December 2, 2019

Via Hand Delivery
The Honorable Wilbur Ross
Secretary of Commerce
United States Department of Commerce
Herbert C. Hoover Building
1401 Constitution Avenue, Northwest
Washington, DC 20230

RE: Omega Protein Inc.'s Response to Atlantic States Marine Fisheries Commission's Request for a Moratorium on the Atlantic Menhaden Fishery In the Commonwealth of Virginia's State Waters

Dear Secretary Ross:

Omega Protein Inc. operates the only remaining facility on the Atlantic Coast which produces fish meal and oils from Atlantic menhaden and is the sole entity impacted by the Chesapeake Bay reduction fishery cap. This cap is the subject of the Atlantic States Marine Fisheries Commission's ("Commission") letter of November 15, 2019, requesting that a moratorium on menhaden fishing be imposed in waters of the Commonwealth of Virginia.

As the letter states, the Virginia General Assembly, which is the relevant governmental body with jurisdiction over this fishery, has not implemented a Commission-recommended forty-one percent cut in the amount of menhaden that can be removed annually from the Chesapeake Bay for reduction purposes (that is, from 87,216 metric tons ("mt") to 51,000 mt). However, the Commission does not claim, and cannot claim, that this reduction is "necessary for the conservation of the fishery in question,"[1] which is the standard established by the Atlantic Coastal Fisheries Cooperative Management Act ("ACFCMA" or "Act") that governs the decision before you. For this and other reasons explained in detail below, Omega Protein believes no lawful moratorium on this fishery can be issued.

Before providing our detailed arguments as to why the Commission cannot make the showing required under the Act, we first provide a summary of the main points raised. We then provide some background on the reduction fishery and the operations of Omega Protein.

[1] 16 U.S.C. § 5106(a)(2).

Summary of Omega Protein's Main Points Against a Moratorium

- As noted, under ACFCMA, a federal moratorium can only be imposed here if the Chesapeake cap is necessary for the conservation of the Atlantic menhaden fishery. However, the Commission does not and cannot make this argument. This stock has not been subject to overfishing since the 1950s, nor has it been below target levels of abundance since late 1990s.

- Since 2013, when the Atlantic menhaden fishery was first subject to a coastwide quota system, the Commission has set a very conservative annual cap on total landings. This quota has always been set at a level which has no chance of resulting in overfishing. As such, Atlantic menhaden have been managed far more conservatively than even federally-managed fisheries that are undergoing rebuilding.

- As your designees with the National Oceanic and Atmospheric Administration's Office of General Council have informed the Commission, there has been no indication of the necessary menhaden conservation purpose. Further, they have noted that a moratorium has never been requested or imposed for a fishery, like that for Atlantic menhaden, which is neither overfished nor subject to overfishing.

- A moratorium cannot be justified even in terms put forward by the Commission; specifically, on the grounds that the reduction is necessary "to conserve menhaden within the Bay to serve as forage for the many other key species that depend on it." Nov. 15 Letter, at 2. In response to Virginia's appeal of the decision in Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden to reduce the Bay cap, the Commission's leadership admitted that the Amendment contained "no evidence to suggest the Bay Cap is necessary to protect the Bay as a nursery for other species."

- While catches of menhaden in the Chesapeake Bay have been on a steady decline since the Bay cap was first introduced in 2006, from an average of 109,020 mt from 2001-2005 to about 51,000 mt from 2012-2016, and the population status of menhaden has been "robust," the status of predator species, particularly striped bass, have been on a decline. The reason for these declines are much more likely attributable to chronic overfishing and the failure of the Commission to take necessary action to impose meaningful conservation for stocks such as striped bass and bluefish.

Background on Omega Protein and the Menhaden Reduction Industry

Omega Protein is the largest private employer in Northumberland County and is located in the small Chesapeake Bay town of Reedville, Virginia. This company has been in continuous operation since 1878.In fact, in the 1950s, over twenty reduction plants were in operation from Florida to Canada, and as many as 150 vessels participating in this fishery. The oils produced by the industry have traditionally been used in industrial applications; in fact, these oils were essential to the war fighting efforts during World Wars I and II. Fish meals and oils have also been long used for fertilizers, to provide nutritional supplements for livestock, and, increasingly, to support a growing aquaculture sector to help feed a growing world.

In more recent times, Omega Protein has focused on manufacturing highly-refined fish oil for direct human uses. For instance, we incorporate these oils into capsules, distributed under our own proprietary brands, as well as other nutritional companies' brands. Omega-3 from fish oil supplies valuable long-chain Omega-3 lipids and proteins, containing Omega-3 fatty acids DHA, EPA and the lesser known fatty acid, DPA. In 2004, the U.S. Food and Drug Administration announced that companies such as Omega Protein may make qualified health claims that the consumption of long-chain omega-3 fatty acids, EPA and DHA, may reduce the risk of coronary heart disease.

Nutritional product development extends well beyond refining fish oil for capsules. The Company's Omega-3 formulations fortify a wide range of human foods, including butters and spreads, sauces and dressings and breads. We are also developing nutraceutical products for enteral and parenteral nutrition, providing life-saving nutrition as part of medical treatment.

Omega Protein's research and development is conducted at Omega's Health and Science Center, located at its Reedville facility. Research undertaken here has been instrumental in expanding the human nutritional applications to which our products are put, as well as developing ways to increase the value of the limited catch the Company is allowed to harvest. In this fishery, no part of the fish is wasted.

Omega Protein's Case Against a Declaration of a Moratorium

I. The Legal Framework Governing the Commission and the Decision Before the Secretary

A. The Atlantic States Marine Fisheries Compact

Atlantic coast states established the Atlantic States Marine Fisheries Compact, which Congress approved in 1942,[2] and which was subsequently amended in 1950.[3] The Compact was created to assist compacting Atlantic Coast states to coordinate the conservation and management of fish stocks they share. Through such coordination, Compact participants seek to "promote the better utilization of the[se] fisheries . . . 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." Compact, Article I. In the case of this Compact, the benefit of the bargain that each participating state derives is uniformity and consistency among the participating states' fishery laws.

The Compact authorized the Commission's creation. The Atlantic States Marine Fisheries Commission "is a fact finding and deliberative body with the power to make recommendations to the member states and to the Congress of the United States." Rules and Regulations of the Commission, Art. I, § 2. It is the role of the Commission to "recommend" to the governors and legislatures of the signatory states "legislation dealing with the conservation of

[2] *See* PUB. L. NO. 77-539, 77th Cong., 2d Sess. (1942).

[3] *See* PUB. L. NO. 87-721, 81st Cong., 2d Sess. (1950).

the marine, shell and anadromous fisheries of the Atlantic seaboard." Compact, Art. IV. In addition, the Commission is empowered to "recommend" to the pertinent administrative agencies in the signatory states "the adoption of such regulations as it deems advisable." *Id.*

Thus, as originally created by the member states and as approved by the U.S. Congress, the Commission had no direct regulatory authority. Any state was free to adopt or ignore the Commission's recommendations, just as the member states of the subsequently created Gulf States and Pacific States Marine Fisheries Commissions are free to do today.

B. The Atlantic Coastal Fisheries Cooperative Management Act (1993)

In 1993, to further ensure consistency in management of Atlantic fisheries under state jurisdiction, Congress enacted the Atlantic Coastal Fisheries Cooperative Management Act. *See* 16 U.S.C. §§ 5101-5108. The Act, modeled on the Striped Bass Act, effected significant changes from the Compact and the understanding it codified among the compacting states. The most consequential change made by the Act was to make certain conservation measures "recommended" by the Commission enforceable mandates upon states through federal action.

Specifically, through the Act, Congress clarified and strengthened the member states' obligations to implement coastal fishery management plans developed by the Commission. Indeed, the Act states that Member states "shall implement and enforce the measures of such plans within the time frame established in the plans." *Id.* § 5104(b)(1) (emphasis added). Moreover, the Act defines the terms "implement and enforce" employed in Section 5104(b)(1) as "mean[ing] to enact and implement laws or regulations as required to conform with the provisions of a coastal fishery management plan…." *Id.* § 5102(10).

The Act details its rationale for enhanced enforcement of Commission recommendations. It explains that, "[b]ecause no single governmental entity has exclusive management authority for Atlantic coastal fishery resources, harvesting of such resources is frequently subject to disparate, inconsistent, and intermittent State and Federal regulation that has been detrimental to the conservation and sustainable use of such resources and to the interests of fishermen and the Nation as a whole." *Id.* § 5101(a)(3). In part, the law is designed to facilitate cooperation and management of resources which jointly exist in state and federal marine jurisdiction. *Id.* § 5103.

Pertinent to the issue at hand, the Act required the Commission to develop what has become to be known as the Interstate Fisheries Management Program ("ISFMP") Charter, which contains "standards and procedures to ensure that such plans promote the conservation of fish stocks throughout their ranges and are based on the best scientific information available." *Id.* § 5104(a)(2)(A).

The Act's enforcement mechanism is the means by which the law's state/federal conservation purposes are ensured. Under this provision, the Commission may notify you, as the Secretary of Commerce, that a state has failed to implement a mandatory compliance measure developed under an interstate fishery management plan. *Id.* § 5105(b). The law requires you, as the Secretary, to determine whether: (1) "the State in question has failed to carry out its responsibility

under section 5104" of the Act; and (2) to make an independent determination as to whether such measure or measures are "necessary for the conservation of the fishery in question." *Id*. § 5106(a). If the answer to both questions is affirmative, you have the authority to impose a moratorium on fishing for that species in the recalcitrant state's waters. *Id.* § 5106(c). Both the Constitution and federal legal decision-making standards require you to exercise independent judgment in addressing a Commission moratorium request.

In fact, at least two state Attorneys General have questioned the Act's constitutionality on several grounds. Coincidentally, the Virginia state Attorney General opined on whether the original Chesapeake Bay reduction fishery cap, which was adopted through an "addendum," an abbreviated rulemaking process less rigorous than a full amendment.[4] For several substantive and procedural reasons, the Attorney General found that, as adopted, the Commission exceeded its authority by using the addendum procedure to enact the cap.[5] Relevant here, the Opinion states:

> [I]t is reasonable to expect that the Board's compliance with its own rules would be subject to heightened scrutiny due to the existence of unsettled Constitutional questions underlying the coercive aspects of the Act. Questions under the Constitution of the United States to challenge Addendum II may include federalism issues, the Tenth Amendment; the Joinder Clause, Article IV, § 3, cl. 1; the Compact Clause, Article I, § 10, cl. 3; the Appointments Clause, Article II, § 2, cl. 2; and the doctrine limiting Congressional delegation of authority to nonfederal entities.

Id. at 4. To date, none of these issues have been raised in a challenge to an action by the Commission. We note these concerns to highlight the substantial questions that have been raised by the extraordinary authority you have been granted to exercise federal authority over issues constitutionally reserved to sovereign states, especially in light of years' worth of claims by the Commission that its actions are immune to judicial review or executive branch review. Federalism questions are especially pertinent in this instance where the cap applies solely within the internal waters of Virginia.

II. The Question At Issue

As noted above, under the Act, the questions presented by the Commission are twofold. The first is whether Virginia has failed to adopt the forty-one percent reduction in the Chesapeake Bay reduction cap adopted as part of Amendment 3 to the Atlantic Menhaden Fishery Management Plan ("FMP"). The answer to this question is clearly yes. Amendment 3 reduced the cap to 51,000 mt. By contrast, Virginia law currently sets the annual limit at 87,216

[4] VA. Att'y Gen. Opinion No. 06-002 (2006). A copy of this opinion, along with one issued by the North Carolina Attorney General that raises similar constitutional questions are appended hereto as Exh. A.

[5] After a period of negotiations among political representatives of Maryland and Virginia, Omega Protein, environmental groups, and angler representatives with a stake in Chesapeake Bay fisheries, a revised addendum was adopted later in 2006. *See infra*. The propriety of the administrative process used was therefore not judicially challenged.

mt.[6] Furthermore, Amendment 3 eliminated the possibility of carrying over up to 10,976 mt of unused quota that Virginia law currently provides for. *See id.* § (C), (D).

The key question, then, is whether the Chesapeake Bay reduction fishery cap of 51,000 mt per year with no "carryover" that Virginia failed to "implement and enforce" is "necessary for the conservation of the fishery in question." 16 U.S.C. § 5106(a)(2). That is to say, is the measure "necessary" to conserve the Atlantic menhaden fishery? For reasons detailed below, the answer to this question is undoubtedly "no."

III. There Is No Scientific or Record Basis for Finding the Reduction in the Chesapeake Bay Reduction Fishery Cap is Necessary for the Conservation of the Fishery In Question

Before providing Omega Protein's detailed rationale, we would note that the Commission does not attempt to justify the cap reduction in statutorily relevant terms. That is to say, it does not argue that the measure is necessary for "restoring, rebuilding, and maintaining" the Atlantic menhaden resource to insure its "availability … on a long-term basis."[7]

Rather, the motion to find Virginia out of compliance approved by the Commission states only that the "measure is necessary to achieve the goals and objectives of the Fishery Management Plan and maintain the Chesapeake Bay marine environment to assure the availability of the ecosystem's resources on a long-term basis." Letter of Nov. 15, 2019, at 1. In fact, the Commission admits that "the noncompliance decision was not made in response to menhaden's current stock status, which is generally accepted as robust. Instead, the decision was made to uphold a mandatory conservation tool of Amendment 3, namely to conserve menhaden within the Bay to serve as forage for the many other key species that depend on it." *Id.* at 2 (emphasis added).

The Commission's new-found rationale begs two questions:

First, the Act defines "fishery" as "one or more stocks of fish that can be managed as a unit for purposes of conservation and management and that are identified on the basis of geographical, scientific, technical, commercial, recreational, or economic characteristics." *Id.* § 5102(8)(A) (emphasis added). The Commission does not identify or manage menhaden and its predators as any sort of unit. The Commission, for the first time ever, is pretending to do so in its November 15, 2019 submission. Do not be fooled by the Commission's assertion.

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[6] *See* VA. CODE § 28.2-1000.2(C).

[7] *See id.* § 5102(4) (the Act's definition of "conservation"). To preempt any argument that the definition of conservation, which also considers not only the fishery, but "any coastal fishery resource and the marine environment," is broad enough to the Commission's justifications, we note that the question is not whether the measure promotes conservation generally. Rather, the inquiry is confined to whether the measure is necessary "for the conservation of the *fishery in question*," *i.e.*, the menhaden fishery. *Id.* § 5106(a)(2). The Act defines a "coastal fishery resource" as "any fishery, any species of fish, or any stock of fish that moves among, or is broadly distributed across, waters under the jurisdiction of two or more States or waters under the jurisdiction of one or more States and the exclusive economic zone." *Id.* § 5102(2).

Second, the Commission never demonstrates – nor can it – that there is even any management unit of any sort for Atlantic menhaden within the Chesapeake Bay. The Atlantic menhaden stock is indisputably unitary and coast-wide, as the National Marine Fisheries Service ("NMFS") has long maintained.

Therefore, because the Commission does not argue the Bay cap reduction is necessary to conserve the Atlantic menhaden stock, and, as discussed below, could not argue that it is necessary to conserve this fishery, the Commission's request for a moratorium under the Act should be denied.

Omega Protein's detailed argument shall begin with a history of the Bay cap and its purpose, as well as the fishery and its management. Then we set forth the primary arguments as to why the cap is not a necessary conservation tool for the fishery, while addressing the Commission's main points advanced in its letter.

A. History of the Bay Reduction Fishery Cap

Until 2006, there were no management measures specified governing harvest of Atlantic menhaden. In that year, in response to concerns raised by environmental and sportfishing organizations that concentrated harvests of the stock in the Chesapeake Bay could lead to "localized depletion" that may adversely impact predator stocks, the Commission adopted Addendum II to the Menhaden FMP. Addendum II would have set a cap on Bay harvests by Omega Protein based on the five-year average landings from 2000-2004.[8]

The Addendum's Statement of the Problem noted that the proportion of coastwide landings taken from the Bay had increased eleven percent in the 1996-2004 period compared to the prior 11 year period. Add. II at 6. It also noted that, in relevant context, "the absolute or actual removals from the Bay have declined over similar time frames" by twenty-eight percent. *Id.* Addendum II did not explain what biological problems might be caused by a relative increase in the proportion of fish taken from the Chesapeake Bay when the absolute amount of Bay removals had significantly decreased.

Also noted was the "potential" for localized depletion, which was theorized to possibly compromise predator-prey relationships and negatively impact recruitment of menhaden. *Id.* It was noted, however, that there was a "lack of reliable data to determine if depletion within season for all ages and annually for ages 1 and 2 Atlantic menhaden is occurring." *Id.* The Addendum did state that no data suggested that reduction harvests adversely impacted menhaden recruitment, which at that time had been poor. *Id.* 6-7. It was concluded that "[s]ufficient scientific data was not available to satisfactorily address the potential for localized depletion in the Bay." Thus, a cap was established as a matter of precaution to prevent expansion of the Bay fishery based on average landings from 2000-2004 and a research program was to be established to investigate the question. *Id.* at 7.

[8] Addendum II is available at http://www.asmfc.org/uploads/file//546b96ecAtlMenhadenAddendumII_05.pdf.

Addendum II never came into effect. After the Virginia Attorney General raised the concerns noted above, negotiations occurred among the two Chesapeake Bay states and stakeholders, including Omega Protein. Those discussions resulted in an agreement to set the annual Bay cap at 109,020 mt (the five year average from 2001-2005), with a limited roll-over of quota.[9] This agreement was implemented in Addendum III. Amendment 3, at p. 27.

Subsequently, the research program called for by the Addendum was conducted. This research program consisted of four areas of investigation designed to help answer the question of localized depletion in the Chesapeake Bay; specifically to –

(1) determine menhaden abundance in Chesapeake Bay;

(2) determine estimates of menhaden removals by predators;

(3) evaluate the rate of exchange of menhaden between Bay and coastal systems; and

(4) conduct larval studies to determine recruitment to the Bay.[10]

For purposes of the investigation, localized depletion was hypothesized to be 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."[11] The Commission further elaborated that localized depletion "can occur as a result of fishing pressure, environmental conditions, and predation pressures on a limited spatial and temporal scale." *Id.*

The NOAA Chesapeake Bay Office funded certain research projects designed to meet the four identified investigatory areas. After these yielded some preliminary findings, NOAA and ASMFC held a peer review conducted by the Center for Independent Experts ("CIE") to evaluate progress and assess how well the projects were meeting the goal of identifying the potential for localized depletion.

None of the individual studies purported to answer the question of whether localized depletion was occurring, but did further the objective of providing an empirical basis for answering the question. For instance, as one reviewer noted, the question of site fidelity is particularly important. "For local depletion to occur the stock would need to be relatively site

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[9] Notably, however, the cap is not applied throughout the Chesapeake Bay nor to total menhaden removals. Rather, it applies solely to harvests made for reduction purposes only. Menhaden harvested for bait purposes by Virginia and Maryland fishermen are exempt.

[10] Addendum III at 2-3, *available at* http://www.asmfc.org/uploads/file//546b96d4AtlMenhadenAddendumIII_06.pdf.

[11] Maguire, J.J. "Report on the evaluation of the Chesapeake Bay Fisheries Science Program: Atlantic Menhaden Research Program Laurel, MD, April 22-24, 2009," at 4 (May 2009), *available at* https://www.st.nmfs.noaa.gov/Assets/Quality-Assurance/documents/peer-review-reports/2009/2009_05_08%20Maguire%20Chesapeake%20Bay%20menhaden%20program%20review%20report.pdf.

attached."[12] This reviewer went on to note that menhaden are highly migratory and (wide-spread) larval dispersal is effected by large oceanic processes. *Id.*

Likewise, the reviewers agreed that removals by predators is a key piece of evidence. One, however, noted that it "is necessary to understand the dynamics of the prey as well as those of the predators." Maguire, *supra* n.11, at 8. He went to observe "this is not a simple question to resolve: predator – prey relationships are likely to change as the abundance and distribution of predators, prey and competitors are changing," and they are effected by environmental factors like climate change. *Id.*

Beyond the specifics of the research priorities and interim results, the reviewers noted the overarching importance of identifying and defining the problem. With regard to the latter, one reviewer observed:

> This definition would not consistently lead to the same conclusion following an evaluation of the available information: based on the same information, one observer could conclude that localized depletion is occurring while a different one might conclude the opposite. This is possible because the quantity of menhaden needed for each of the basic ecological, economic and social/cultural function is not quantified. Therefore, depending on their own, generally unstated objectives, different observers could legitimately reach different conclusions from the same information.

Id. at 4. Another stated: "Unfortunately, while it is possible to use such a definition it does not offer any suggestions about how to measure the basic ecological, economic, and social/cultural functions mentioned in the definition. What is left, in the absence of performance measures that relate to local depletion, is conflict." Haddon, *supra* n.12, at 8. The reviewers were able to conclude that "given the high mobility of menhaden, the potential for localized depletion could only occur on a 'relatively small scale for a relatively short time.'" Amendment 3, at 24.

While no empirical evidence supported the notion of the localized depletion and there were strong indications that impacts of the reduction fishery were negligible, the Bay cap was extended. In 2012, Amendment 2 to the Menhaden FMP established the first quota on total coastwide menhaden harvest. Based on statistically suspect findings in the 2012 stock assessment, total landings were reduced by twenty percent from the 2009 to 2011 average catch. The Bay cap was likewise reduced by twenty percent, from 109,020 mt to 87,216 mt. That cap level persisted until Amendment 3 was adopted in 2017, even though the menhaden quota was increased several times from the 170,800 mt level established in 2012 up to the 216,000 mt level of today.

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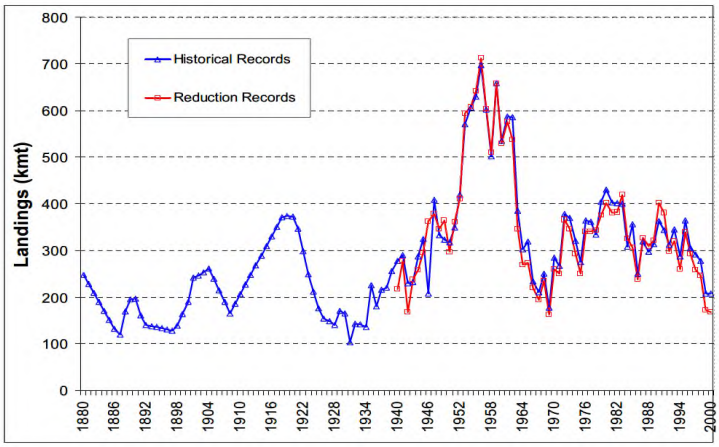
[12] Haddon, M. "Review Research on Atlantic Menhaden (*Brevoortia tyrannus*)," at 8 (April 2009), *available at* https://www.st.nmfs.noaa.gov/Assets/Quality-Assurance/documents/peer-review-reports/2009/2009_05_08%20Haddon%20Chesapeake%20Bay%20menhaden%20program%20review%20report.pdf.

In Amendment 3, the Commission recommended a 51,000 mt Bay cap, based solely on Omega's average Chesapeake Bay removals from 2012 to 2016. There was no new science to support the reduction as a biological matter. At that same meeting, the Commission set the annual total allowable catch ("TAC") at 216,000 mt, an increase of eight percent.

B. History of Menhaden Management and Events Leading to This Proceeding

As mentioned, until 2013, the Atlantic menhaden fishery was not constrained by a TAC. Peak reduction landings in the modern era (since 1940) were 715,200 mt ton in 1956, a decade when landings averaged over 550,000 mt[13] and there were four reduction plants operating in the Chesapeake Bay region.[14] Menhaden removals for reduction purposes from the Bay and Atlantic coastal waters have routinely been above current levels since mid-19th century.[15] Recent harvests are at historic lows (in the Bay and elsewhere). By way of contrast, Amendment 2 established an overall catch limit of 170,800 mt, of which the reduction fishery was allocated just over 130,000 mt for 2013 and 2014.[16] Reduction fishery catches have not been so low since the Great Depression era.

Figure 4.2. A comparison of commercial catch statistics taken from *Historical Reports* (linearly interpolated by region) with reduction landings statistics maintained at NOAA Fisheries at Beaufort, NC.



The TAC established by Amendment 2 represents a twenty percent reduction from the annual level of harvest for the three years 2009-2011. The primary drivers for the reduction and

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[13] *See* ASMFC, Atl. Menhaden Update Stock Assessment 2017, at 37 (Table 3.1.3.1) (Aug. 2017).

[14] *See* ASMFC, Amendment 1 to the Interstate Fishery Management Plan for Atl. Menhaden, at 103-104 (Table 8). Throughout the 1970s there were seven reduction plants in operation and as many as forty-three vessels engaged in the reduction fishery coastwide. *Id.* at 99 (Table 5). This compares to one plant and seven vessels operating today.

[15] *See* ASMFC, Stock Assessment Report No. 10-02 of the Atl. States Marine Fisheries Comm'n, *Atlantic Menhaden Stock Assessment and Review Panel Rep'ts*, at 191 (Table 4.2, reproduced below) (Rev'd March 2011). Please note that this figure does not include menhaden harvested as bait.

[16] In 2018, Omega Protein landed 141,317 mt, an increase over the 2013-14 period, but still substantially below historic levels. *See* ASMFC Atl. Menhaden Plan Review Team, 2019 Review of the Atlantic States Marine Fisheries Commission Fishery Management Plan and State Compliance for Atlantic Menhaden (*Brevoortia tyrannus*) - 2018 Fishery, at 5 (Approved Aug. 6. 2019).

management program were the results of the 2010 and 2012 Atlantic menhaden stock assessments, which found that the stock was not overfished, but (mistakenly) that overfishing was occurring.[17] In 2012, the Stock Assessment Subcommittee noted several caveats about the assessments' statistical reliability. 2012 Assessment at iii. Specifically, the 2012 update noted that the "retrospective pattern" that had first become apparent in the 2010 assessment "had become more worrisome" and "switch[ed] in direction … such that [fishing mortality] was overestimated and [spawning stock biomass] was underestimated in recent years." *Id.* To address these scientific concerns, an expedited benchmark stock assessment was requested.

That stock assessment workshop and peer review were conducted in 2014. As expected, the Southeast Data, Assessment, and Review ("SEDAR") report, which issued in 2015, found that overfishing had not been occurring, nor was the stock overfished.[18] The most recent available menhaden stock assessment is the 2017 update, which noted that overfishing has likely not occurred in the fishery since the 1950s, while the stock may have been overfished in the late 1990s or early 2000s, but has not been since.[19]

These results should not be surprising because management of the Atlantic menhaden stock since the inception of Amendment 2 has been extremely precautionary. For example, in addition to its Amendment 3 deliberations in November 2017, the Commission's Menhaden Board set the TAC for the 2018 and 2019 fishing seasons at 216,000 mt. As a prelude to this decision, the Board's Menhaden Technical Committee provided TAC projections, showing the associated risks of exceeding either the target F or the threshold F, each based on the existing single species reference points.[20]

Though not directly applicable to Commission rulemaking, under federal fisheries management caselaw, a federal management council may not set an annual catch limit at level with a greater than fifty percent probably of resulting in overfishing (*i.e.*, exceeding the threshold fishing mortality rate).[21] However, the Menhaden Board took a much more precautionary approach. The highest TAC considered, 314,500 mt, was based on the level of catch associated with a fifty percent chance of exceeding the target fishing mortality rate. In the end, however,

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[17] ASMFC, Stock Assessment Rep't 10-02 of the ASMFC, Atlantic Menhaden Stock Assessment and Review Panel Reports, (May 2010); ASMFC, Atlantic Menhaden Stock Assessment Subcommittee, 2012 Atlantic Menhaden Stock Assessment Update (July 2012). As discussed below, each of these assessments displayed retrospective patterns which disappeared when the Beaufort Assessment Model was reconfigured in the 2014 Benchmark Assessment.

[18] SEDAR, SEDAR 40 - Atlantic menhaden stock assessment report, Figs. 7.2.2.5, 7.2.3.2 (Jan. 2015).

[19] ASMFC, Atlantic Menhaden Stock Assessment Subcommittee, 2017 Atlantic Menhaden Stock Assessment Update, at 23 (Aug. 2017).

[20] ASMFC, Atl. Menhaden Tech. Comm., Memo to Board, Projection Runs for 2018 Fishery Specifications (June 30, 2017).

[21] *Natural Resources Def. Coun. v. Daley*, 209 F.3d 747, 754 (D.C. Cir. 2000) (holding that to be consistent with the National Standard 1 command to prevent overfishing, a quota must not have more than a 50% chance of resulting in overfishing). Cases such as these are not applicable or controlling on the Commission, but are informative of the legal meaning of common fishery management issues.

the Board established a highly conservative TAC for 2018 and 2019 of only 216,000 mt, a modest eight percent increase from the prior year.[22]

In so doing, the Board was mindful both of menhaden's importance in the ecosystem, and in anticipation of the development of ecological reference points for the fishery that more explicitly consider menhaden's ecological role, which are expected to be available in 2020. This highly precautionary TAC has a zero percent chance of resulting in overfishing or an overfished condition, and less than 15 percent chance of exceeding the target fishing mortality rate in 2018 and less than 3.5 percent chance in 2019. *Id.* This decision is in line with Commission's menhaden quota-setting process since Amendment 2 was adopted; specifically, no quota set by the Commission has had any chance of resulting in overfishing and only the slimmest of possibilities of resulting in the target fishing mortality rate being met.

We will not go into great detail of Amendment 3. It should be noted, however, that in addition to cutting the Bay cap, this amendment also reduced the amount of Virginia's allocated TAC, both as a share of the overall quota and in absolute terms. This decrease came despite the fact that the TAC was increased by eight percent for 2018. It was the result of a reallocation of millions of pounds of menhaden quota from Virginia to other states, including to states like Pennsylvania, South Carolina, and Georgia, which do not have menhaden fisheries.

Because Virginia's prior gubernatorial administration and leadership of the Commonwealth's General Assembly disagreed with both the reallocation and the Bay cap reduction decisions, Virginia exercised its rights under the Compact and the ISFMP Charter to appeal.[23] In relevant part, Virginia's appeal challenged Amendment 3's forty-one percent reduction in the Bay reduction fishery cap on the grounds that "[t]he decision to lower the Bay Cap is unnecessary and unsupported by scientific evidence." *Id.* at 5. As noted in the appeal and above, the cap was originally "justified as a precautionary measure to ensure that localized depletion of menhaden would not occur while the issue was studied." *Id.* In Amendment 3, the cap itself is said to "support menhaden recruitment in the Bay and protect[] a forage base for predators such as striped bass." Amendment 3 at 24. Virginia argued that the "technical information presented to the Board does not support any of these rationales." Appeal Letter at 5.

The appeal noted that the reduction fishery does not target juvenile menhaden and that the purse seine gear used in the fishery (which is the same as used to harvest a significant amount of Virginia's bait quota, which is unaffected by the cap) does not "harm[] the habitat of menhaden or any other species." *Id.* at 6. "In fact, the scientific information that is available tends to show that the reduction fishery does not harm the Bay's nursery function at all." *Id.*

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[22] Fishing at a mortality rate above the threshold fishing mortality rate would, in general, constitute "overfishing." The target fishing mortality rate is below the threshold F and is based on a fishery's control rule. Application of the target rate to estimated biomass yields the total catch limit or quota. Generally speaking, there is a significant buffer between the threshold and target to promote conservation. The additional buffer established by the ASMFC for the Atlantic menhaden fishery is unusually precautionary.

[23] Letter to Mr. James J. Gilmore, Chair from Va. ASMFC Delegation ("Appeal Letter") (Dec. 20, 2017), appended hereto as Exh. B.

The appeal also points out that the Bay provides "roughly the same proportion of recruits to the population as estuaries in New England and the southeast" and these juveniles survive to adulthood in roughly the same numbers. *Id*. (citing Amendment 3 at 21).

Virginia also argued that Amendment 3 likewise provided no evidence that "the cap was necessary to protect the Bay as nursery for other species." *Id.* at 6. The letter pointed to the lack of empirical support for the idea that the reduction fishery was depriving other species of menhaden as forage, harming their habitat, or taking large numbers of other species as bycatch. *Id.* In addition to the lack of any information in Amendment 3 or before the Board of a lack of menhaden in the Bay to support the forage claim, the letter cited a study which showed that "of the top five predators in the Chesapeake Bay[,] menhaden comprised at least 5% of the diet of only one of those predators."[24] The letter also noted that purse seine gear has minimal if any impact on habitat of any species and that many studies have found bycatch by the reduction fishery to be extremely low. *Id.*

In its response to the Commonwealth's appeal, the Commission Chair, Vice Chair, immediate past Chair, and staff issued a formal response containing recommendations to the whole Commission. The Commission's senior executive group agreed with Virginia that the appeal with respect to the Bay cap had merit.[25] They noted that the cap "was not based on a scientifically quantified harvest threshold, fishery health index, or fishery population level study." Rather, the leadership team's response recognized—as did Amendment 3 itself—that "[t]he Bay Cap limit was a compromise reached by managers, fishery stakeholders, and environmental NGOs." *Id*. The respondents also recognized that "Amendment [3 to the Atlantic Menhaden FMP, which recommended the lower cap] does not provide sufficient evidence to support" the contention that the reduced cap was "necessary to protect the Bay as a nursery for other species." *Id*. at 5.

As a result, the Commission's Leadership recommended the formation of a Fact Finding Committee to review scientific literature relevant to the Bay cap. *Id.* They proposed a program to investigate whether there was a basis for the claims made in support of the Chesapeake Bay reduction fishery cap made in Amendment 3. The response also suggested tasking the relevant Boards to review the recommended cap for 2018 and for future years while the Fact Finding Committee undertook its work. Thus, the Commission signaled a willingness to provide a path that would have resolved the present dispute.

A new gubernatorial administration took office in Richmond in January 2018. Among its very first acts was to withdraw the seemingly successful appeal. As a result, there was no procedural mechanism to resolve the disagreement over the cap reduction short of the

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[24] *Id.* (citing F. Ihde, *et al*., Assessing the Chesapeake Bay Forage Base: Existing Data and Research Priorities, at pp. 20, 26 (STAC Publication 15-005, 2014), *available at* http://www.chesapeake.org/pubs/346 Ihde2015.pdf).

[25] Letter from Mr. James J. Gilmore, Jr. to John M.R. Bull (Jan. 1, 2018), appended hereto as Exh. C. The Commission leadership denied Virginia's claims with respect to reallocation. There is no question that the Commonwealth has abided by the overall limit on its allowable menhaden catch since the inception of the quota under Amendment 2.

noncompliance process set forth in the Act, which is now engaged. As far as we are aware, the General Assembly (which is the branch of government in the Commonwealth that actually has the statutory authority to manage menhaden) was not consulted in this decision and the General Assembly's members overseeing the relevant committee did not agree either with the decision to pull the appeal or as to the cap reduction. Thus, it has not, to date, modified the Commonwealth's resource laws to reflect the Amendment 3 recommendations with respect to the Bay Cap.

Omega Protein's bay harvests for 2018 remained below the 51,000 mt level. In 2019, however, a high abundance of menhaden in the Chesapeake Bay, particularly at the mouth of the Bay, and a long stretch of bad weather combined with episodically reduced presence of menhaden in the nearshore oceanic waters left the Company with hard choices. We would either have had to idle our workers and plant or continue fishing in the Bay as allowed by Virginia law, knowing that the Amendment 3 limit would be breached. The company choose the latter course, while agreeing not to harvest the full 87,216 mt allowed by Virginia law. Rather, it voluntarily capped its Chesapeake Bay harvests at 67,000 mt and preliminary data indicates less than 66,000 mt was harvested, a fact the Commission never mentions. This breaching of the cap precipitated the action now before you.

C. Omega Protein's Detailed Argument as to Why the Moratorium Should Not Issue

There are two salient and ultimately dispositive reasons that the Commission's request for a moratorium should be denied.

i. The Commission Has Not Argued the Cap Reduction is "Necessary for the Conservation" of Atlantic Menhaden, and it is Not Necessary to Conserve the Menhaden Population

The first reason has been suggested already. The Act requires that before a the federal government can take the extraordinary step of prohibiting a sovereign state from allowing its citizens the right to fish in waters under its jurisdiction, there must be a reasoned, scientific finding that the measure in a coastal fishery management plan not adopted is "necessary for the conservation of the fishery in question." 16 U.S.C. § 5106(a)(2). There can be no doubt that "fishery in question" here is that for Atlantic menhaden.

Given that, the main reason the request should be denied is that the Chesapeake Bay cap has never been presented as a menhaden conservation measure. As noted above, it was originally enacted as a precautionary measure to prevent expansion of the fishery while the question of whether or not "localized depletion" was occurring was studied. Amendment 3 expands the justification for the cap, but only one of the reasons provided actually relates to menhaden conservation. Specifically, that it helps "support menhaden recruitment." Amendment 3 at 24. That issue is discussed immediately below, but the other reasons have no bearing on conservation of menhaden.

The problem with the justification based on the notion that the Chesapeake Bay reduction fishery cap promotes recruitment of menhaden in the Bay is that the best scientific information available contradicts the claim. The Commission asked its chief assessment scientist, Dr. Katie Drew, to prepare a "synthesis of existing scientific evidence on the importance of Atlantic menhaden in the Chesapeake ecosystem to help inform management decisions about harvest levels in the Chesapeake Bay."[26]

In that review presented to the Menhaden Management Board at the Commission's February 2019 meeting, Dr. Drew stated:

> The abundance of age-0 menhaden within Chesapeake Bay in any given year is influenced by a combination of offshore and inshore factors. This includes things such as large scale climatic regimes like the Atlantic Multidecadal Oscillation (Bucheister et al. 2016) and annual variability in the abundance of phytoplankton and zooplankton within the Bay (Houde et al. 2016). Total spawning stock biomass (SSB) along the coast may also play a role, although the relationship between coastwide SSB and recruitment stock-wide is weak (SEDAR 2015). <u>The TC was unable to detect a relationship between abundance of age-2 and age-3 menhaden in the Bay and recruitment to the Bay the following year</u> (ASMFC 2005b).[27]

In other words, the only factors that have been positively identified with recruitment of young-of-the-year menhaden in the Chesapeake Bay are climatic and environmental. Several attempts to correlate menhaden abundance in the Bay (as in the 2005 Technical Committee report cited by Dr. Drew) to recruitment in the Bay have shown no link. Similarly, there is no link between the level of Bay harvests and Bay recruitment.

In terms of menhaden conservation overall, that goal is achieved through a quota on total coast-wide landings allocated among the states. In fact, as noted above, the menhaden stock is one of the most conservatively managed fishery resources on the Atlantic coast, if not the nation. *See supra* at Part III.B. Although the Commission expects to have models that will help establish ecological reference points for management use next year, it has employed the single-species reference points and stock assessment results in a very precautionary manner. For instance, the Commission manages the fishery using TACs that have no chance of resulting in overfishing and with virtually no chance of even hitting the putative single-species "target" fishing mortality rate.

Moreover, as NMFS has long recognized, Atlantic menhaden comprise a unitary, migratory stock.[28] As such, there is no conservation benefit to the fishery gained by harvesting

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[26] Dr. K. Drew, A Synthesis of Scientific Findings on Menhaden's Role in the Chesapeake Bay Ecosystem and Their Relevance to the Chesapeake Bay Reduction Fishery Cap (undated), a copy of which is appended hereto as Exh. D.

[27] *Id.* at 2 (emphasis added).

[28] 2017 Atl. Menhaden Stock Assessment Update, *supra* n.19, at 3 (Sect. 2.1).

more fish in the ocean as compared to the Bay. In fact, despite the Commission's overwrought claim that the projections used to recommend future TACs and assess the likelihood of overfishing rely on selectivities that assume Bay harvests are 51,000 mt or less, (Nov. 15, 2019 Letter at 4), the best science shows that if a greater proportion of catch comes from the Bay (*i.e.*, are younger fish), that actually increases the stock's fecundity.[29] In other words, the higher the percentage of the annual catch that is comprised of age-1 and age-2 fish, the greater the number of older, more fecund spawners remain in the population, thereby increasing the opportunities for better recruitment. Thus it is simply wrong to argue, as the Commission does, that Omega Protein exceeding the Bay cap could "potentially lead to underperformance of the stock and failure to meet prescribed conservation objectives." Nov. 15, 2019 Letter at 4.

Further, as repeatedly noted, the Atlantic menhaden TACs are so conservatively set that any small difference in the actual selectivity of the reduction fishery would have virtually no impact. Based on the Menhaden Technical Committee's analysis, the reallocation of TAC from Virginia to other states, particularly those north of the Commonwealth, had a much more significant negative impact on the stock's recruitment potential than the additional 15,000 mt or so of menhaden harvested by Omega Protein this year in excess of the Amendment 3 recommended cap of 51,000 mt.

Also important is the fact that the cap does not apply to all fishing in the Bay, nor is it based on any estimate of the annual population of menhaden resident in the Bay. The cap only applies to catches based on the use to which harvested menhaden are put; that is, it limits the amount of removals that can be used for reduction purposes but not for bait purposes. Clearly, there is no basis for finding a biological difference from removals based on the use to which harvested fish are put.

Finally, it is worth noting that the current overall menhaden TAC of 216,000 mt was set at the same meeting as final action was taken on Amendment 3. The projections used to inform the decision on appropriate menhaden harvest levels for the fishing years 2018 and 2019 were thus made prior to the decision to lower the Bay cap. To the extent the projections were based on the management regime in effect, the assumption would have to have been that Bay reduction catches could range as high as 87,216 mt because the Technical Committee had no way of knowing what action the Menhaden Board would ultimately take with respect to that cap.

Paradoxically, for all the concerns expressed by the Commission about the "precautionary" need to leave more forage in the Bay for predators, Amendment 3 increased the amount of menhaden that can be removed from the Chesapeake by Maryland and Potomac River fisheries by 5.3 million pounds.

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[29] Mem. from Atl. Menhaden Tech. Comm. to Atl. Menhaden Mgmt. Board (Dec. 5, 2012), at 2-3, *available at* http://www.asmfc.org/uploads/file/atltlanticMenhadenAPreport_Dec2012.pdf. The Technical Committee's analysis demonstrated that a metric ton harvested by the bait fishery decreased menhaden spawning potential by between ten and 100 percent compared to a ton of removals by the reduction fishery. *Id.* However, the basis of this finding was that, on average, the reduction fishery takes a higher percentage of smaller, less fecund fish. *See id.* at 2 ("This result is logical seeing as the bait fishery tends to harvest older, more mature fish.").

In summation, the Bay cap is now and has always been unrelated to the conservation of Atlantic menhaden. The stock is, as the Commission concedes, "robust." The menhaden stock is at high abundance and is not subject to overfishing. Its continued health is ensured through a very conservative TAC which, if by default, if not design, helps to account for menhaden's role in the ecosystem. Moreover, if anything, the forty-one percent reduction in the amount of menhaden that can be removed from the Chesapeake Bay may actually reduce menhaden conservation because it can increase the proportion of older, more fecund fish taken as a percentage of the total catch, thus reducing the stock's spawning potential.

More importantly, the Commission itself admits that the Amendment 3 measure now before the Secretary is not justifiable as a menhaden conservation measure. Thus, under the plain terms of ACFCMA, its request for a moratorium must be denied.

ii. The Reduction in the Bay Cap Cannot Be Justified as a Means of Meeting the Chesapeake Bay's Ecosystem Needs, Which is Not the Appropriate Standard Under ACFCMA

The second primary reason the Commission's request should be denied is that even if one accepts the tortured interpretation that the Act's reference to "the fishery in question" means stocks of fish other than Atlantic menhaden, the Commission's leadership has admitted that there is no scientific support for justifying the cut on this basis. As then Commission Chair James Gilmore stated in response to Virginia's appeal, "the Amendment does not provide sufficient evidence to support" the claim that "the Bay Cap is necessary to protect the Bay as a nursery for other species." Gilmore Letter, *supra* n.25, at 5.

This admission alone should be fatal to the Commission's claims in its November 15, 2019 letter. General administrative law principles hold that a regulatory body must rely on the record in existence when the decision was made, "not some new record made initially in the reviewing court." *Camp v. Pitts*, 411 U.S. 138, 142 (1973).While this is not a judicial proceeding, the same principle should apply here. It is arbitrary and capricious to make a decision which has no record support.

But even the Commission's *post hoc* attempts to backfill the record with justifications are unavailing. For one, neither Amendment 3 nor the Commission's letter to you makes any attempt to justify the need for the forty-one percent cap reduction. That is to say, no rationale is given as to why the Bay cap should be 51,000 mt as opposed to 87,216. All the November 15, 2019 letter says in this regard is that "[t]he cap recognized the Bay's importance as nursery ground for many species by limiting future reduction landings in the Bay to levels equivalent to the recent harvesting practices by the reduction fishery." *Id*. at 1 (footnote omitted). There is no explanation why recent harvest levels are more appropriate than those in the years immediately following imposition of the Bay cap. If this utterly unsupported decision is upheld, there would be no barrier to eliminating the 160-year-old reduction fishery in the Bay entirely for no valid scientific reason.

There is also a logical flaw with the Commission's justifications for the cap reduction. Its letter implies that a lack of menhaden has caused declines in species as striped bass and

bluefish. *See* Nov. 15 Letter at 4 ("Concentrated menhaden fishing could decrease menhaden availability, exacerbating issues with these stocks."). However, these population declines have been occurring over the same period as the amount of menhaden taken from the Chesapeake Bay for reduction purposes has also been significantly reduced (although, generally speaking, catches for bait purposes have been on the increase). Even as a matter of precaution, it is impossible to link the reduction fishery's Bay harvests with the declines in these populations.

As a matter of fact, dramatic declines in striped bass and bluefish occurred because both Commission-managed species have been chronically overfished for decades. As the latest assessment shows, for example, although "bluefish are not experiencing overfishing in 2018, the stock has experienced overfishing, relative to the updated reference points, in all prior years dating back to 1985."[30] As for striped bass, the stock has been subject to overfishing in nearly every year since 2002, as the graphic from the 2019 benchmark stock assessment shows.[31] Such declines in bluefish and striped bass abundance are not unexpected in the face of such long-term overfishing.

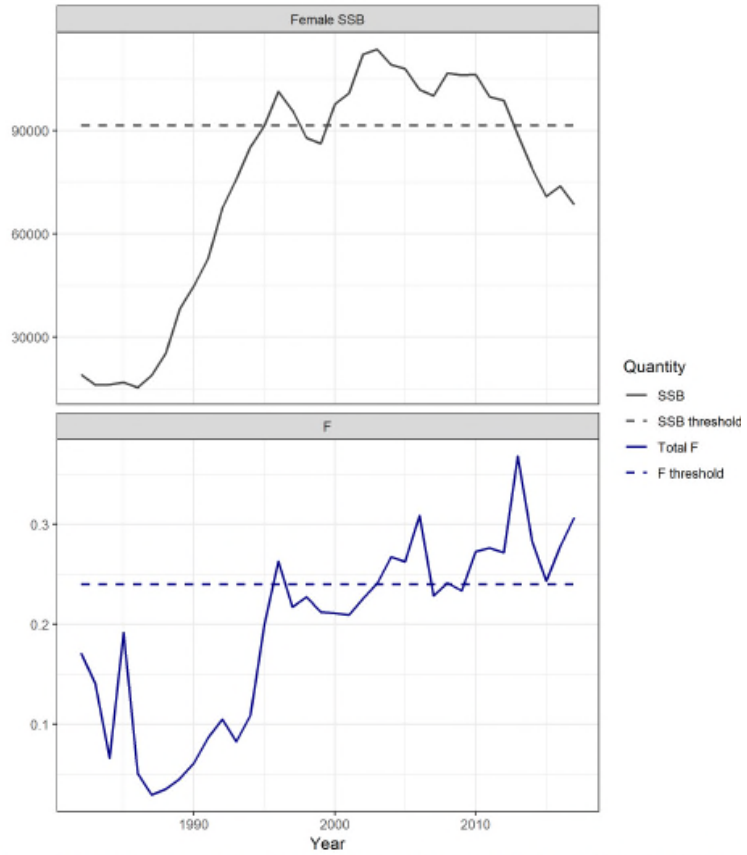

Figure 9. Estimates of striped bass female SSB plotted with the SSB threshold (top) and full F plotted with the F threshold (bottom).

[30] ASMFC, Bluefish, *available at* http://www.asmfc.org/species/bluefish.

[31] ASMFC, Summary of the 2019 Benchmark Stock Assessment for Atlantic Striped Bass, at 23 (April 2019), *available at* http://www.asmfc.org/uploads/file/5d28f18dAtlanticStripedBassAssessmentSummaryReport_April2019.pdf.

There also is not much empirical evidence to support the notion that lack of menhaden is implicated in the decline of predator species. The overall menhaden population been strong since the inception of the Bay cap while Bay reduction harvests have generally been declining and historically low. Tellingly, NOAA's own research indicates that no species is especially dependent on menhaden in the Chesapeake Bay.

In 2014, the NOAA Chesapeake Bay Program's Scientific and Technical Advisory Committee ("STAC") held a two-day workshop to "a system-wide scientific synthesis of forage and develop actionable recommendations for its management in support of the managed fished species in the Chesapeake."[32] Atlantic menhaden was not among the ten most important forage species in the Bay. Rather, they were categorized as part of a secondary group of tens species, about which the STAC said: "While these ten [second-tier] groups are acknowledged as important, they were not categorized as being of key importance to Chesapeake predators during sensitive life stages based on analysis of the 11-year ChesMMAP data set." *Id.* at 21. While the STAC did recognize that the "the smallest, youngest, and the largest, oldest fish" were under-represented in their dietary study, they also noted that "the key forage taxa identified in this analysis are also supported by another recent analysis (Buchheister and Latour 2015) that accounts for size-based dietary differences." *Id.*

This is not to downplay the importance of menhaden as forage, particularly for striped bass.[33] What is suggested, however, is that the Commission in its November 15 moratorium request overstates both the importance of menhaden[34] and the level of uncertainty regarding the state of scientific knowledge about its role as forage in the Chesapeake Bay, while underplaying the status of the stock's abundance and the measures taken to foster menhaden's role as forage.[35]

This is why the resort to the precautionary approach does not assist the Commission's case. The Rio Declaration (which is cited by the NOAA Office of General Counsel) describes the precautionary approach as: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to

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[32] Ihde, T. F., E.D. Houde, and E. Franke, Assessing the Chesapeake Bay Forage Base: Existing Data and Research Priorities, at 5. STAC Publication Number 15-005, Edgewater, MD (Aug. 2015).

[33] This was the one studied stock for which menhaden was important, though less so than bay anchovy, mysids, and polychaetes. *Id.* at E-9 (Table E4).

[34] For example, the Commission's claim that "Atlantic menhaden are a critically important – perhaps the most important – forage species for some of the Atlantic coast's most iconic species, including those that support valuable recreational and commercial fisheries," Nov. 15, 2019 Letter at 5, is contradicted by the STAC study. This claim is representative of the Commission's obfuscation tactics in that it discusses menhaden's importance generally, as opposed to issues specific to the Bay and the Bay cap. Issues raised regarding impacts of low menhaden recruitment fall into the same category, as it is recognized that there is no link between Bay harvests and recruitment. *See supra.*

[35] These measures include Omega Protein's own voluntary efforts to reduce its Bay footprint. That Omega has taken steps to reduce its Bay harvests – efforts which have used against the Company, given the reduction of the Bay cap based on recent catch levels – does not mean that the Bay fishery is not important to the Company's well-being and that of the Reedville community that relies on the fishery. This year was a prime example of the times when access to the menhaden resource in the Bay was particularly important.

prevent environmental degradation."[36] The Commission may well have been justified in in utilizing this approach when initially instituting the Bay cap, because in 2006 Bay removals were much higher and there was less research on the question. However, subsequent years of study have identified no "threats of serious or irreversible damage" from the historically low levels of menhaden harvest recently prevailing in the Bay. Indeed, the Commission has admitted as much in response to Virginia's appeal of the Bay cap reduction.

The Commission's letter not only makes a new case that was never part of the Amendment 3 record, but it is a notably one-sided case. While many of the claims made were included in Dr. Drew's *post hoc* synthesis, this letter omits the caveats and contrary information that the earlier report included. For example, while the letter speaks in vague terms about a link between menhaden and striped bass, the Drew report notes that the link is to "lower levels of menhaden abundance along the coast and lower levels of recruitment in the Chesapeake Bay."[37] Neither of these factors are tied to Bay reduction harvests.

Similarly, the Commission notes that the prevalence of mycobacteriosis increased when menhaden recruitment was low and is less common in striped bass found in the ocean. But it fails to mention that there is no linkage between Chesapeake reduction harvests and recruitment or the disease's link "to environmental factors such as increased eutrophication and warming water temperatures in the Bay. *Id.* (citing Gauthier and Rhodes 2009).[38] The lack of candor is neither scientific nor is it reasoned.

Conclusion

Omega Protein and the Virginia General Assembly supported the original cap and the subsequent reduction under Amendment 2. The further reduction to 51,000 mt, however, was opposed by both because, as events have shown, it can cause unnecessary economic and social harm without providing any benefits to the Atlantic menhaden stock or the Chesapeake Bay ecosystem. Of course, only the latter issue is relevant to the inquiry that ACFCMA calls upon you to make.

We would ask NMFS to encourage the parties to discuss an appropriate level of harvest and ensure that Omega's attempts to be a responsible Bay stakeholder by minimizing its footprint in the Bay are not used against it, as an ever declining resetting of the reduction fishery cap based on average harvests inevitably does. The Commission has never before found a state out of compliance for a fishery that was neither overfished nor subject to overfishing. The stock is, in fact, very conservatively managed, with harvest levels well below what would considered

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[36] UNEP, Rio Declaration on Environment and Development of 1992, Principle 15 (Rio de Janeiro June 3-14, 1992); *see also* NOAA Office of General Counsel, Precautionary Approach, *at* https://www.gc.noaa.gov/gcil_precautionary_approach.html.

[37] Synthesis, *supra* n.26, at 4.

[38] Two other examples include the fact that osprey populations are growing faster in areas of the Bay where menhaden make up a smaller proportion of their diet and that weakfish populations, like menhaden, are significant tied to the Atlantic Multidecadal Oscillation and impacted by bycatch. *Id.*

optimum under federal standards. Based on this record, we respectfully ask you deny the Commission's requested moratorium.

Omega Protein would be happy to provide you with any further information you may find necessary and looks forward to continue working with your designees to help ensure that the fishery remains managed according to the best scientific information available and for the good of all stakeholders.

Sincerely,

Bret Scholtes
President and CEO
Omega Protein Corporation

ENCLOSURES

Exhibit A

OP. NO. 06-002

FISHERIES AND HABITAT OF THE TIDAL WATERS: COMPACTS AND JOINT LAWS WITH OTHER STATES – ATLANTIC STATES MARINE FISHERIES COMPACT.

Atlantic States Marine Fisheries Commission's Menhaden Management Board exceeded adaptive management authority when adopting menhaden cap in Addendum II because (1) cap is wholly new management measure, which cannot be implemented by addendum; (2) when Atlantic menhaden stocks have been declared "healthy," cap or quota cannot be imposed unless menhaden are found to be overfished; and (3) Atlantic Menhaden Fishery Management Plan does not include prerequisite management measure that can be varied by imposition of cap through addendum. Should General Assembly decline to adopt menhaden cap, Commonwealth would not be out of compliance with Plan because Commission failed to follow required procedures.

The Honorable John H. Chichester
Member, Senate of Virginia
January 31, 2006

Issues Presented

You ask several questions relating to Addendum II[1] ("Addendum II") to Amendment 1 of the Atlantic Menhaden Fishery Management Plan[2] ("Plan") adopted by the Atlantic States Marine Fisheries Commission ("Commission"). First, you ask whether, based on a review of the adaptive management provisions of the Plan and the measures Addendum II seeks to implement, the menhaden landings cap instituted by the Commission exceeded its regulatory authority. You next ask whether the Commonwealth of Virginia would not be out of compliance with the Plan should the General Assembly decline to adopt the management provisions contained in Addendum II. Finally, you ask whether the Commission has adopted the cap without following the required procedures.

Response

It is my opinion that the Commission's Menhaden Management Board ("Board") exceeded its adaptive management authority when it adopted the menhaden cap in Addendum II. Addendum II uses abbreviated rulemaking processes to initiate a new quota on the harvest of menhaden in the Chesapeake Bay. In my opinion, such an exercise of regulatory authority by the Board exceeds the lawful reach of its authority for three reasons: (a) the cap is a wholly new management measure, which cannot be implemented by an addendum; (b) when Atlantic menhaden stocks have been declared "healthy," a cap or quota cannot be imposed unless menhaden are found to be overfished; and (c) the Plan does not include a prerequisite management measure that can be varied by imposition of a cap through an addendum. It is further my opinion that because adoption of the cap exceeded the Board's authority, the Commonwealth would not be out of compliance with the Plan should the General Assembly decline to adopt the Plan. Finally, it is my opinion that the Commission failed to follow required procedures in adopting the cap as an addendum.

Background

In October 2005, the Commission, through the Board, issued a final version of a rulemaking titled Addendum II, which imposes the following regulatory requirement:

> The annual total allowable landings by the reduction fishery in Chesapeake Bay shall be no more than the average landings from 1999-2004. Harvest for reduction purposes shall be prohibited when 100% of the cap is landed. This cap will be in place for the fishing seasons starting in 2006 and going through 2010 [hereinafter "menhaden cap"].[3]

Addendum II provides that states with reduction processing capabilities must submit implementing programs for approval by the Board by January 11, 2006, and implement the cap by July 1, 2006.[4] The primary impact of Addendum II is on the menhaden reduction fishery conducted in Virginia waters in the Chesapeake Bay.

In Virginia, the taking of menhaden by the use of purse nets or seine is regulated, as a matter of state law, primarily by statute.[5]

Applicable Law

The Commission, an interstate compact organization comprised of fifteen Atlantic Coast States formed to recommend joint management measures for shared marine fish stocks, was formed as a voluntary consortium via the Atlantic States Marine Fisheries Compact ("Compact").[6] In 1942, Congress approved the Compact for a fifteen-year period.[7] In 1950, Congress approved Amendment Number 1 to the Compact repealing the fifteen-year limitation.[8] Amendment Number 1 authorized two or more signatory states to designate the Commission as a joint regulatory agency with such powers as they may jointly confer from time to time for the regulation of the fishing operations of the respective designating states. The Commonwealth has never designated the Commission as a regulatory agency.

In 1993, Congress enacted the Atlantic Coastal Fisheries Cooperative Management Act[9] ("Act"). The stated purpose of the Act "is to support and encourage the development, implementation, and enforcement of effective interstate conservation and management of Atlantic coastal fishery resources."[10] The Act provides for state implementation of coastal fishery management plans ("FMP") of the Commission.[11] Noncompliance with an FMP may result in the imposition of a federal sanction, a complete moratorium on the fishery in question within the waters of the noncomplying state, imposed by the United States Secretary of Commerce ("Secretary").[12]

In accordance with Article V of the Compact,[13] the Commission has adopted Rules and Regulations for the conduct of its business.[14] Article VI of the Rules and Regulations pertains to the Interstate Fishery Management Program and provides for a written Interstate Fishery Management Program ("ISFMP") Charter ("Charter").[15] The Compact and the Rules and Regulations provide the Commission only the authority to make recommendations to member states.[16] The Act provides the mandatory element to require compliance with FMPs.

The Charter addresses the Interstate Fishery Management roles and responsibilities of the Commission, the ISFMP Policy Board, fishery management boards, staff officials, and committees and subcommittees for management, technical, and advisory support.[17] The Charter provides standards for interstate fishery management plans and compliance[18] as well as specific requirements applicable to the adaptive management process.[19]

The current Plan was adopted by the full Commission in July 2001 and is referred to as "Amendment 1 to the Interstate Fishery Management Plan for Atlantic Menhaden."[20] Addendum II, the subject of your inquiry, was adopted in October 2005,[21] by the Board pursuant to the "adaptive management"[22] process, as opposed to being approved by the full Commission pursuant to the more comprehensive process applicable to adoption of FMPs and their Amendments.[23]

Discussion

1. Board's Adoption of Menhaden Cap Through Adaptive Management Process Exceeds Board's Authority.

There are two interrelated sources of authority governing the adoption of management requirements by an addendum through what is referred to as "adaptive management" processes.[24] The first is the Commission's general authority to adopt a plan-specific adaptive management process, described within the Charter. The second is the Plan itself, which details how and when the adaptive management process can be used to manage the menhaden fishery.

When the conditions for use of this adaptive management authority are met, a management board, such as the Board, may alter an existing management measure in a fishery management plan without a vote or action by the full Commission. Also, formal rulemaking processes that would otherwise be required for FMPs and amendments to FMPs are avoided. For these reasons, this regulatory tool is one of limited application.

The Charter states: "FMPs which provide for adaptive management *shall identify specifically the circumstances under which adaptive management changes may be made*, the types of measures that may *be changed*, the schedule for state implementation of *changes*, and the procedural steps necessary to effect *a change*."[25] The FMP must thus specify the "types of measures" that can be adopted or changed and the "circumstances" triggering use of the adaptive management process.[26] The Plan contains the specific circumstances, management measures, steps, and conditions required to be met or taken to use this abbreviated process.[27]

I do not interpret the Charter to provide for use of the adaptive management process to implement *new* management measures. The repeated use of the word "change" in the Charter to describe management measures that may be adopted by the adaptive management process argues against authorization to implement *new* measures. This conclusion is supported by the fact that this abbreviated rulemaking power is exercised without full adherence to procedures applicable to FMPs or amendments to FMPs and without adoption by the full Commission. It is my opinion that adaptive management is restricted to policies which vary *existing* management measures.[28] The Menhaden FMP, however, contains no such management measures subject to variation by addendum,

other than a general requirement that states institute a system for reporting landings of menhaden that are not the subject of Addendum II.

The Plan contains specific language detailing when adaptive management can be employed to institute "catch controls" such as proposed by Addendum II. Although the Plan identifies "catch controls" as potentially subject to adaptive management,[29] it also requires a finding that menhaden are subject to "overfishing or an overfished/depleted condition" before a catch quota can be implemented under adaptive management.[30] Addendum II does not state that this finding has been made. Rather, Addendum II describes the "problem" as a "relative increase (11%) in the proportion of menhaden reduction removals from Chesapeake Bay over … two time periods"[31] and a "potential for localized depletion … in Chesapeake Bay."[32] With respect to the "potential" for localized depletion, Addendum II specifically acknowledges that "[s]ufficient scientific data are not available to satisfactorily address the potential for localized depletion in the Bay."[33]

The Plan defines "overfishing" in § 2.5 as relating to fishing mortality rate and stock biomass.[34] Addendum II does not find that the menhaden stock in the Chesapeake Bay is "overfished" consistent with the Plan requirement. To the contrary, Addendum II specifically states that "the Atlantic menhaden stock is considered to be healthy coastwide, based on the recommended benchmarks developed during the latest peer-reviewed assessment."[35] Additionally, the Commission's agent charged with recommending initiation of adaptive management, the Plan Review Team[36] ("PRT"), has not recommended that adaptive management be initiated. In its latest report, the PRT made no recommendations for new or changed management measures for adoption, and confirmed the health of the resource.[37]

The Act requires that FMPs must be "based on the best scientific information available."[38] This requirement is also contained in the Commission's Charter[39] and in its Rules and Regulations.[40] Although it is a matter ultimately for factual determination,[41] it is not apparent that the menhaden cap is based on "the best scientific information available" when Addendum II does not address whether the fishery is "overfished." The phrase "best scientific information" presupposes the accumulation of "scientific" information.

The Board must follow the requirements of the Act, the Compact, the Charter, and the Plan. Failure to comply with its own rules, regulations, standards, and procedures renders its action invalid.[42]

Ordinarily, courts afford considerable deference to decisions of agencies in administrative decisions.[43] In this case, however, it is reasonable to expect that the Board's compliance with its own rules would be subject to heightened scrutiny due to the existence of unsettled Constitutional questions underlying the coercive aspects of the Act. Questions under the Constitution of the United States to challenge Addendum II may include federalism issues, the Tenth Amendment; the Joinder Clause, Article IV, § 3, cl. 1; the Compact Clause, Article I, § 10, cl. 3; the Appointments Clause, Article II, § 2, cl. 2; and the doctrine limiting Congressional delegation of authority to nonfederal entities. When a case may be decided on other grounds, a court will avoid inquiring into the constitutionality of an action.[44] Accordingly, there may be less deference to the Board's action with respect to Addendum II.

2. Commonwealth Will Not Be Out of Compliance with Plan

if General Assembly Does Not Act.

It is my opinion that the Board exceeded its adaptive management authority by adopting the menhaden cap in Addendum II. Therefore, if the General Assembly declines to enact legislation ratifying the menhaden cap, the Commonwealth would not be out of compliance with the Plan.

The Plan provides that "[a] state will … be out of compliance" when "it fails to meet … any addendum prepared under adaptive management."[45] An addendum adopted beyond existing authority and without complying with required procedures, however, should be deemed void as a regulatory requirement.[46] Because it is my opinion that the Board exceeded its rulemaking authority and failed to follow required procedures in adopting Addendum II, it would more properly be viewed as a recommendation, as provided by the Compact and the Commission's Rules and Regulations,[47] rather than a regulatory requirement.[48]

3. Menhaden Cap Adopted Without Following Required Procedures.

The discussion in response to your first question is equally applicable to this one. The menhaden cap that Addendum II seeks to implement is flawed because it was not adopted in accordance with the procedure required of an amendment to an interstate FMP, and it was not adopted by the full Commission. The touchstone of legally enforceable management measures under the Commission's governing authorities, including the Act, is that conservation recommendations to states must meet certain standards, must be subject to levels of analysis and public comment, and must be adopted and approved by the full Commission.[49] These processes were short-circuited by employment of the adaptive management process used to implement Addendum II.

Conclusion

Accordingly, it is my opinion that the Commission's Menhaden Management Board ("Board") exceeded its adaptive management authority when it adopted the menhaden cap in Addendum II. Addendum II uses abbreviated rulemaking processes to initiate a new quota on the harvest of menhaden in the Chesapeake Bay. In my opinion, such an exercise of regulatory authority by the Board exceeds the lawful reach of its authority for three reasons: (a) the cap is a wholly new management measure, which cannot be implemented by an addendum; (b) when Atlantic menhaden stocks have been declared "healthy," a cap or quota cannot be imposed unless menhaden are found to be overfished; and (c) the Plan does not include a prerequisite management measure that can be varied by imposition of a cap through an addendum. It is further my opinion that because adoption of the cap exceeded the Board's authority, the Commonwealth would not be out of compliance with the Plan should the General Assembly decline to adopt the Plan. Finally, it is my opinion that the Commission failed to follow required procedures in adopting the cap as an addendum.

[1]*See* Atlantic States Marine Fisheries Commission, "Addendum II to Amendment 1 to the Interstate Fishery Management Plan for Atlantic Menhaden," *available at* http://www.asmfc.org/ [follow "Managed Species" hyperlink; then follow "Atlantic Menhaden" hyperlink; then follow "Addendum II (October 2005)" hyperlink] [hereinafter Addendum II].

[2]*See* Atlantic States Marine Fisheries Commission, "Amendment 1 to the Interstate Fishery Management Plan for Atlantic Menhaden," [follow "Managed Species" hyperlink; then follow "Atlantic Menhaden" hyperlink; then follow "Amendment 1 to the Interstate Fishery Management Plan for Atlantic Menhaden" hyperlink] [hereinafter Plan].

[3]Addendum II, *supra* note 1, § 5.1.1.1, at *12.

[4]*Id.* § 5.1.2 at *12-13.

[5]*See* Va. Code Ann. §§ 28.2-400 to 28.2-411 (2004).

[6]The Compact is codified at § 28.2-1000.

[7]*See* Pub. L. No. 77-539, 56 Stat. 267 (1942).

[8]*See* Pub. L. No. 81-721 (1950).

[9]*See* Pub. L. No. 103-206, 107 Stat. 2447 (1993) (codified at 16 U.S.C.S. §§ 5101 to 5108).

[10]16 U.S.C.S. § 5101(b) (LexisNexis 1999).

[11]16 U.S.C.S. § 5104(b) (LexisNexis 1999).

[12]16 U.S.C.S. § 5106(a), (c)(1) (LexisNexis 1999).

[13]*See* § 28.2-1000 (art. V) (2004).

[14]*See* Atlantic States Marine Fisheries Commission, "Compact & Rules and Regulations," *available at* http://www.asmfc.org/ [follow "About Us" hyperlink; then follow "ASMFC Compact: Rules & Regulations" hyperlink] [hereinafter Rules & Regulations]

[15]*See id.*, art VI, §§ 1-2, at *11.

[16]*See* § 28.2-1000 (arts. IV, VI); Rules & Regulations, *supra* note 14, art. 1, § 2, at *7.

[17]*See* Atlantic States Marine Fisheries Commission, "Interstate Fisheries Management Program Charter," *available at* http://www.asmfc.org/ [follow "About Us" hyperlink; then follow "ISFMP Charter" hyperlink] [hereinafter Charter].

[18]*See id.*, § 6, at 14-21.

[19]*See id.*, § 6(b)(3) at *17.

[20]*See supra* note 2.

[21]*See supra* note 1.

[22]*See infra* note 28.

[23]*See* Atlantic States Marine Fisheries Commission, "Proceedings of the Atlantic States Marine Fisheries Commission, Atlantic Menhaden Management Board," *available at* http://www.asmfc.org/ [follow "Managed Species" hyperlink; then follow "Atlantic Menhaden" hyperlink; then follow "Meeting & Minutes Summaries" hyperlink; then follow "2005 Feb" hyperlink].

[24]*See infra* note 28.

[25]Charter, *supra* note 17, § 6(b)(3), at *17 (emphasis added).

[26]*Id.*

[27]*See* Plan, *supra* note 2, § 4.6, at *77-79.

[28]The Commission's charter defines adaptive management as "[a]n iterative process which includes evaluation of the response of the managed fishery and stock to *specific management measures* and adjusting *such measures* based on that evaluation." Charter, *supra* note 17, § 8(c), at *23 (emphasis added).

[29]Plan, *supra* note 2, § 4.6.2(6), at *78.

[30]*Id.*, § 4.2.7, at *74.

[31]Addendum II, *supra* note 1, § 2.1, at *6.

[32]*Id.*, § 2.2, at *6.

[33]Addendum II, *supra* note 1, § 2.2, at *7.

[34]Plan, *supra* note 2, at *60.

[35]Addendum II, *supra* note 1, § 1.2, at *5.

[36]*See* Plan, *supra* note 2, § 4.6.1, § 4.8.3, at *78, *79-80, respectively.

[37]*See* Atlantic States Marine Fisheries Commission, "2005 Review of the Fishery Management Plan for Atlantic Menhaden," *available at* http://www.asmfc.org/ [follow "Managed Species" hyperlink; then follow "Atlantic Menhaden" hyperlink; then follow "FMP Reviews 2005" hyperlink], at *3, *9 (Aug. 17, 2005).

[38]16 U.S.C.S. § 5104(a)(2)(A) (LexisNexis 1999).

[39]Charter, *supra* note 17, § 6(a)(2), at *14.

[40]Rules & Regulations, *supra* note 14, art. VI, § 3, at *11.

[41]The Office of the Attorney General historically has declined to render official opinions when the request involves a question of fact rather than one of law. *See, e.g.*, Op. Va. Att'y Gen.: 2002 at 64, 66; 1997 at 1, 3; and opinions cited therein.

[42]"[I]t is elementary that an agency must adhere to its own rules and regulations. *Ad hoc* departures from those rules, even to achieve laudable aims, cannot be sanctioned for therein lie the seeds of destruction of the orderliness and predictability which are the hallmarks of lawful administrative action. Simply stated, rules are rules, and fidelity to the rules which have been properly promulgated … is required of those to whom Congress has entrusted the regulatory missions of modern life." Reuters Ltd. v. FCC, 781 F.2d 946, 950-51 (D.C. Cir. 1986) (citation omitted).

[43]Great deference should be given to the administrative interpretation of statutes by the agency charged with the responsibility for carrying out legislation. *See, e.g.*, County of Henrico v. Mgt. Rec., Inc., 221 Va. 1004, 1010, 227 S.E.2d 163, 166-67 (1981); 2002 Op. Va. Att'y Gen. 186, 187.

[44]*See, e.g.*, Virginia v. EPA, 108 F.3d 1397, 1410 (D.C. Cir. 1997).

[45]Plan, *supra* note 1, § 5.1, at *81-82.

[46]*See supra* note 42 and accompanying text.

[47]*See supra* note 16 and accompanying text.

[48]The only other compliance measure in the Plan requires a menhaden catch reporting system. I am unaware that there is any question concerning the Commonwealth's compliance with the menhaden catch reporting system.

[49]*See generally*, Charter, *supra* note 17, § 6, at *14-21; *see also* 16 U.S.C.S. § 5102(1) (LexisNexis 1999); *id.* § 5104 (LexisNexis 1999).

Back to January 2006 Opinion Index

Exhibit B

December 20, 2017

Mr. James J. Gilmore, Jr., Chair
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200 A-N
Arlington, Virginia 22201

Dear Mr. Gilmore:

Virginia hereby appeals the decision of the Atlantic Menhaden Management Board (the "Board") to set the coast-wide total allowable catch ("TAC") for menhaden at 216,000 metric tons for the 2018 and 2019 fishing seasons and to adopt certain portions of Amendment 3 to the Atlantic Menhaden Fishery Management Plan ("FMP"). Specifically, Virginia challenges the decision to allocate the TAC in a way that results in an unanticipated and unfair reduction in Virginia's allowable menhaden landings and the decision to lower the Chesapeake Bay Reduction Fishery Cap (the "Bay Cap") despite the lack of supporting scientific information. Taken together, these decisions, which are unnecessary for the conservation of the fishery, impose severe and unfair adverse economic impacts on Virginia and prevent it from sharing in the benefits of the increased TAC.

BACKGROUND

Atlantic menhaden have been subject to a coast-wide fishery management plan since 1981, but the first management measure, the Bay Cap, was not instituted until the passage of Addendum II in 2005. ASMFC, Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden, at pp. 26-27 (November 2017) [hereinafter "Amendment 3"]. At that time, the coast-wide status of the stock was healthy, but there was uncertainty about whether the reduction fishery in the Bay was causing localized depletion. Addendum II outlined research priorities to determine whether the depletion was occurring and imposed the Bay Cap as a precautionary measure to ensure that it did not occur while the research was being done. *Id.* at pp. 24, 27.

After passage of Addendum II, the company that is responsible for the reduction fishery on the East Coast, Omega Protein Corporation ("Omega"), entered into talks with recreational fishing and environmental groups to revise the cap.[1] Those discussions resulted in an agreement to set the cap at 109,020 metric tons. This agreement was implemented in Addendum III. (Amendment 3, at p. 27). The addendum permitted limited roll-over of unused quota from one year to another, meaning that the maximum that could be harvested in a given year from the Bay was 122,740 metric tons. *Id.*

The first coast-wide management measure, a TAC, was established in Amendment 2, which was approved in December of 2012. *Id.* The TAC was set at 170,800 metric tons, which represented

[1] *See* Scott Harper, "Kaine and Fishery Strike Deal to Limit Menhaden Harvesting in Bay," *Virginian Pilot, available at* https://pilotonline.com/news/local/environment/kaine-and-fishery-strike-deal-to-limit-menhaden-harvesting-in/article_4300a886-9bb8-5e2e-b620-c416c7fd4fce.html

a 20% reduction from average landings from 2009 through 2011. *Id.* This TAC was allocated among jurisdictions using average annual landings of each jurisdiction during the same 2009 through 2011 period. *Id.* The amendment also provided for a 20% reduction in the Bay Cap, resulting in a cap of 87,216 metric tons. *Id.* at p. 28.

The TAC was increased by 10% to 187,880 metric tons in May of 2015. *Id.* The Bay Cap was not increased. In 2016, the TAC was increased again by 6.45%, resulting in a TAC of 200,000 metric tons. *Id.* Once again, the Bay Cap was not increased. At the same time that it voted to increase the TAC, the Board initiated the development of Amendment 3 to the FMP to explore the feasibility of implementing menhaden-specific biological and ecological reference points ("BERPs") to replace the current single-species reference points that are used to manage the stock and to re-examine the method of allocating the TAC among the jurisdictions. *Id.* at pp. 1-3.

The Board considered whether to adopt Amendment 3 and adjust the TAC at its meeting on November 13 and 14, 2017. At the meeting, the Board was presented with evidence indicating that, under the current stock assessment, the menhaden stock is healthy and overfishing is not occurring. Furthermore, the Board was presented with information indicating that raising the TAC to 220,000 metric tons would result in absolutely no risk of the fishing mortality target being exceeded and raising the TAC even higher would result in only a small risk of exceeding the target. After substantial debate, the Board decided not to adopt the BERPs presented, perhaps because they were not menhaden-specific and may have caused the lowering of the TAC substantially to meet the target fishing mortality rate; instead, it chose to continue using single-species reference points until menhaden-specific BERPs are finalized. The Board raised the TAC by 8%, setting it at 216,000 metric tons. It also decided to reallocate the quota using an unorthodox fixed minimum allocation. Under that system, all states, regardless of their history of menhaden landings, are each provided 0.5% of the TAC. The remainder of the TAC is then divided among the states according to their proportion of the landings from 2009 through 2011. States that do not wish to retain their portion of the TAC are given the option of relinquishing all or some portion of their new quota, which will cause that portion of the TAC to be redistributed among the remaining states in proportion with their landings. The Board continued the 1% episodic events set aside for the New England states. Finally, the Board voted to lower the Bay Cap by more than 41%, setting it at 51,000 metric tons. Despite the increase in the TAC, Virginia's permissible landings were actually decreased once the allocation method and episodic events set-aside are taken into account.

Virginia exhausted every possible avenue to avoid these results and secure relief from the Board. At the meeting, Virginia argued that the TAC that was chosen was likely too low to accomplish the goals expressed in the reallocation discussion, which were to increase allocations to additional East Coast states but not at the expense of existing menhaden fisheries. When the allocation method was discussed, Virginia argued and voted against each of the fixed minimum proposals. It also forcefully advocated against lowering the Bay Cap, pointing out that such an action was unsupported by any scientific evidence. Those efforts failed. Virginia is unaware of any remaining avenue of securing relief from the Board and believes that this appeal is its only recourse.

ARGUMENT

Despite the Board's decision to raise the TAC, which shows that it believes the menhaden stock is healthy, it adopted an allocation method that cut Virginia's permissible menhaden landings and reduced the Bay Cap. The decisions on the TAC and allocation prevented Virginia from benefiting from the increase in the permissible harvest level and provided jurisdictions with little or no history of landings with a substantial share of the TAC, relative to the practical needs of those jurisdictions. The reduction in Virginia's permissible landings was an unforeseen impact of the Board's decisions. In addition, the decisions unfairly penalized Virginia in contravention of the FMP and disregarded the historical landings period that the Board chose. Compounding the problem was the decision to lower the Bay Cap despite the lack of supporting technical information. These measures, which are unnecessarily restrictive in light of the health of the menhaden stock, should be altered to protect the interests of all jurisdictions participating in the fishery.

I. The Board unintentionally and unfairly penalized Virginia to benefit other states with no history of participating in the fishery when setting the TAC and allocating the TAC among the states.

Although the Board's decisions ultimately reduced Virginia's permissible landings, this was not the Board's stated intent. Throughout the Board's deliberations on Amendment 3, a theme emerged: many Board members wanted to provide additional jurisdictions with an opportunity to participate in the fishery, but they did not wish to do so at the expense of the other jurisdictions. For example, when the Board was considering whether to set the fixed minimum allocation at 0.75% or 1%, much of the discussion focused on how the former was preferable because it would not harm any state. After that method was chosen, however, a representative from Omega pointed out that the 0.75% fixed minimum would result in an 8% reduction in Virginia's landings. At that point, some Board members and staff worked to find an alternative allocation scheme that would not harm any state. The result of those efforts was a table distributed by staff showing that allocating the TAC based on a 0.5% fixed minimum would achieve that goal. At that point, a motion was made to reconsider the allocation, and the 0.5% fixed minimum was selected. Unfortunately, the staff analysis reflected in the table did not account for the episodic events set-aside, which has been 1% of the coast-wide TAC since 2013. Before the set-aside is factored in, Virginia's allowable landings increase by 0.58%. After the set-aside is removed, however, Virginia's allowable landings decrease by 0.43%, which amounts to more than 1.6 million pounds of menhaden.[2] If this had been pointed out to the Board, it undoubtedly would have taken steps to ensure that Virginia was not harmed.

In addition to being unforeseen, the impact on Virginia is fundamentally unfair. Amendment 3 takes pains to note that its allocation method is designed to provide a fair and equitable allocation of the resource among the jurisdictions and an allocation that is biologically, economically, and socially sound. (Amendment 3, at pp. 3, 24, 29). The allocation method that was ultimately chosen

[2] Several states have indicated that they will relinquish their share of the TAC for the 2018 fishing season. Once those shares of the TAC are redistributed, Virginia's permissible landings will rise modestly. Nevertheless, the allocation is still problematic because the benefit accruing to Virginia is unfairly small when compared to the disproportionate benefit enjoyed by the other jurisdictions. In addition, there is no guarantee that the states that relinquished their allocation this year will do so again next year, meaning that Virginia may face a reduction in its allowable landings during the 2019 fishing season.

fails that standard. First, the allocation results in a reduction in harvest opportunity for only one state, Virginia, while providing other jurisdictions with very substantial and unnecessary increases. For example, three states that had no allocation before were given the opportunity to land more than 2 million pounds of menhaden, while New Hampshire's allocation was increased by more than 1,000,000%. Moreover, it is not at all clear that many of the states which benefitted from this reallocation can actually use it. Virginia is the only state with a reduction fishery; the other states that have a menhaden fishery at all have a bait fishery. The recent socio-economic study of the menhaden fishery requested by the Board found that most states with minor shares of the TAC under the old allocation system are often not affected by their minor percentage of the TAC because of the bycatch provision that allows vessels to harvest up to 6,000 pounds of menhaden per day even after a state or jurisdiction's share of the TAC has been harvested. The bycatch amounts will continue to not be counted against the TAC under Amendment 3. This means these states could proceed harvesting menhaden for bait at a rate of 6,000 pounds of menhaden per vessel per day after their relatively small portion of the TAC realized under Amendment 2 has been landed. Thus, many states that benefitted from the reallocation could have had the same or a similar harvest level under the small-scale fishery and bycatch provisions without the reallocation of the TAC.

Indeed, many of the jurisdictions admitted that they do not need the additional allocation and do not have the desire or infrastructure to make use of it. Pennsylvania, for example, repeatedly stated during the deliberations that it had no desire to create a fishery for menhaden in the state, even going so far as suggesting that, if it were forced to demonstrate the intent and ability to make use of its allocation as a condition to receiving it, its fishermen would purposefully use faulty gear that would allow the vast majority of the fish in the nets to escape. New Hampshire stated that it may have the ability to make use of some of its allocation, depending on whether a large fishing vessel decided to target menhaden and dock in the state, but it admitted that it would likely make a good part of its allocation available to other states through transfers. South Carolina acknowledged that it did not have the infrastructure necessary to participate in the fishery and expressed a willingness to relinquish its allocation. Connecticut, on the other hand, stated that it would not participate in the relinquishment program, as it viewed the allocation as a kind of currency to be traded.

The latter position highlights the unfair position in which Virginia finds itself. It can either allow its permissible landings to decrease or negotiate for a transfer from a state that has no need for its allocation of the TAC because it either has no intention to participate in the fishery or its fishery is not bound by the TAC under the small-scale fishery and bycatch provisions. In other words, Virginia must either accept the lowered allowable landings of menhaden and the clear, demonstrable adverse economic impacts on the communities that depend on the fishery or provide a windfall to a state by exchanging something of value for a transfer of a portion of the TAC that the transferring jurisdiction does not need. It is fundamentally unfair, socially unjust, and economically unsound to place a state in such a position, especially when doing so is unnecessary for the preservation of the menhaden fishery because the stock is healthy enough to provide for an increased harvest level for all jurisdictions.

This fundamental unfairness stems from a key defect in the fixed minimum allocation method: namely, the scheme ignores historical landings in setting the minimum. Even states that had no landings whatsoever during the relevant landings period are given an allowable harvest of more than 2.3 million pounds of menhaden. This is a radical redistribution of the TAC. Indeed, if the Board had

instead chosen to double the average landings of the smaller jurisdictions, it would have ended up redistributing around 16 million fewer pounds of menhaden. It is troubling to Virginia that a historical basis of landings had persisted since 2013, whereby Virginia rightly enjoyed 84.96% of the TAC, yet the *de novo* allocation system adopted by the Board resulted in Virginia being downgraded to 79.66% of the coast-wide TAC.

A remedy to this unnecessary and unfair allocation exists. The most reasonable way to remove the unfairness is to increase the TAC to a level that allows all jurisdictions to be given a fair share and adopt an allocation method that is based on landings. While jurisdictions that have not traditionally participated in the fishery can be given shares of the TAC, they should be required to demonstrate some landings under the bycatch or small-scale fishery provisions before that occurs. Doing so will ensure that the decision will not provide significant shares of the TAC to states with no intention of using them as anything other than a bargaining chip while also ensuring that states with established fisheries will be provided with sufficient allowable landings to avoid harm to those fisheries.

II. The decision to lower the Bay Cap is unnecessary and unsupported by scientific evidence.

Compounding the harm to Virginia stemming from the setting of the TAC and the allocation method is the Board's decision to reduce the Bay Cap from 87,216 metric tons to 51,000 metric tons. If lowering the cap were necessary to preserve the health of the menhaden stock, that harm could be justified. Unfortunately, the technical information available to the Board does not demonstrate any such need for lowering the Bay Cap.

Before examining the technical information presented to the Board, it is first beneficial to examine the rationale for the Bay Cap. It was initially justified as a precautionary measure to ensure that localized depletion of menhaden would not occur while the issue was studied. (Amendment 3, at p. 24). Later, the Board theorized that it protected the Bay as "an important nursery ground for menhaden." *Id.* Finally, at the meeting, the maker of the motion to lower the Bay Cap asserted that it was necessary to protect the Bay as a nursery for both menhaden and other species. This justification was reflected in the press release that announced the reduction in the Bay Cap. *See* ASMFC, News Release, *ASMFC Approves Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden*, ("This recognizes the importance of the Chesapeake Bay as nursery grounds for many species by capping recent reduction landings from the Bay to current levels."), *available at* http://www.asmfc.org/uploads/file//5a0c69b4pr57 MenhadenAmendment3_Approval.pdf.

The technical information presented to the Board does not support any of these rationales. First, as to localized depletion, the studies that were commissioned at the time the Bay Cap was first instituted failed to find that such depletion was occurring. (Amendment 3, at p. 24). In fact, those studies indicated that, if such depletion did occur, it would be relatively small in scale and short-lived given the migratory nature of menhaden. *Id.* An external peer review of those studies conducted by the Center for Independent Experts supported this view, concluding localized depletion was a possibility in theory but nothing demonstrated that it was occurring in the Bay.

There is similarly no evidence to support the view that lowering the Bay Cap was necessary to protect the Bay as a nursery area for menhaden. Amendment 3 does not explain how the Bay Cap

serves to protect the Bay as a nursery. Logically, it could only do so if the reduction fishery resulted in high mortality for juvenile menhaden or harmed menhaden habitat. Nothing indicates that it does either. The reduction fishery does not target juvenile menhaden,[3] and the mortality rate among juvenile menhaden attributable to fishing activity is low. In addition, no evidence exists to show that the gear used in the reduction fishery harms the habitat of menhaden or any other species.[4] In fact, the scientific information that is available tends to show that the reduction fishery does not harm the Bay's nursery function at all. If the fishery did harm the Bay, one would expect the research in the area to show the Bay to contributing fewer recruits than other estuaries or supplying less healthy recruits that fail to survive to reproduction age. That is not the case. Instead, the current research indicates that the Bay contributes roughly the same proportion of recruits to the population as estuaries in New England and the southeast. *Id.* at p. 21. These recruits tend to survive to reproduction age in roughly equal proportions. *Id.* It is thus apparent that the reduction fishery does not prevent the Bay from serving as a nursery for juvenile menhaden.

Finally, there is similarly no evidence to suggest the Bay Cap was necessary to protect the Bay as a nursery for other species. Again, Amendment 3 does not provide an explanation for how the Bay Cap serves this purported purpose. However, it could only do so if the reduction fishery deprived other species of a sufficient amount of menhaden to forage, harmed the habitat of those other species in some way, or harvested large numbers of those other species as bycatch. Of course, as discussed above, there is nothing to indicate that localized depletion of menhaden is occurring, so there is nothing to indicate that the harvest is depopulating the Bay to such an extent that other species do not have a sufficient forage base.[5] In addition, no evidence has been tendered to show that the reduction fishery harms the habitat of any animal. Finally, nothing indicates that the reduction fishery harvests such large numbers of other species that their numbers are endangered, as the bycatch in the fishery is incredibly low. *See id.* at pp. 14-15 (noting that studies have found that there is little bycatch in the purse seine fishery and summarizing a study conducted by the Virginia Institute of Marine Science that found that the bycatch in the 1992 menhaden reduction fishery comprised only 0.04% by number).

There is thus no technical information to support the view that the Bay Cap needed to be lowered. Virginia does not object to the Bay Cap being in place, but it does object to arbitrarily lowering it when no science indicates that doing so is necessary or even beneficial for conserving the

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[3] One Board member speculated that this may change. During deliberations on the Bay Cap, that member asked the Virginia delegation whether Omega, which was recently acquired by a new company, would begin targeting smaller fish to fulfill some unnamed purpose of its new owner. Virginia indicated that it had no knowledge of such plans and that the smaller fish were not generally useful for Omega's purposes. As far as Virginia is aware, Omega has no plans to begin targeting juvenile menhaden.

[4] The purse seine has no impact on habitat if used correctly. Food and Agricultural Organization, United Nations, Purse Seines, http://www.fao.org/fishery/geartype/249/en ("Because of [the purse seine's] characteristics there is no impact on the bottom habitat (except when the water depth is less than the height of the seine during the fishing operations and . . . the lower edge of the gear wipes the sea bottom).").

[5] A multi-year dietary analysis of the top five predators in the Chesapeake Bay found that menhaden comprised at least 5% of the diet of only one of those predators. T.F. Ihde, et al., *Assessing the Chesapeake Bay Forage Base: Existing Data and Research Priorities*, at pp. 20, 26 (STAC Publication 15-005, 2014), *available at* http://www.chesapeake.org/pubs/346_Ihde2015.pdf. Thus, the impact of any localized depletion that did occur on other species would be negligible.

menhaden fishery. Accordingly, Virginia believes that the Bay Cap should be restored to at least 87,216 metric tons and that a limited amount of unused quota should be rolled over to future years.

CONCLUSION

In sum, the Board's decisions on the TAC, allocation of the TAC, and the Bay Cap, all of which are excessively restrictive and unnecessary for the conservation of the menhaden fishery, should not be allowed to persist. Virginia believes that the Interstate Fisheries Management Board ("ISFMP Board") should instead order that the TAC be set at 220,000 metric tons and that an allocation method be adopted that is based on historical landings without arbitrary adjustments. In addition, Virginia believes that the Bay Cap should be returned to 87,216 metric tons with a possibility for the rollover of a portion of any unused quota from year to year. As required by the ISFMP Board's Appeals Process pursuant to which this appeal is taken, Virginia commits to comply with the ISFMP Board's decision in this matter, subject to its right to take further action beyond the ASMFC process to seek relief.

John M.R. Bull, Administrative Appointee

Catherine Davenport, Governor Appointee

Senator Richard Stuart, Legislative Appointee

Exhibit C

Atlantic States Marine Fisheries Commission

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James J. Gilmore, Jr. (NY), Chair *Patrick Keliher (ME), Vice-Chair* *Robert E. Beal, Executive Director*

Vision: Sustainably Managing Atlantic Coastal Fisheries

January 17, 2018

John M.R. Bull
Commissioner
Virginia Marine Resources Commission
2600 Washington Avenue
3rd Floor
Newport News, Virginia 23607-4317

Dear Mr. Bull,

This letter responds to the Commonwealth of Virginia's December 20, 2017 appeal of the Atlantic States Marine Fisheries Commission's (Commission) approval of Amendment 3 (Amendment) to the Atlantic Menhaden Interstate Fishery Management Plan (FMP). On January 5 and 11, 2018, in accordance with the appeals process, a conference call of the Commission Chair Jim Gilmore, Vice-Chair Pat Keliher, past Chair Doug Grout (Leadership), and staff were convened to review the Virginia appeal. The purpose of the review was to assess the issues Virginia raises in its appeal and to determine whether those issues are of the type and substantiality that warrants review by the full Interstate Fisheries Management Program Policy Board (Policy Board). Given the appeal does not directly indicate the specific appeal criteria for which Virginia is making its claims, Leadership has made assumptions for which criterion an issue falls under.

During the call, it was determined the appeal did **not** meet the qualifying guidelines under appeal criterion one (decision not consistent with FMP), four (historical landings period not adequately addressed) and five (unforeseen circumstances/impacts) for both state allocations and the setting of the 2018 total allowable catch (TAC). However, it **could be forwarded** to the Policy Board for appeal consideration under criterion three (incorrect application of technical data) for the Chesapeake Bay Reduction Fishery Cap (Bay Cap). Appeal criterion two was not considered because it was not referenced in the appeal.

A. Claims Under Criterion One: Decision Not Consistent with FMP

The appeal referenced criterion one, "Decision not consistent with the FMP." Under this criterion, the appeal argues the allocation method fails to meet the goal of the FMP specifically allocating the resource in a method that is biologically, economically, and socially sound. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 3-5 (December 20, 2017). Leadership rejects this claim.

The goal of Amendment 3 is "to manage the Atlantic menhaden fishery in a manner which equitably allocates the resource's ecological and economic benefits between all user groups. The primary user groups include those who extract and utilize menhaden for human use, those who extract and utilize predators which rely on menhaden as a source of prey, and those whose livelihood depends on the health of the marine ecosystem. Pursuit of this goal will require a holistic management approach which allocates the resource in a method that is biologically, economically, and socially sound in order to protect the resource and those who benefit from it." While it is true the allocation method does result in a reduction of the percent share allocated to Virginia, the Commonwealth is allocated nearly 80% of the coastwide quota with the remainder to be shared by the other 14 member states. It is important to note the available quota for Virginia actually increases in 2018 relative to 2017. This increase is further described later in this letter.

Under the FMP, the primary user groups are defined as the directed fishery (bait and reduction), recreational fishermen, predators of menhaden, and those whose livelihoods depend on the health of the marine ecosystem. Given the FMP goal of equitable allocation, one could argue that allocating nearly 80% of TAC to one jurisdiction within a 15 jurisdiction management unit is not an equitable distribution to the primary user groups. Given the diverse objectives of the primary menhaden user groups, the Board must make allocation decisions that balance biological, economic, and social trade-offs. The Board had significant deliberations on the issue of what is equitable allocation. By choosing the fixed minimum allocation method, the Board was able to address the needs of the different stakeholders, taking into account the needs of the directed fishery, while having minimal negative impact relative to the 2017 quotas. Virginia's 2018 quota still allows for growth, given it has not harvested its full allocation in the last two years. Leadership concludes substantial grounds for an appeal are not present on this issue.

B. Claims Under Criterion Four: Historical Landings Period Not Adequately Addressed

The appeal cited criterion four, "Historical landings period not adequately addressed." Under this criterion, the appeal states the fixed minimum allocation method ignores historical landings in setting the minimum. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 3-5 (December 20, 2017). Leadership rejects this claim. While Virginia is correct the fixed minimum does not use history-based landings, the vast majority (approximately 94%) of the TAC is allocated using average landings from 2009-2011. Leadership concludes historic landings are being considered for the allocation of the vast majority of the TAC. Commission guiding documents do not require Boards to allocate quota based solely on historical landings information.

Virginia states the fixed minimum allocation method was "radical" and "unorthodox." Leadership argues the method is a reasonable allocation tool to accommodate changing conditions in a fishery that cannot be addressed through the use of historic landings. In fact, two other Commission plans use fixed minimums to allocate quota, northern shrimp and American eel. In addition, there are several other fisheries in the United States and the world

that are managed using fixed minimums, including Western Atlantic recfish and the Shetland shellfish fisheries (UK). The fixed minimum approach allowed the Board to allocate the majority of the TAC using historical landings, but provided opportunities for states that either did not have accurate historical catch information (due to the lack of reporting requirements) or have seen increases in menhaden abundance in state waters in recent years (2015-2017). Leadership concludes substantial grounds for an appeal are not present on this issue.

Virginia suggests a remedy to the "unnecessary and unfair" existing allocation is to increase the TAC to 220,000 MT. The Board did consider this TAC level at the November 13 and 14, 2017 Board meeting but the motion failed with 5 in favor and 13 in opposition (See November Meeting Summary page 3). The Board reviewed a wide range of TAC levels with varying levels of risk for exceeding the fishing mortality target. In setting the TAC, the Board considered both the menhaden resource and the ecosystem services the resource provides. It also took into consideration the overwhelming public support to conservatively manage the resource. In taking this holistic approach, as set by the goal and objectives of the FMP, the Board set a lower TAC than could have been afforded under tradition single species management. This was an intentional and conscious conservative management action to minimize risk to the resource while menhaden-specific ecological reference points are developed over the next two years.

In addition, the appeal suggests a state should demonstrate landings in either the bycatch or small scale fishery provision in order to receive allocation. A similar concept was considered by the Board but was not approved.

...States have the option to opt □out of the program and decline their fixed minimum allocation, or maintain 10,000 pounds for bycatch purposes and decline the remainder of their quota. States also have the right to opt□in to the program and receive their full allocation... (See Meeting Summary page 5).

This notion, that a state must demonstrate landings history to receive allocation, was argued against by states that support the FMP's goal to include those primary user groups that extract and utilize predators which rely on menhaden as a source of prey, those whose livelihood depends on the health of the marine ecosystem and those non-consumptive users who place a high value on a healthy ecosystem. Some states see a different social and economic value for menhaden in their waters for both the recreational and ecotourism industries. These sorts of decisions highlight the nature of cooperative interstate fisheries management – to seek to balance the different needs and values of all involved states, not the one or the few. These difficult decisions are sometimes necessary in service of the management goals of the FMP.

C. Claims Under Criterion Five: Unforeseen Circumstances/Impacts.

The appeal letter cites criterion five, "Unforeseen circumstance/impacts." The appeal recounts the Board wanted to provide additional jurisdictions with an opportunity to

participate in the fishery but not at the expense of other jurisdictions. The appeal states if the Board had known under the 0.5% fixed minimum and the 1% episodic event set aside Virginia's landings would be decreased, the Board would have taken steps to ensure Virginia would not be harmed. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 3-5 (December 20, 2017). Leadership disagrees with Virginia's position that these issues were unforeseen. While the tables that were passed at out the meeting did not include the 1% episodic event set aside, it was made clear to the Board at the start of the meeting the Amendment would be taken up in the order presented in the document. This meant that episodic events set aside would be discussed after allocation, and would alter the distribution of the TAC (See Board minutes pages 2 and 50).

When considering action on the allocation method, scenarios were presented where Virginia would have less quota in 2018 than in 2017 despite the increase in the TAC. But the Board recognized Virginia's quota would have the opportunity to increase above 2017 levels if states relinquished quota. During the Board deliberations, a few states indicated it was their intent to relinquish quota. Since the November Board meeting 6,704,365 pounds of quota has been relinquished. Virginia's 2018 quota has increased by 5,696,800 pounds because relinquished quota is redistributed to states based on their average landings from 2009-2011 (84.97% for Virginia). Based on the additional quota received, Virginia's 2018 quota is 4,099,337 pounds higher than 2017. Allocation decisions are always difficult; but they are, as here, necessary in service of management goals of the plan. Since Commissioners recognized and weighed these potential impacts to the states and industry, Leadership does not find the allocation consequences of this Amendment as unforeseen.

D. Claims Under Criterion Three: Incorrect Application of Technical Information.

Virginia's appeal is partially based on appeal criterion three, "Incorrect application of technical information." Under this criterion, the appeal states the reduction in the Chesapeake Bay Reduction Fishery Cap (Bay Cap) from 87,216 MT to 51,000 MT and the removal of the rollover provision is not supported by the technical information that has been presented to the Board or described in the Amendment. See letter from Virginia Commissioners to ASMFC Chair James J. Gilmore, pp. 5-7 (December 20, 2017).

Leadership concluded the Policy Board should consider Virginia's claim that Chesapeake Bay localized depletion studies were inconclusive. The decision to set a reduced Bay Cap in Amendment 2 was a precautionary measure set as a placeholder until the commissioned studies on localized depletion were finalized and peer-reviewed (Amendment 2 reduced the Bay Cap from average landings from 1999-2004 to 87,216 MT). It was not based on a scientifically quantified harvest threshold, fishery health index, or fishery population level study. The Bay Cap limit was a compromise reached by managers, fishery stakeholders, and environmental NGOs.

In addition, the appeal states there is no evidence in Amendment 3 to support the view that lowering the Bay Cap was necessary to protect the Bay as a nursery area for menhaden and

there is no evidence to suggest the Bay Cap is necessary to protect the Bay as a nursery for other species. Leadership agrees the Amendment does not provide sufficient evidence to support such claims. In making this statement, it does not conclude that evidence does not exist, but that it is not contained in the Amendment.

Virginia claims the Bay Cap was arbitrarily lowered. In setting the 51,000 MT Cap, the Board considered recent harvest levels to minimize impacts on Virginia. The Bay Cap was set at the average landings in the Bay from 2012-2016 (rounded up); therefore, it was not arbitrarily lowered nor was it expected to significantly impact the prosecution of the fishery.

Leadership is recommending the formation of a Fact Finding Committee (Committee), as allowed under the appeal process, to investigate the science surrounding the Bay Cap. The Committee would conduct a literature review of the science in question. The Committee would look for peer-reviewed literature that could address the following questions:

1. What is the impact on menhaden reproduction or other species in the Bay with menhaden harvest set at 87,216 MT?
2. Does menhaden harvest in the Bay impact menhaden nursery grounds? Other species?
3. Does menhaden harvest in the Bay impact menhaden reproduction in the Bay?
4. What environmental factors impact menhaden reproduction in the Bay?
5. Is there current science that would guide the Board in setting the appropriate level of harvest in the Bay?

Leadership recommends to the Policy Board:

- Consider the appropriate level of the Bay Cap for 2018 while the Fact Finding Committee addresses the above questions.
- Charge the Menhaden Board with reconsideration of the Bay Cap to 87,216 MT for 2018 while the Committee drafts a report to the Board. After reviewing the Committee's report, the Menhaden Board could consider the Bay Cap for 2019 and beyond.

In recognition that Virginia sets its annual menhaden regulations through a legislative process, not controlled by Virginia Marine Resources Commission, Leadership strongly recommends pursuing/implementing this one year change in the Bay Cap as a way to help facilitate compliance with the FMP.

In light of these findings, Leadership finds there are grounds for the appeal to be heard by the Policy Board on one of the three claims under criterion three advanced in Virginia's letter – specifically, Virginia's claim regarding the Bay Cap. Leadership concludes it is appropriate to provide Virginia an opportunity to present its appeal on this issue to the Policy Board. During the ISFMP Policy Board meeting on February 8, 2018, the ISFMP Director will present background on the Amendment and the Board's justification for changing the Bay Cap. Following this presentation, the Commissioners from Virginia will be provided 15 minutes to present their rationale for the appeal and their suggested resolution of the issue. The Policy Board will then be provided an opportunity to discuss the issue, consider the recommendation from Leadership, and then decide what issues, if any,

should be remanded back to the Menhaden Board for corrective action. No additional public comment will be taken in connection with the appeal.

Thank you for the continued partnership and commitment to the Commission process and actions.

Sincerely,

James Gilmore

cc: Catherine Davenport
Senator Richard Stuart
Interstate Fisheries Management Program Policy Board

L18-08

Exhibit D

Atlantic States Marine Fisheries Commission
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A Synthesis of Scientific Findings on Menhaden's Role in the Chesapeake Bay Ecosystem and Their Relevance to the Chesapeake Bay Reduction Fishery Cap

Prepared by Dr. Katie Drew

Introduction

The Atlantic States Marine Fisheries Commission (ASMFC) requested a synthesis of existing scientific evidence on the importance of Atlantic menhaden in the Chesapeake ecosystem to help inform management decisions about harvest levels in the Chesapeake Bay. This review was conducted by ASMFC staff and is not a product of ASMFC's Menhaden Technical Committee (TC) or Ecological Reference Point Working Group (ERP WG).

This synthesis reviews the literature that informed the 2015 Atlantic menhaden benchmark stock assessment (SEDAR 2015) and Amendment 3 (ASMFC 2017) to the Atlantic Menhaden Fishery Management Plan (FMP). It does not reflect the most recent and ongoing work of the Stock Assessment Subcommittee (SAS) or the ERP WG, which will be completed as part of the 2019 single-species and ecological-based benchmark assessments.

History of the Chesapeake Bay Cap

In the years leading up to Amendment I (2001) to the Atlantic Menhaden FMP, the number of reduction plants and vessels in the reduction fleet had declined along the coast, with effort concentrating in Virginia and North Carolina. As a result, total landings along the coast and from Chesapeake Bay (Bay) also declined, but the proportion of removals from the Bay increased (ASMFC 2005a). The higher proportion of effort in the Chesapeake Bay and the lower levels of recruitment to the Bay raised concerns about the possibility of localized depletion, defined as a reduction in menhaden population size/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, as a result of fishing pressure, environmental conditions, and predation pressures that occur on a small spatial or temporal scale.

In response to these concerns, ASMFC implemented a harvest cap on the reduction fishery in Chesapeake Bay through Addendum II (ASMFC 2005), limiting removals of Atlantic menhaden from the Bay for reduction purposes to the average of 2000-2004 landings to be implemented in the 2006 fishing year. Before its first year of use, the cap was revised through Addendum III (ASMFC 2006) to be the average landings from 2001-2005, or 109,020 mt. The cap was reduced by 20% in 2013 to 87,216 mt with the concurrent implementation of a coastwide quota which also represented a 20% reduction from recent average landings (ASMFC 2012). Amendment 3 further reduced the Bay cap to 51,000 metric tons, approximately equal to the five-year average of reduction harvest from the Chesapeake Bay between 2012 and 2016 (ASMFC 2017). Reduction landings from Chesapeake Bay have not exceeded 51,000 mt since 2012, even under the higher historical caps.

In response to the concerns raised in Addendum II, the NOAA Chesapeake Bay Office coordinated funding for a series of research projects to address the question of whether localized depletion was occurring in Chesapeake Bay. These projects were reviewed in 2009 by a panel appointed by the Center for Independent Experts. The panel determined that the individual research projects were relevant and well-designed, and the results of many of them informed this synthesis. However, the panel noted that without an operational definition of depletion, it could not be determined whether localized depletion was occurring or how well the ongoing research could address that question (Maguire 2009).

Atlantic Menhaden Life History

Genetic studies indicate Atlantic menhaden are a single stock on the Atlantic coast (Anderson 2007; Lynch et al. 2010). Juvenile and adult menhaden make seasonal migrations along the Atlantic coast, moving inshore and north in the spring and offshore and south in fall (Nicholson 1978). Larger, older individuals migrate further north. This results in different size and age classes being available to the fishery in different regions; fisheries operating in the Chesapeake Bay and further south harvest a higher proportion of age-1 and age-2 fish compared to fisheries operating further north (SEDAR 2015).

Adults spawn on the continental shelf throughout the year as they migrate, with the peak of spawning generally occurring from December through March (Nicholson 1978; Lewis et al. 1987). Larvae are then carried into bays and estuaries where they settle as age-0 recruits. The Chesapeake Bay is one of the important nursery grounds for Atlantic menhaden. Otolith microchemistry analysis showed that from 2010 – 2012, individuals from Chesapeake Bay made up about 30% of the exploitable Atlantic menhaden (ages 2-4) on the coast (Anstead et al. 2017).

The abundance of age-0 menhaden within Chesapeake Bay in any given year is influenced by a combination of offshore and inshore factors. This includes things such as large scale climatic regimes like the Atlantic Multidecadal Oscillation (Bucheister et al. 2016) and annual variability in the abundance of phytoplankton and zooplankton within the Bay (Houde et al. 2016). Total spawning stock biomass (SSB) along the coast may also play a role, although the relationship between coastwide SSB and recruitment stock-wide is weak (SEDAR 2015). The TC was unable to detect a relationship between abundance of age-2 and age-3 menhaden in the Bay and recruitment to the Bay the following year (ASMFC 2005b).

Atlantic Menhaden's Role in the Ecosystem

As larvae, Atlantic menhaden feed on zooplankton, but as juveniles and adults, they consume primarily phytoplankton by filtering seawater through specialized gill rakers (June and Carlson 1971, Friedland 1985, Friedland et al. 2006). Modeling work suggests that Atlantic menhaden may have a dampening effect on large algal blooms in Chesapeake Bay through their feeding (Dalyander and Cerco 2010), but are likely not reducing the total nitrogen load in the Bay (Lynch et al. 2010, Friedland et al 2011).

Atlantic menhaden are also an important forage species. Numerous studies have been conducted on the food habits of fish species within the Chesapeake Bay; however, it is difficult to compare the results directly because studies often occurred in different seasons, sampled different size ranges of predators, and use different methods of calculating the species composition in a diet. In addition, the proportion of Atlantic menhaden in species' diets can change across years, depending on the relative abundance of Atlantic menhaden and other prey species. For example, Overton (2015) found that striped bass in the Chesapeake Bay had a higher proportion of Atlantic menhaden in their diet in the 1950s, when menhaden abundance along the coast and recruitment of menhaden to Chesapeake Bay were high, than during the mid-1990s to early 2000s when menhaden abundance along the coast and recruitment of menhaden to Chesapeake Bay were both low.

During the 2010 and 2015 benchmark stock assessment for Atlantic menhaden, the ASMFC Multispecies Technical Committee did a thorough review of published studies and food habits databases from fishery independent sources such as the NEFSC Food Habits Database, NEAMAP, ChesMMAP, and CHESFIMS in order to parameterize the MSVPA-X model (SEDAR 2015). They synthesized average diet composition information by season and size class for several important predator species (Table 1). The prevalence of menhaden in predators' diets varied across seasons and size or age classes. For example, the percent by weight of Atlantic menhaden in striped bass stomach contents ranged from over 90% for age 8+ striped bass in the winter to less than 10% of age 1-2 striped bass in the spring. Similarly, the percent by weight of Atlantic menhaden in bluefish stomachs ranged from 3.5% to 50.4%, depending on the season and size class of bluefish.

Atlantic menhaden are also consumed by other predators such as piscivorous birds. The prevalence of Atlantic menhaden in bald eagles' diets in the Bay also showed seasonal patterns. Mersmann (1989) found that bald eagles consumed fish almost exclusively during the summer, the majority of which were gizzard shad and Atlantic menhaden; during the winter, bald eagles' diets were predominantly comprised of carrion from birds and mammals. McLean and Byrd (1991a) found that Atlantic menhaden made up 75% of the diet by number of nesting ospreys in the Chesapeake Bay in 1985. Glass and Watts (2009) found that the proportion of Atlantic menhaden in osprey diets depended on the location of the osprey nests: ospreys nesting in higher salinity regions of the Bay consumed a higher proportion of Atlantic menhaden (24% by number) than ospreys nesting in lower salinity regions (1.5% by number). However, overall, the diets of non-fish predators within the Chesapeake Bay are not well studied. For example, cormorant and heron abundance within the Bay has increased over time and both species are known to consume tidal freshwater fish like menhaden from studies in other regions, but there are no studies of their diet in Chesapeake Bay (Viverette 2007).

The body of diet work shows that Atlantic menhaden can make up a significant proportion of many predators diets' for specific seasons, size/age classes, and locations within the Bay, and that the prevalence of Atlantic menhaden in predators' diets changes with changing menhaden abundance. However, understanding the impact of reduced menhaden abundance on predator population health is much more difficult, and the evidence is less clear.

Some work has been done to estimate the predatory demand of individual species within the Bay (e.g., Hartman and Brandt 1995, Uphoff 2003), but whether there is enough menhaden biomass in the Bay to support this demand cannot be determined from the current coastwide stock assessment.

Lower levels of Atlantic menhaden abundance along the coast and lower levels of menhaden recruitment in Chesapeake Bay have been correlated with negative population metrics for some species. For example, striped bass reached coastwide highs in abundance during the late 1990s to early 2000s during a period of low menhaden abundance. However, within the Chesapeake Bay, the prevalence of mycobacteriosis in striped bass increased sharply (Uphoff 2003, Overton et al. 2003) while migratory striped bass outside the Bay had lower levels of infection (Matsche et al. 2010). Jacobs et al (2009) found that poor diet worsened the progression and severity of mycobacteriosis in striped bass in the lab. The weakfish population has continued to decline, even with greatly reduced fishing pressure, and an increase in natural mortality has been implicated (ASMFC 2014). As the population declined, recruitment indices remained relatively stable for weakfish, and the mortality bottleneck appears to be at around age 1-2, when weakfish switch over to consuming fish; one hypothesis is that the increase in natural mortality is linked to reduced prey availability including menhaden (NEFSC 2009). Osprey population growth rates in Chesapeake Bay were higher during the late 1970s and early 1980s, a period of high menhaden abundance and high recruitment to the Bay, than they were during the late 1980s and in 2006 (Watts 2007); McLean and Byrd (1991b) observed behavioral signs of food limitations such as sibling aggression in osprey in Chesapeake Bay in 1985 and noted that a similar study in 1975-1976 had not observed any sibling aggression.

However, all of these correlations come with many caveats. The increased prevalence of mycobacteriosis in striped bass in Chesapeake Bay has also been linked to environmental factors such as increased eutrophication and warming water temperatures in the Bay (Gauthier and Rhodes 2009). Cycles in weakfish landings are correlated with the Atlantic Multidecadal Oscillation, and age-0 weakfish are a major component of shrimp trawl bycatch (ASMFC 2014). Osprey showed higher population growth rates in low salinity areas where menhaden made up a lower proportion of their diet (Glass and Watts 2009). All of these populations are driven by many factors, including environmental conditions, habitat availability, overall forage abundance, and anthropogenic impacts, and parsing out the importance of menhaden abundance alone is difficult.

Conclusions

- There is currently no estimate of Atlantic menhaden abundance specifically within Chesapeake Bay and there is no quantitative determination of an appropriate depletion threshold, therefore there is no quantitative determination of whether localized depletion is or is not occurring.
- Recruitment to Chesapeake Bay does not appear to be correlated with abundance of age-2 and age-3 Atlantic menhaden within the Bay; as long as environmental conditions and total coastwide fecundity are favorable, recruitment to the Bay can occur.

- From a single-species perspective, the projections used to set the coastwide quota were conducted with the assumption that selectivity in the future would be equal to the selectivity of the most recent year of the model. The Bay fishery harvests a higher proportion of age-1 and age-2 fish than the more northern fisheries. Therefore, if the proportion of removals from the Bay changes, the impact of those removals on the total population will change even if the coastwide quota is not exceeded, because the overall selectivity pattern will be different.
- Demand for forage in Chesapeake Bay from fish and bird predators has increased since the early to mid-1980s, the last period of strong recruitment to Chesapeake Bay (Uphoff 2003, Viverette 2007).
- Atlantic menhaden can make up a significant proportion of many predators diets' for specific seasons, age classes, and locations within the Bay, particularly when menhaden are abundant.
- Lower levels of Atlantic menhaden abundance and recruitment have been linked to negative population metrics for several species within the Bay, but the overall complexity of the Chesapeake Bay food web, changing environment, and population dynamics makes it difficult to prove causation.

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