



PETITION FOR RULEMAKING BY THE VIRGINIA MARINE RESOURCES COMMISSION REGARDING ATLANTIC MENHADEN, THE CHESAPEAKE BAY, AND THE REDUCTION FISHERY.

Chesapeake Legal Alliance (CLA), Southern Maryland Recreational Fishing Organization, and the undersigned organizations and individuals, hereby submit this petition for rulemaking pursuant to Va. Code Ann. § 2.2-4007, based on critical new data and findings that build upon the petition of similar intent filed Dec. 21, 2023 and denied by VMRC on April 26, 2024. **We again urge VMRC to take immediate action to adopt the recommendations below to ensure the long-term sustainability of the Atlantic menhaden population, its predators, and the health of the Chesapeake Bay ecosystem and the communities that rely upon it. We further request that each distinct recommendation be considered and voted upon.**

I. Summary Recommendations

The Atlantic menhaden fishery is at a critical juncture, with multiple indicators strongly suggesting the population is depleted and current management is insufficient. We call on VMRC to implement the following measures without delay:

- 1. Impose an immediate moratorium on reduction fishing for menhaden within the Chesapeake Bay, or in the alternative, reduce all purse seine fishing within the Chesapeake Bay to 10% of the current total allowable landings, thereby preserving the bait-fishery, to remain in place until completion and peer review of the ongoing ASMFC single-species and ecological reference point benchmark stock assessments. (Va. Code Ann. Ann. § 28.2-201; 203; & § 28.2-210 (emergency powers to protect resources))**
- 2. Limit purse seine fishing in state waters to no more than 25% of Virginia's current total allowable landings (approximately 39,000 metric tons, of the 156,600 allotted to the reduction fishery), with the remaining harvest to be taken outside of Virginia waters (*i.e.*, federal waters). This limit should remain in force until appropriate estimates of menhaden seasonal stocks within the Bay and a clear understanding of the effects of their removals are available. (Va. Code Ann. § 28.2-201 & 203 (authority to limit harvest methods and areas))**
- 3. Create a permanent 1-nautical mile purse seine exclusion zone along Virginia's *entire* shoreline to minimize localized depletion, user conflicts, habitat damage, and bycatch. (Va. Code Ann. § 28.2-203 (authority to establish restricted areas))**
- 4. Formally request funds from the General Assembly to expand the VIMS Research Planning proposal to study the impacts of reduction fishing on the Bay ecosystem, with at least 50% of costs to be covered by the industry. (Va. Code Ann. § 28.2-204 (authority to require data collection))**
- 5. Require comprehensive monitoring and public reporting of the reduction fishery, including electronic reporting and vessel monitoring. (Va. Code Ann. § 28.2-204 (authority to require reporting))**

Decisive action to protect menhaden is both legally required and would follow state and federal precedent, and the technical merits provide a clear roadmap for the necessary policy changes.

First, the temporary moratorium on reduction fishing in the Bay would relieve pressure on the stock until the new ASMFC assessments can determine an appropriate coastwide catch level. The cut to Virginia's reduction fishing quota is needed to prevent localized depletion in the critical Bay nursery area. The term "localized depletion" is often misused by some to imply the complete absence of menhaden from a given area. However, this petition uses the term as defined by the ASMFC's Atlantic Menhaden Technical Committee: "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." The disproportionate harvest of nearly the entire Virginia quota from the mouth of the Bay clearly meets this definition.

Second, in addition to the recommended moratorium on reduction fishing within the Chesapeake Bay, it is crucial to limit the potential negative consequences of high fishing pressure on the menhaden population, their predators, and other marine wildlife in and around the mouth of the Bay - one of the most important areas for menhaden along the Atlantic coast. Virginia's current menhaden quota allocation is about 175,000 metric tons (387 million pounds). To ensure a precautionary approach, this quota should be limited to no more than 25% (approximately 39,000 metric tons) coming from Virginia's state waters. The remaining harvest should be taken from federal waters. This limit should stay in place until there are reliable estimates of menhaden stocks within the Bay and a better understanding of the impacts of their removal on the ecosystem.

This recommendation aligns with the management approaches taken by other states like New Jersey and New York, which have banned purse seining for menhaden in their state waters. These states have subsequently witnessed remarkable recoveries in their local menhaden populations, and corresponding local abundances of predators like ospreys, humpback whales, and gamefish, highlighting the importance --and value --of spatial management and the heterogeneity of the coastwide stock (Barron, 2023).

Third, a shoreline buffer would reduce bycatch and other habitat destruction, while also reducing conflicts along the coast.

And, finally, comprehensive monitoring, including requesting/requiring industry funding for VIMS's research, is a common-sense way to hold the fishery accountable, while improving science. Virginia must prioritize the collection of high-quality data on menhaden abundance and fishing mortality at a finer spatial scale. Current data collection efforts by the reduction industry lack transparency, and fishery-independent surveys are not specifically designed to monitor menhaden populations (SEDAR, 2020). Improving the methodological rigor and spatiotemporal resolution of data collection is essential for informed decision-making.

The proposed limit on reduction fishing in state waters, coupled with the temporary moratorium in the Chesapeake Bay, would provide a precautionary buffer to mitigate the risks of localized depletion and ecosystem disruption while still allowing the fishery to operate at recently realized levels. As new data and stock assessments become available, these measures should be adaptively managed to ensure the long-term sustainability of the menhaden population and the health of the Chesapeake Bay ecosystem.

This comprehensive "package approach" represents the minimum conservation measures needed to realign menhaden management with VMRC's statutory duties. Va. Code Ann. § 28.2-203 is clear that measures "shall be based on the best scientific, economic, biological and sociological information available" and "designed to prevent overfishing and maintain over time, abundant, self-sustaining stocks." Ignoring the red flags in the science and the resulting public outcry would be an abdication of the agency's responsibilities.

II. Scientific Support

The latest science and fishery trends underscore the urgency for decisive action:

- A new analysis by renowned fisheries scientists and ecosystem modelers Drs. Ault & Luo found that the natural mortality rate used in the most recent stock assessment is dangerously inflated due to a combination of modeling and data errors (Ault & Luo, in review), suggesting the stock is overfished. Correcting these errors in the assessment model shows **current quotas are very likely allowing overfishing by more than double the target rate**. At the June 2024 VMRC meeting, Dr. Latour, a VIMS scientist, cited the Ault & Luo research, warning that it "indicates a natural mortality of 0.56, compared to the 1.17 value now used" and that "current quotas could be allowing overfishing by more than double the target rate" (VMRC, 2024b).
- Osprey reproductive success in the Chesapeake Bay has plummeted in lockstep with the 10-fold decline in a key menhaden abundance index since the 1980s (Watts *et al.*, 2024). Nest failures due to food stress now exceed 50% in higher salinity areas of menhaden food-source dependence, indicating a collapse in the forage base since ospreys rely heavily on menhaden as forage.
- In 2023, the reduction fishery caught less than 40,000 of its 51,000-metric ton Bay quota; coastwide reduction landings in 2023 were down 13% from 2022 and 15% below the previous 5-year average (ASMFC, 2024b). The reduction fishery is increasingly traveling out of the Bay as menhaden schools become scarce in Virginia waters, sometimes traveling hundreds of miles northward. There is evidence from flight records publicly available on FlightAware.com that spotter planes are recently traveling farther to find menhaden schools (FlightAware, 2024).
- Additionally, there were zero menhaden landings declared in the incidental fishery in 2023, in stark contrast to prior years (ASMFC, 2024b). This is further evidence of the scarcity of menhaden in the Bay and along the Atlantic coast.

III. Economic Impact

At the global level, predator fish are worth twice as much as forage fish. And this assessment doesn't include the economic value of the recreational fishing industry (Ellen K. Prikitch, et al). At the local level the overharvesting of Atlantic menhaden has been devastating to the Striped Bass recreational fishing industry. According to NOAA, the Virginia and Maryland Striped Bass recreational harvest has declined 77% from 11,943,653 to 2,683,369 pounds since 2016. In 2016, the economic contribution of the Striped Bass recreational industry to Virginia and Maryland was over \$909 million dollars and accounted for over 11,600 jobs. This is in contrast to Omega Protein's \$100 million dollars in business and approximately 400 jobs.

IV. Legal Bases & Public Support

The Commonwealth of Virginia, through the Marine Resources Commission (VMRC) has clear statutory authority to implement the requested measures under:

- Va. Code Ann. § 28.2-201 (authority to promulgate regulations)
- Va. Code Ann. § 28.2-203 (duty to preserve marine resources)
- Va. Code Ann. § 28.2-204 (authority to require reporting)
- Va. Code Ann. § 28.2-210 (emergency regulatory powers)

Several key legal mandates and management precedents underscore the necessity and appropriateness of adopting precautionary measures to protect menhaden and its ecological role:

1. Virginia Fisheries law mandates minimum conservation and management requirements be applied (Va. Code Ann. § 28.2-203), including measures that:
 - a. **shall** be based upon the best scientific, economic, biological and sociological information available;
 - b. **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;
 - c. **shall** ... promote efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose; and
 - d. **shall** take into account variations among, and contingencies in, fisheries, fishery resources, and catches.
2. VMRC has acted quickly in the past, using catch, gear, and harvest restrictions to regulate crab populations, pursuant to the very same Virginia Fisheries law (see *Miles v. VMRC*, 54 Va. Cir. 325 (Accomack Cir. Ct. 2000); Va. Code Ann. § 28.2-203).
3. The Magnuson-Stevens Act (MSA) requires that management measures prevent overfishing while achieving optimum yield (OY) on a continuing basis. OY is prescribed based on maximum sustainable yield (MSY) as reduced by ecological, economic and social factors. Given menhaden's crucial role as forage, MSY should be reduced significantly to account for these factors in setting catch limits. Failure to do so violates National Standard 1.

4. Like Virginia Fisheries law, MSA National Standard 2 mandates that conservation and management measures be based on the best scientific information available (BSIA). Several recent studies, including Ault & Luo, indicate that current management of menhaden is not based on BSIA. VMRC must consider this information in adopting more precautionary measures.
5. MSA National Standard 8 requires management to take into account the importance of fishery resources to fishing communities and provide for their sustained participation, while minimizing adverse economic impacts. A collapse in the menhaden population would devastate communities that depend on the recreational fishing and tourism supported by menhaden. Precautionary management is needed to preserve these sectors.
6. The ASMFC, federal fishery management councils, and other states have adopted precautionary management approaches, including conservative catch limits, time/area closures, and bycatch caps, for other important forage species like Atlantic herring when their population was at low levels (NEFMC, 2019). This sets a clear precedent for applying similar measures to menhaden given the concerning stock indicators.
7. The ASMFC recognizes the importance of "leaving fish in the water" for other species like striped bass (ASMFC, 2022). Maintaining a higher biomass of menhaden as forage is key to meeting the needs of predators in the Bay and along the coast.

These concerning developments are taking place against a backdrop of unprecedented challenges for forage fish and their predators along the Atlantic coast. The majority of forage species under the purview of ASMFC and fishery management councils, including Atlantic herring, Atlantic mackerel, river herrings, shads, and American eel are depleted or at historic lows (ASMFC, 2023). Large fishing interests are increasingly seeking to exploit other previously unfished forage stocks like thread herring and mackerels, putting further strain on the ecosystem. It is essential that other forage populations like Atlantic menhaden are managed with precaution to provide resilience for the coastal food web.

Despite broad agreement that more information is needed on the population dynamics and status of menhaden in the Bay, both VMRC and the ASMFC have resisted calls to take a precautionary approach while that science is developed. ASMFC's recently established Chesapeake Bay workgroup, while well-intentioned, is unlikely to generate significant new findings without on-the-water research. A proposal for such a study by the Virginia Institute of Marine Science was backed by a diverse coalition of stakeholders but ultimately denied funding by the Virginia General Assembly, to the disappointment of many scientists and citizens (Bay Journal, 2024). In the face of these obstacles to filling data gaps, it is imperative that managers act with precaution to protect the resource. At the April 2024 VMRC meeting, Deputy Chief Shanna Madsen admitted frustration with the lack of scientific data to support management decisions, stating "I would love to sit up here and say this is the number, this is the scientifically supported bay cap, and I can't, and it's incredibly frustrating to me." Associate Member Lusk shared disappointment that studies have not been funded to fill data gaps (VMRC, 2024a).

And the data that *is available* shows severe population stress to reliant species such as striped bass and ospreys, a commercial catch that has substantially diminished over the past few years, and a menhaden stock assessment that's been overestimated by 100%, resulting in a very high likelihood of overfishing. It's not just the science that points to the need for reform - Virginia's current approach to menhaden management is also failing to meet the needs and expectations of its citizenry. Public opposition to the status quo is reaching a boiling point:

- In 2022 and 2024, several dozen organizations and citizens submitted comments to VMRC urging greater protection for menhaden in the Chesapeake Bay, with the vast majority supporting lower catch limits and stronger buffers, including fishermen and scientists (VMRC, 2022 & 2024).
- Over ten thousand have signed petitions asking Governor Youngkin to support menhaden conservation and hold the reduction industry accountable for its net spills and fish kills.
- Numerous op-eds, letters to the editor, social media posts (for examples, see: Zalesak, 2021; Higgins, 2022; Horton, 2024) and a regulatory lawsuit have criticized VMRC's failure to protect menhaden from overfishing.

There is clearly widespread and intensifying public demand for Virginia to change course on menhaden before it's too late. As the agency entrusted with conserving the Commonwealth's marine resources, it is incumbent on VMRC to heed this call and take decisive action to avert the collapse of this vital forage species and its predators.

V. Previous Commission Discussion & Conclusions

Reviewing the proceedings of the April 23 and June 25, 2024 VMRC meetings reveals evidence that Commissioners, staff, and scientific advisors recognize the need for precautionary management action to protect Atlantic menhaden in the Chesapeake Bay.

At the April meeting, Deputy Chief Shanna Madsen admitted frustration with the lack of scientific data to support management decisions, stating "I would love to sit up here and say 'this' is 'the number', 'this' is the scientifically supported bay cap, and I can't, and it's incredibly frustrating to me." Deputy Chief Madsen went on to heavily rely on the current ASMFC stock assessment, including her strong opposition to the petition. In that opposition, she stated that the menhaden stock was healthy, that she personally knew the authors of the stock assessment study (Liljestrang et al., 2019), and that Petitioners were being misleading and cherry-picking information to suggest otherwise. However, this reliance has been shown to be patently incorrect. The study, authored by Emily Liljestrang, Mike Wilberg and Amy Schueller, was flawed. As described above, the recent Ault & Luo study demonstrates fundamental flaws in both the data analysis and basic modeling assumptions in the Liljestrang study, with the authors reconsidering or retracting much of those findings. This has led to ASMFC scientists scrambling to address their overestimation of the menhaden stock.

Associate Member Lusk shared disappointment that studies have not been funded to fill data gaps: "I think that it is incredibly frustrating that we do not have the information, regional information that we need and that there, and that the efforts to acquire that

information or develop that information were halted this year. It is very frustrating, and frankly, incredibly disappointing." Most tellingly, Commissioner Lusk also stated she was "very troubled" by the new scientific findings and said "we have an obligation to err on the side of conservation until these issues can be resolved." She also expressed support for a complete moratorium on reduction fishing in the Chesapeake Bay as a precautionary measure.

In addition, several Commissioners expressed concern about the large unknowns regarding localized depletion in the Bay. Associate Member Hand stated "I keep hearing that this science doesn't support certain damages, but I haven't heard anything, or not much about science saying that it can't be damaging. So there is that unknown to me, that's concerning and very, very important to the ecosystem." These issues were raised again with greater urgency at the June meeting. Commissioner Erskine pointed out concerning downward trends in menhaden abundance indices, and Dr. Latour, a VIMS scientist, noted the Ault & Luo paper "indicates a natural mortality of 0.56, compared to the 1.17 value now used" and that "current quotas could be allowing overfishing by more than double the target rate."

Several public commenters echoed this sentiment, with one stating "The Bay is the epicenter for menhaden on the East Coast. Allowing industrial fishing there is like clear-cutting the last remaining old growth forest." Another noted the economic importance, saying "Menhaden support a multi-billion dollar recreational fishing industry that is being devastated as the forage base collapses." The public, via overwhelming numbers of comments, also demanded the Commission take stronger conservation measures including a permanent one-mile buffer zone and an outright ban on reduction fishing in the Bay to protect this critical nursery area. Finally, Commissioner Hand starkly stated "public opinion, the public is one factor, and I don't think anybody in the room will question where the public opinion is on this matter. And I think it is a factor that is worth considering is what the people of Virginia want." It's clear that key decision makers and stakeholders believe the science is no longer aligned with the current management approach and that spatial protections are urgently needed.

In summary, the time is now to enact the common sense management actions called for in this new petition. Commissioners and staff readily acknowledge the warning signs - now supported by conclusive data - that menhaden in the Chesapeake Bay are likely depleted below sustainable levels. VIMS and ASMFC experts are raising alarms that the stock assessment and catch limits are not based on the best available science. Faced with this growing body of evidence and outcry from stakeholders, it has become clear that VMRC should take decisive management actions, and has both the authority and the obligation to take those critical precautionary measures recommended by this petition.

We strongly urge you to enact the recommendations in this petition and begin the rulemaking process to adopt them. The public is watching and demanding action. The question is whether VMRC will answer the call to conserve this vital ecological and public trust resource before it is too late.



The undersigned thank the VMRC for its consideration of this petition for rulemaking.



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