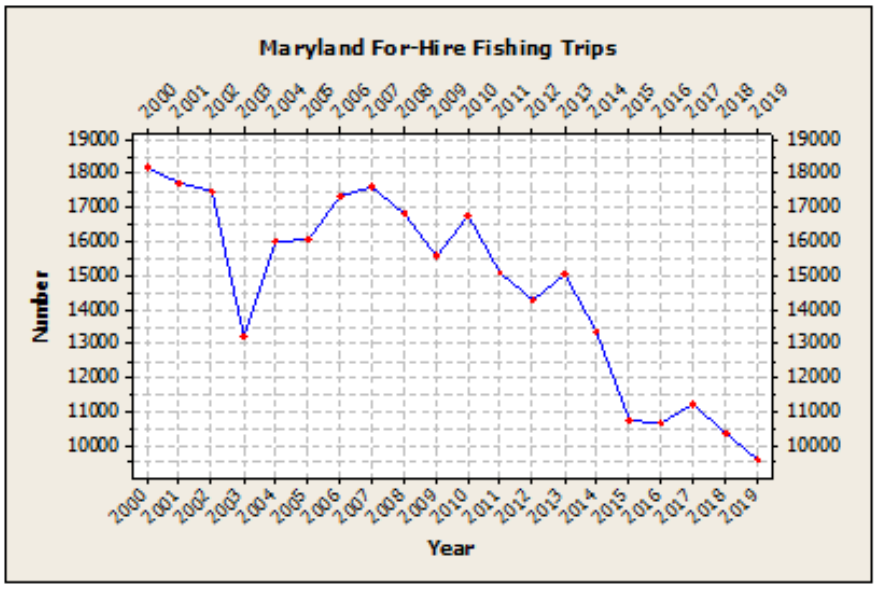
Decline in Maryland For-Hire Active Vessels



MD DNR, Gina Hunt email of 2/28/2020

Figure 11

Decline in Maryland For-Hire Fishing Trips



MD DNR, Gina Hunt email of 2/28/2020

Figure 12

VIRGINIA PURSE SEINE MENHADEN FISHERY
MEMORANDUM OF UNDERSTANDING (MOU)

Between

VIRGINIA MARINE RESOURCES COMMISSION (VMRC)
And

PURSE SEINE REDUCTION SECTOR OF THE COMMONWEALTH OF VIRGINIA (Omega Protein, Inc.)
And
PURSE SEINE BAIT SECTOR OF THE COMMONWEALTH OF VIRGINIA (James C. Kellum and Frederick Rogers III)
Henceforth jointly named PURSE SEINE MENHADEN FISHERIES

For
MEASURES TO MINIMIZE AND MITIGATE FISH SPILLS IN THE PURSE SEINE MENHADEN FISHERIES OF THE COMMONWEALTH OF VIRGINIA

SUBJECT:

Cooperative Measures to Minimize and Mitigate Spills in the Purse Seine Menhaden Fisheries of the Commonwealth of Virginia.

BACKGROUND:

The Virginia menhaden fishery has reported an average of four fish spills per year between 2018 and 2021 (N=16). Many of those spills (and quantity of fish) are from the purse seine reduction and purse seine bait sectors (N=14). During these four years (2018-2021) the reported purse seine net spills ranged from 5,000 fish (3,350 lbs.) to 300,000 fish (201,000 lbs.), with an average of 113,141 fish per event (75,804 lbs.). The spills consisted primarily of menhaden and represent 0.06% of the overall annual state menhaden quota during that four-year period.

Several spills in July 2022 resulted in dead menhaden and other species washing ashore at Silver Beach and Kiptopeke State Park, closing the beaches for recreational purposes. Public concern from recreational anglers and other stakeholders has been heard by the Commission, the Secretary of Natural and Historic Resources, and the Governor's Office.

On December 6th, 2022, the Commission was asked to consider proposed modifications to Chapter 4 VAC 20-1270-10 et seq., "Pertaining to Atlantic Menhaden" that established additional purse seine area and time restrictions. Those regulatory amendments were proposed with the intent to reduce future spill incidents while limiting user conflict in congested areas. The Commission proposed a Memorandum of Understanding (MOU) with the same intent as those proposed regulatory amendments and this MOU shall commit the undersigned Parties to meeting that intent.

GOAL, OBJECTIVES, AND UNDERSTANDING:

This MOU has been developed with the goal to limit future spill incidents and to create a transparent and efficient spill response protocol. It will reduce user conflict and strengthen the stewardship of Virginia's shared aquatic resources amongst all user groups in the Commonwealth. The signatory's objectives are to

collaboratively discuss, examine, and evaluate previous spills and the corresponding responses with the goal of ensuring that future response coordination is efficient and effective. The intent of the time and area restrictions outlined in this MOU are to reduce the possibility of fish spills during weekends and holidays when stakeholders are using public beaches. In the event of spills, restrictions will create buffers along densely populated shorelines to ensure spills are more likely to be cleaned up before reaching shore.

This MOU does not assume or assign fault to any commercial fishing vessel or industry for a fish spill. Timely and effective mitigation depends on cooperative efforts from the industry to inform VMRC of responsibility. It is the understanding of the undersigned Parties that the responsibilities below shall meet these objectives.

RESPONSIBILITIES:

The Purse Seine Menhaden Fisheries shall not:

1. Fish in the state territorial waters inside of the Chesapeake Bay on the Saturday, Sunday, and Monday prior to and during the Federal holidays of Memorial Day and Labor Day.
2. Fish in the state territorial waters inside of the Chesapeake Bay on the calendar date July 4th and the federally observed holiday of that week.
3. Fish in the state territorial waters inside of the Chesapeake Bay on all Saturdays and Sundays between Memorial Day and Labor Day.
4. Deploy or set a net within one-half nautical mile on either side of the Chesapeake Bay Bridge Tunnel.
5. Deploy or set a net within one nautical mile of mean low water along the Eastern shore of the Chesapeake Bay from Powell's Bluff on the Occohannock Creek southerly to the Chesapeake Bay Bridge Tunnel.
6. Deploy or set a net within one nautical mile of mean low water from James T Wilson Fishing Pier southerly along the Hampton Roads Bay Bridge Tunnel to the Sandbridge Fishing Pier.

The Purse Seine Menhaden Fisheries shall:

1. Work collaboratively with VMRC staff to outline expected spill report protocol and evaluate previous spills to ensure the most effective measures for clean-up response.
2. Conduct regular purse seine vessel captain and spotter plane captain meetings to promote effective spill prevention tactics to include considerations of sea and wind conditions, fish school and set size, and high-risk areas.
3. Work with VMRC to develop a joint transparent spill response and communications plan to include reporting, logging, and response protocols to reported spills. (Appendix A)
4. Provide VMRC with Omega Protein, Inc.'s internal spill response plan.
5. Conduct a spill simulation exercise with VMRC to test spill response and communications.
6. Work collaboratively with VMRC and the Virginia Institute of Marine Science to identify all internal and external data needed to further inform timely and effective mitigation efforts.

The Virginia Marine Resources Commission shall:

1. Commit to meetings with the Purse Seine Menhaden Fisheries to discuss, examine, and evaluate previous spill responses to inform future spill coordination and to reduce the potential for spills in the future.

2. Develop an internal transparent spill response and communications plan to include reporting, logging, and response efforts to reported spills.
3. Conduct stakeholder meetings throughout Virginia to solicit feedback on response tactics and community needs.

This MOU recites the intentions of the parties to collaborate and compromise in these particular ways. It does not represent a waiver of sovereign immunity nor does it relieve any party from responsibilities enumerated in the Code of Virginia and the Administrative Code of the Marine Resources Commission. If any non-governmental parties breach the terms and conditions of this MOU, they may be called to appear before the Commission for further discussion and response.

This MOU takes effect on the last date signed and is in effect until 5 years after the last date signed. SIGNATURES BELOW INDICATE ACCEPTANCE AND AGREEMENT WITH THE TERMS AND CONDITIONS OF THIS MEMORANDUM OF UNDERSTANDING.

Commissioner, Virginia Marine Resources Commission

Date 04/20/2023

Ocean Harvesters

Date 4/20/2023

James C. Kellum

Date 4/20/2023

Frederick Rogers III

Date / /

APPENDIX A

Spill response plan will include:

- Spill contingency plan with detailed response protocols that addresses controlling, containing, and recovering fish spills that may be harmful to navigable waters and surrounding shorelines.
    - Definition of authorities, responsibilities and duties of all entities and responsible contacts involved (purse seine fisheries including reduction and bait sectors and VMRC).
    - Procedures for early detection and timely notification of a spill.
    - Development of forms and/or checklists to outline spill information required.
    - Internal communications procedure during a spill.
    - Assurance that full spill clean-up resource capability is known and can be committed following a spill.
    - Expected containment and clean-up procedures.
    - Disposal plan in accordance with local state and Federal regulations.
- Consistent and responsive press releases and public information dissemination plan.

Tina Berger

From: Josh Kurtz -DNR- <josh.kurtz@maryland.gov>
Sent: Friday, April 28, 2023 11:10 AM
To: THOMAS LILLY
Cc: Tina Berger; James Boyle; Mel Bell; Robert Beal; DAVE GOSHORN; hfalk@cbf.org; LYNN FEGLEY; Allison Colden
Subject: [External] Re: Menhaden Board add'l comment

Dear Commissioners of the Atlantic Menhaden Management Board,

The Maryland Department of Natural Resources is compelled to clarify that comments submitted by Mr. Tom Lilly do not in any way represent the State's current position on menhaden management in Virginia. In particular, Maryland does not currently agree with with Mr. Lilly's statement that we are "requesting they reduce the Bay Cap or zone the factory fishing out of the bay or, preferably, into the US Atlantic Zone.The MRC has failed in its legal obligation to Virginia to evaluate those options."

Unfortunately, within his commentary, Mr. Lilly has presented several statements from DNR documents and DNR staff on the record and placed them completely out of context to the current situation. As always, Maryland is firmly committed to being guided by the best peer reviewed science available, and to work as a partner in the management of the essential forage species where all states comply with the terms of the Interstate Management Plan for Atlantic Menhaden.

Please do not attribute Maryland's position to any statement by Mr. Lilly or his colleagues.

Thank you.

Josh

On Fri, Apr 28, 2023 at 9:28 AM Tom Lilly <foragematters@aol.com> wrote:

> Tina please circulate this additional comment on VA menhaden management about the failure of the MRC to comply with VA law. The scan order is : Science for, VA Law, MRC FOIA, ERP Press, George , Frontiers... Please advise receipt when you have a minute. Thanks Tom Lilly 4443 235 4465
>
> ---
>
> ---
>
> The attached science .(scan) lists opinions the MRC has received from respected scientists, MD DNR, and conservation groups requesting they reduce the Bay Cap or zone the factory fishing out of the bay or, preferably, into the US Atlantic zone. The MRC has failed in its legal obligation to Virginia to evaluate those options, as explained below.
>
> The MRC is required by VA law Chapter 28-203 (scan) to manage menhaden in a way that "will provide the greatest overall benefit to the Commonwealth, with particular reference to commercial and recreational fishing"(scan) However, the MRC has admitted in Responses #23 and #24 (scan FOIA) that they have never collected the information required by VA law to objectively decide these issues.That is one of the root causes of the Chesapeake Bay menhaden problem. There is an established

causal connection between menhaden harvest levels and striped bass problems (chronic YOY failure at record lows) in the ASMFC ERP definitions (scan Press Release) Striped bass and ospreys in the bay are in reproductive failure due to menhaden overharvesting . Recent Fronters Journal article - Michael Academia (scan) That damage can be reversed by moving the purse seining into the deeper ocean...That is shown by the NY experience...see mail from editor of NYAngler (scan George). The social and economic damage in VA (MD is very similar with declines of 60% in all categories) is as follows:

According to the Southwick-Mcgraw NOAA data (last available) between 2009-2016 spending in VA by striped bass anglers declined by 150 million dollars a year , that is a loss of 14 x 150 = 2.5 billion
dollars by VA small business , Participation data is equally dire. Between those years striped bass trips in VA declined by 750,000 a year by 2016. Using the average of 6% of trips by children there were about 45,000 fewer trips with children a year in VA. But what about the "social" cost to the "Commonwealth"? The physical and mental health benefits of recreational fishing especially for children is well documented. The failure of the MRC to follow their law and objectively evaluate menhaden options and the packing of the menhaden Advisory Board and the MRC with Reedvile advocates (who are outnumbered by business, groups and individuals supporting change in VA a thousand to one) has created a situation where only the ASMFC menhaden board can properly evaluate the Chesapeake menhaden issues using the guidance of Amendment 3 and their Charter. Is this board going to follow in the footsteps of the MRC and not collect the available evidence and objectively decide these critical issues? The MRC is "killing the goose that should be laying the golden egg" , only this Board can step in to protect the Chesapeake Bay ecology and the social and economic quality of life that 15 million people (and children) should be receiving from their most important natural resource---the Chesapeake Bay Thank you Tom Lilly 443 235 4465

--

dnr.maryland.gov

Josh Kurtz
Secretary
Department of Natural Resources
580 Taylor Ave., C-4
Annapolis, Maryland 21401
josh.kurtz@maryland.gov

Website | Facebook | Twitter

Tina Berger

From: Tom Lilly <foragematters@aol.com>
Sent: Friday, April 28, 2023 9:53 AM
To: Tina Berger
Subject: [External] Fwd: Menhaden Board add'l comment
Attachments: George first.pdf; ERP Press.pdf; VA LAW 28.pdf

Tina at the last minute I have removed most of the scans please let me know you have this Tom L.

-----Original Message-----
From: Tom Lilly <foragematters@aol.com>
To: tberger@asmfc.org <tberger@asmfc.org>; jboyle@asmfc.org <jboyle@asmfc.org>; bellm@dnr.sc.gov <bellm@dnr.sc.gov>
Cc: flypax@md.metrocast.net <flypax@md.metrocast.net>
Sent: Fri, Apr 28, 2023 9:48 am
Subject: Fwd: Menhaden Board add'l comment

Subject: Menhaden Board add'l comment

Tina please circulate this additional comment on VA menhaden management about the failure of the MRC to comply with VA law. The scan order is : VA Law, Answers, ERP Press, George , ... Please advise receipt when you have a minute. Thanks Tom Lilly 4443 235 4465

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(n.1) scan is Responses 23-24 only
(n.2) Frontiers journal Published April 20, 2023

Code of Virginia
Title 28.2. Fisheries and Habitat of the Tidal Waters
Chapter 2. General Provisions

§ 28.2-203. Commission to prepare fishery management plans; standards.

The Commission shall prepare and implement fishery management plans so as to preserve the Commonwealth's exclusive right to manage the fisheries within its territorial jurisdiction.

Any fishery management plan prepared, and any regulation promulgated to implement the plan, shall be consistent with the following standards for fishery conservation and management:

1. Conservation and management measures shall prevent overfishing while achieving the optimum yield from each fishery. The "optimum yield" of a fishery means the amount of fish or shellfish which will provide the greatest overall benefit to the Commonwealth, with particular reference to commercial fishing for food production and to recreational fishing;

2. Conservation and management measures shall be based upon the best scientific, economic, biological and sociological information available;

3. To the extent practicable, an individual stock of fish shall be managed as a unit throughout the territorial waters of the Commonwealth, and interrelated stocks of fish shall be managed as a unit or in close coordination;

4. Conservation and management measures shall not discriminate among user groups. If it becomes necessary to allocate or assign fishing privileges among various user groups, such allocation shall be (i) fair and equitable to all fishermen; (ii) reasonably calculated to promote conservation; and (iii) carried out in such manner that no person acquires an excessive share of such privileges;

5. Conservation and management shall, where practicable, promote efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose;

6. Conservation and management measures shall take into account variations among, and contingencies in, fisheries, fishery resources, and catches;

7. Conservation and management measures shall, where practicable, minimize regulatory burdens which inhibit innovation, expansion, and normal business operations.

1984, c. 463, § 28.1-23.1; 1992, c. 836.

The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose provisions have expired. 5/15/2020

ASMFC Atlantic Menhaden Board Adopts Ecological Reference Points

From: Tina Berger <tberger@asmfc.org>
Cc: ALL ARLINGTON STAFF <allarlingtonstaff@asmfc.org>
Date: Thu, Aug 6, 2020 5:42 pm

FOR IMMEDIATE RELEASE, AUGUST 6, 2020
PRESS CONTACT, TINA BERGER, 703.842.0740

ASMFC Atlantic Menhaden Board Adopts Ecological Reference Points

Arlington, VA – The Atlantic States Marine Fisheries Commission's Atlantic Menhaden Management Board approved the use of ecological reference points (ERPs) in the management of Atlantic menhaden. By adopting ERPs, the Board will be accounting for the species' role as an important forage fish. The 2020 Atlantic menhaden benchmark assessments, which were endorsed by an independent panel of fisheries scientists, used the Northwest Atlantic Coastal Shelf Model of Intermediate Complexity for Ecosystems (NWACS-MICE) in combination with the single-species model (Beaufort Assessment Model or BAM) to develop Atlantic menhaden ERPs by evaluating trade-offs between menhaden harvest and predator biomass.

"The Board took another important step in managing Atlantic menhaden in a broader ecosystem context," stated Board Chair Spud Woodward of Georgia. "It's the culmination of more than a decade of effort by state, federal, and academic scientists to develop ERPs that reflect menhaden's role as a key food source for several fish species. These ERPs are not a silver bullet to resolve all our fisheries management issues, and the models on which they are based will continue to evolve. However, the use of ERPs for menhaden management will enhance the success of predator management by providing a more abundant forage base for rebuilding predator fish populations. It is important for us to keep those rebuilding efforts on track through the use of proven management tools such as controls on fishing mortality."

In February and May, the Board tasked the ERP Work Group with additional analyses to explore the ERPs sensitivity to a range of ecosystem scenarios (different assumptions about fishing mortality for other key predator and prey species) and Atlantic herring biomass. These analyses suggested the original scenario (ERP target and threshold outlined below) most closely approximates short-term conditions for the ecosystem. As a result, the ERP Work Group recommended using the original scenario ERPs presented in the assessment report. Moving forward, the ERPs for Atlantic menhaden are:

ERP target: the maximum fishing mortality rate (*F*) on Atlantic menhaden that sustains Atlantic striped bass at their biomass target when striped bass are fished at their *F* target

ERP threshold: the maximum *F* on Atlantic menhaden that keeps Atlantic striped bass at their biomass threshold when striped bass are fished at their *F* target

Atlantic striped bass was the focal species for the ERP definitions because it was the most sensitive predator fish species to Atlantic menhaden harvest in the model, so an ERP target and threshold that sustained striped bass would likely provide sufficient forage for other predators under current ecosystem conditions. For the development of the ERPS, all other focal species in the model (bluefish, weakfish, spiny dogfish, and Atlantic herring) were assumed to be fished at 2017 levels.

In addition to adopting ERPs, the Board discussed setting fishery specifications for 2021-2022. In 2017, the Board set the total allowable catch (TAC) at 216,000 metric tons for 2018-2019, and then maintained that TAC for 2020 with the expectation that it would be set in future years using ERPs. With the adoption of ERPs, the Board tasked the Atlantic Menhaden Technical Committee to run a projection analysis to provide a variety of TAC scenarios and their risk of exceeding the ERP *F* target to compare in setting specifications for 2021-2022. The Board will review the projection analysis at the Annual Meeting in October and then determine a TAC for 2021-2022. As stated in Amendment 3, if a TAC is not set at the Annual Meeting, the TAC from the previous year will be maintained.

For more information, please contact Kirby Rootes-Murdy, Fishery Management Plan Coordinator, at krootes-murdy@asmfc.org or 703.842.0740.

###

PR20-15

The press release can also be found here - http://www.asmfc.org/uploads/file/5f2c7891pr15AtlMenhadenERP_Adoption.pdf

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Tina Berger
Director of Communications
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201
703.842.0740
www.asmfc.org

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

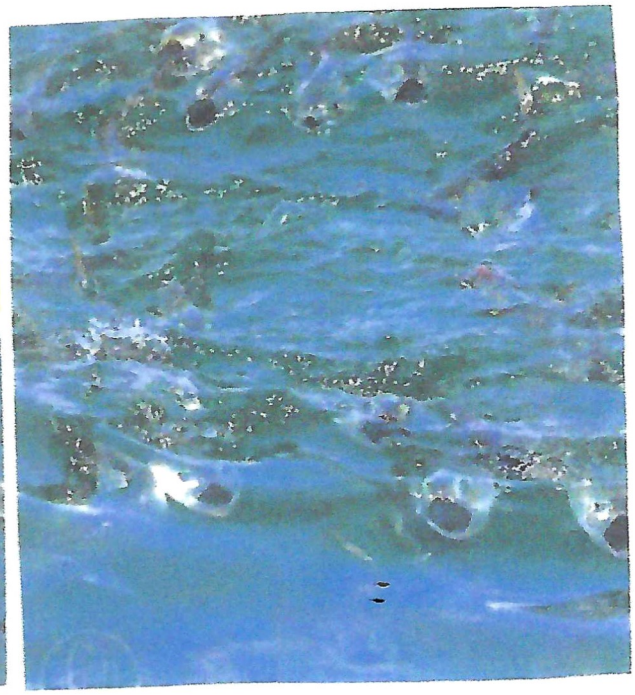
FWD: Menhaden
From: George Scocca george@nyangler.com
To: Tom foragematters@aol.com
Date: Mon, March 8, 2021 7:15am

Hello Tom:

I am the person that spearheaded the bill that has kept reduction fishing out of NY waters. The changes here have been unbelievable. I can talk about it all day. My single greatest accomplishment in 35 years of fisheries management.

The availability of bunker throughout our season has seen an increase in both charter and party boats carrying anglers to get in on our great striped bass fishery. Bass stick with their food source and this has kept a healthy population of stripers in our waters. It's sparked a number of for hire boats to carry more anglers than ever before.

It has also had a profound effect on our bird population. We now have about 12 dozen nest pair eagles on long island and the osprey population is thriving. All due to the amount of forage for them to eat.



And lets not forget the importance of their filtering our waters.

Thank you.

George R. Scocca
nyangler.com

Check out my Linkedin profile