

**From:** [EE Chip Rohr](#)  
**To:** [Comments](#)  
**Subject:** [External] Chesapeake Bay Menhaden Fishing  
**Date:** Thursday, July 28, 2022 8:54:18 AM

---

I request that this email be distributed to the Atlantic Menhaden Management Board and the Atlantic Striped Bass Management Board.

I have been a frequent recreational fisherman in the Virginia portion of the Chesapeake Bay and the Great Wicomico River for 25 years. I have seen a steady decline in the number of striped bass. This decline has become alarming in recent years. I contribute a large part of this to overfishing of Menhaden in the bay.

I have seen a steady decline in the number of juvenile menhaden around my dock and in the river. I have also seen a similar decline in the number of striped bass that have menhaden in their stomachs. Instead their stomachs contain young crabs, Bay anchovies, and other small schooling fish.

I contend that this is due to purse seine fishing in the Bay. Therefore I request that this type of fishing be prohibited within the Chesapeake Bay.

Respectfully submitted Edgar E. Rohr. PO.Box 71, Manassas, Va. 20108.

Sent from my iPad

**From:** [Tom Lilly](#)  
**To:** [Tina Berger](#)  
**Cc:** [Robert Beal](#); [Mel Bell](#)  
**Subject:** [External] Fwd: ASMFC 2022 Summer Meeting - material  
**Date:** Thursday, July 28, 2022 1:05:24 PM  
**Attachments:** [Sierra-Shore Rivers.pdf](#)  
[NOAA 2016 Sets.pdf](#)  
[VSSA Petition.pdf](#)  
[all testimony re SJ06.pdf](#)

---

Tina. Please post to Bob Beal, menhaden staff members, Executive Committee, Mel Bell and menhaden board Please send a receipt.

There are things here that are giving me a persistent headache.

You are proceeding with the menhaden addendum without considering the social and economic effects. A recent Md DNR memo says more unharvested menhaden in the bay would improve our striped bass and ospreys. These two species suffered the most if there is too great a harvest. That's what your ERP press release says

Marylanders fish over eight million days a year in salt water. Our DNR predicts better fishing if the menhaden harvest was not in Virginia waters ( see last pg R06 testimony scan above) Just a 10% improvement would make those eight million days more fun and would bump the days up by about a million a year....with about 150,000 more days a year by children. That is just one social consequence you are ignoring.

Marylanders, 100,000 of them have over five billion dollars invested in fishing boats. They spend about \$5-10,000 a year buying them and at least \$5,000 operating it. In the two states they support 700 marinas and 20,000 jobs? That huge investment is so disabled, veterans, first responders, families, friends, kids, grandchildren and retired can get out and enjoy fishing for stripers. This has been pretty much destroyed and with the failure of the spawning stock for three straight three years the future looks even worse.... ignoring these people and facts has been called "willful blindness".

We have asked you to take action to prevent Omega from catching 1000s of menhaden schools in Virginia that were headed to Maryland ,,see scan of sets,,in the Spring when the flow is least, and the spawning stock and ospreys need the forage the most you allow 8-10 purse seiners to catch this vital forage. They have plenty of time to catch every school before they reach Maryland. Its a no win situation for Maryland. The only way to stop this travesty of justice is to move the factory fishing into the US Atlantic zone north of the bay entrance but not one board member has acted on this. Ladies and Gentlemen look in the mirror,,,,,

A bay scientist has told me the Atlantic ERPs conclude that the maximum safe commercial catch of menhaden is 4%..and there is no reason the 4% exploitation rate should be higher in the bay...this is the best science available and should be used qualitatively and holistically...When the menhaden schools turn into the bay at Cape Charles they circulate slowly with tides on their way to Maryland. How many of you would agree that at least 50% of the schools are likely caught in Virginia ? This is a gross violation of the 4% and states the case for what has happened to MD wildlife in the last twenty years, If you can't estimate how many of schools headed to Maryland get caught that makes the decision to not stop it even worse. Is that right or wrong? There are many days the spotter planes are not seeing menhaden in the bay and the ships are sent to the ocean..(n.1)...Isnt that enough to require the harvest just be in the US Zone? That is what every Atlantic state but Virginia has done and you did not need the ERP 4% or modeling or aerial surveys to do it.

Are the board members aware that about a million Marylanders, by representation, supported MD State Senate Resolution 06 (2022) ( scan all testimony R06) asking the

ASMFC to decide if factory fishing should continue in the bay. Charter fishermen, bay scientists, ten state wide fishing clubs, the MD Sierra Club with 70,000 members and the 30 Maryland Senators and Delegates of the Legislative Sportsmen's Caucus supported it. ?

Are you aware that a Petition in Virginia asking Governor Youngkin to end factory fishing in the bay is sponsored by Theodore Roosevelt Conservation Partnership (represents over 100 fishing, hunting and conservation groups, Virginia Saltwater Sportsmen's Assoc, ASA, CCA, NMMA etc.?) (scan VSSA Petition) If this isn't enough public concern from the two States involved to get the Commission to evaluate what we have said here, then what would be?

Will you Chairmen take the time at your meetings next week to respond to this and ask for discussion? Unless you do so this will just be another meeting where it is all swept under the rug. Will you discuss the fact the menhaden quota addendum is moving ahead just using historic landings in defiance of Charter Section six and Amendment 3.?..If not the Commission has lost its credibility and is just a dangerous loose cannon that fires away and doesn't care about who gets hurt? Is that an organization you can be very proud of? Thank you Tom Lilly- Whitehaven, MD 443 235 4465

FOR IMMEDIATE RELEASE, JULY 27, 2022  
PRESS CONTACT, TINA BERGER, 703.842.0749

Supplemental materials for the Atlantic States Marine Fisheries Commission's Summer Meeting are now available at <http://www.asmfc.org/home/2022-summer-meeting> for the following Boards/Committees (click on "Supplemental" following each relevant committee header to access the information). For ease of access, supplemental meeting materials have been combined into one PDF – [http://www.asmfc.org/files/Meetings/2022SummerMeeting/ASMFC2022SummerMeeting\\_Supplemental.pdf](http://www.asmfc.org/files/Meetings/2022SummerMeeting/ASMFC2022SummerMeeting_Supplemental.pdf).

This will be a hybrid meeting (both in-person and remote) to allow for remote participation by Commissioners and interested stakeholders (meeting process details are provided below). The agenda is subject to change. The agenda reflects the current estimate of time required for scheduled Board meetings. The Commission may adjust this agenda in accordance with the actual duration of Board meetings. Interested parties should anticipate Boards starting earlier or later than indicated herein.

Below is the list of documents included in the supplemental materials.

### **Revised Final Notice & Agenda**

**Atlantic Herring Management Board** – Revised Draft Agenda and Meeting Overview; Review 2022 Atlantic Herring Management Track Assessment Draft Working Paper; and New England Fishery Management Council Update

**American Lobster Management Board** – Revised Draft Agenda and Meeting Overview; and Memo on Federal Rulemaking for LCMA 2 and 3 Fisheries and Coastwide Harvester Reporting



P.O. Box 278  
Riverdale, MD 20738

**Committee: Education, Health, and Environmental Affairs**

**Testimony on: SJ6 "Atlantic States Marine Fisheries Commission – Atlantic Menhaden – Prohibition on Commercial Reduction Fishing"**

**Position: Support**

**Hearing Date: March 1, 2022**

The Maryland Chapter of the Sierra Club urges a favorable report on SJ6. This resolution asks the Atlantic States Marine Fisheries Commission to exercise its authority regarding the management of the menhaden fishery to consider prohibiting commercial reduction fishing of Atlantic menhaden, including the use of purse seines and spotter planes, in the Chesapeake Bay.

Atlantic menhaden are a keystone species for the Chesapeake Bay. As noted by this resolution, Atlantic menhaden form a critical connection between the bottom and the top of the food chain. Menhaden are filter feeders, eating plankton and rotifers and helping clear the water of nutrient-pollution.<sup>1</sup> They are also a vital source of food to predators, including predatory fish, dolphins, whales, osprey, and bald eagles. While this is incredibly important to the ecosystem of the Bay, it is also important to the fishing industry. Many species of fish that we harvest from the Bay rely on the menhaden as a food source, including rockfish (striped bass), bluefish, and weakfish.

The Chesapeake Bay is an important nursery for the menhaden that helps sustain the population along the entire Atlantic coast. It is deeply concerning that the number of menhaden juveniles have decreased significantly since 1976 and has stayed low in the last 20 years.<sup>2</sup>

In order to protect the natural wonders of the Chesapeake Bay, it is important that action be taken now. We urge the Committee to issue a favorable report.

Marc Imlay  
Endangered Species Workgroup Coordinator  
marc.imlay@mdsierra.org

Josh Tulkin  
Chapter Director  
Josh.Tulkin@MDSierra.org

<sup>1</sup> <https://www.vims.edu/research/units/projects/menhaden/research/modeling.php>

<sup>2</sup> Durrell, E. Q. & Weedon, C. (2019). Striped Bass Seine Survey Juvenile Index Web Page. DNR.Maryland.gov/Fisheries/Pages/Juvenile-Index.ASPX. Maryland Department of Natural Resources, Fisheries Service.

Founded in 1892, the Sierra Club is America's oldest and largest grassroots environmental organization. The Maryland Chapter has over 70,000 members and supporters, and the Sierra Club nationwide has over 800,000 members and nearly four million supporters.

ONE DRIVE

CAYOZZA-MAIL PDF



**Testimony in SUPPORT of SJ6 - Atlantic States Marine Fisheries Commission - Atlantic Menhaden - Prohibition on Commercial Reduction Fishing**

March 1, 2022

Dear Chairman Pinsky and Members of the Committee,

Thank you for this opportunity to submit testimony in **SUPPORT of SJ6** on behalf of ShoreRivers. ShoreRivers is a river protection group on Maryland's Eastern Shore with 3,500 members. Our mission is to protect and restore our Eastern Shore waterways through science-based advocacy, restoration, and education.

This bill sets forth a resolution by the Maryland General Assembly asking the Atlantic States Marine Fisheries Commission to take further action to prohibit the commercial reduction fishing of Atlantic Menhaden, including the use of purse seines and spotter planes in the Chesapeake Bay in order to maintain a sustainable fishery. This reduction fishery poses a major threat to many Bay species every year, and when these other fisheries suffer it increases the pressure on other fisheries, including crabs and oysters. Thus, it is of critical importance to protect a foundational species like menhaden as much as possible.

Menhaden are incredibly valuable to the Chesapeake Bay and the many other commercial and recreational fisheries that occur in the rivers of the Eastern Shore. As a vital part of the ecosystem, menhaden filter plankton from the water and help to improve water quality, and they are a necessary food source for other aquatic species like striped bass and bluefish, but also for ospreys and bald eagles. The Department of Natural Resources noted in their 2021 Striped Bass survey that while the striped bass young-of-year showed a slight increase in population from 2020, what was of note was the increased numbers of menhaden in the rivers, notable the Choptank River. When the menhaden population thrives, so do our other fisheries. And when our fisheries are healthy, we know that water quality and habitat are at healthy levels to support those populations, which means that our economies and local communities will see a benefit.

For these reasons stated above, ShoreRivers urges the Committee to adopt a **FAVORABLE** report on SJ6.

Sincerely,

Matt Pluta,  
Choptank Riverkeeper, on behalf of:

---

**ShoreRivers**

Isabel Hardesty, Executive Director

Annie Richards, Chester Riverkeeper | Matt Pluta, Choptank Riverkeeper  
Elle Bassett, Miles-Wye Riverkeeper | Zack Kelleher, Sassafras Riverkeeper

---

**Main Office**  
114 S. Washington St.  
Suite 301  
Easton, MD 21601  
443.395.0511

**Regional Office**  
111A North Main St.  
Gaithersburg, MD 21635  
410.810.7556

[shorerivers.org](http://shorerivers.org)

**Regional Office**  
207 S. Water St.  
Unit B  
Chestertown, MD 21620  
410.810.7556



2016 - Purse-seine sets for reduction land  
 Data are preliminary  
 Ray Mroch, NMFS Beaufort 3-10-17





# INDUSTRIAL MENHADEN REDUCTION FISHING IN THE CHESAPEAKE BAY

Atlantic menhaden play a vital role in coastal ecosystems. Yet, millions of pounds of these valuable fish are being removed from the Bay and "reduced" into fish meal and oil by a single foreign-owned company.

**ANGLERS:**

**SCAN HERE AND SIGN THE PETITION**  
to help protect the Chesapeake Bay and  
our fishing opportunities from industrial  
menhaden fishing.



[trcp.org/VAmenhaden](http://trcp.org/VAmenhaden)



JACK BAILEY  
*Legislative District 29*  
Calvert and St. Mary's Counties

Judicial Proceedings Committee



THE SENATE OF MARYLAND  
ANNAPOLIS, MARYLAND 21401

*Annapolis Office*  
James Senate Office Building  
11 Bladen Street, Room 402  
Annapolis, Maryland 21401  
410-841-3673 · 301-858-3673  
800-492-7122 Ext. 3673  
Jack.Bailey@senate.state.md.us

*District Office*  
Dorsey Professional Park  
23680 Three Notch Road, Unit 101  
Hollywood, Maryland 20636  
240-309-4238

March 1, 2022

**Senate Joint Resolution 6 – Atlantic States Marine Fisheries Commission – Atlantic Menhaden – Prohibition on Commercial Reduction Fishing**

Dear Chairman Pinsky and Members of the Committee,

I am writing to introduce Senate Joint Resolution 6 – Atlantic States Marine Fisheries Commission – Atlantic Menhaden – Prohibition on Commercial Reduction Fishing. This Joint Resolution recommends that, in order to maintain a sustainable Atlantic menhaden fishery, the Atlantic States Marine Fisheries Commission consider prohibiting the commercial reduction fishing of Atlantic menhaden, primarily the use of purse seines and spotter planes, in the Chesapeake Bay.

The policy changes requested by this resolution would prohibit the large vessels owned by a foreign country from overharvesting the bait fish that are vital to the future of our fish populations in the Bay as they have done in the past. While this form of fishing is illegal in Maryland, it is still permitted in our neighboring Virginia waters of the Chesapeake Bay. Reduction fishing in the Bay is done by the Omega Fish Oil Company, which used to be a Virginia-based company but was sold to Cooke, Inc., in 2017 for \$500 million. Omega currently has eight fishing boats that work in the Virginia portion of the Chesapeake Bay. The reduction fishery has the ability to take 26% of the total Atlantic Coast menhaden quota from Maine to Florida from the Chesapeake Bay. This poses a substantial threat to the \$6.8 billion dollars in economic impact and the 68,000 jobs that are associated with both commercial and recreational fishing of striped bass. The Chesapeake Bay is the nursery for the Atlantic Coast striped bass and should be recognized as such. The reduction fishery in the Chesapeake Bay threatens the population of fish species like striped bass, trout, drum, shad, and bluefish, all of which have seen alarming trends in their populations.

It is important to be aware that Maryland does not allow this type of reduction fishing, nor the bycatch allowed with reduction fishing in Virginia. Menhaden are principally harvested in this State to use as bait for other fish or crabs. Therefore, this resolution would not impact any of our local Maryland watermen, sport fishermen, or outdoorsmen. It is important that the General Assembly recognizes that the commercial watermen, the charter boat captains, and the sport fishermen are on the same page in supporting this resolution.

I respectfully request a favorable report on Senate Joint Resolution 6. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Bailey".

Senator Jack Bailey



P.O. Box 278  
Riverdale, MD 20738

**Committee: Education, Health, and Environmental Affairs**

**Testimony on: SJ6 “Atlantic States Marine Fisheries Commission – Atlantic Menhaden – Prohibition on Commercial Reduction Fishing”**

**Position: Support**

**Hearing Date: March 1, 2022**

The Maryland Chapter of the Sierra Club urges a favorable report on SJ6. This resolution asks the Atlantic States Marine Fisheries Commission to exercise its authority regarding the management of the menhaden fishery to consider prohibiting commercial reduction fishing of Atlantic menhaden, including the use of purse seines and spotter planes, in the Chesapeake Bay.

Atlantic menhaden are a keystone species for the Chesapeake Bay. As noted by this resolution, Atlantic menhaden form a critical connection between the bottom and the top of the food chain. Menhaden are filter feeders, eating plankton and rotifers and helping clear the water of nutrient-pollution.<sup>1</sup> They are also a vital source of food to predators, including predatory fish, dolphins, whales, osprey, and bald eagles. While this is incredibly important to the ecosystem of the Bay, it is also important to the fishing industry. Many species of fish that we harvest from the Bay rely on the menhaden as a food source, including rockfish (striped bass), bluefish, and weakfish.

The Chesapeake Bay is an important nursery for the menhaden that helps sustain the population along the entire Atlantic coast. It is deeply concerning that the number of menhaden juveniles have decreased significantly since 1976 and has stayed low in the last 20 years.<sup>2</sup>

In order to protect the natural wonders of the Chesapeake Bay, it is important that action be taken now. We urge the Committee to issue a favorable report.

Marc Imlay  
Endangered Species Workgroup Coordinator  
marc.imlay@mdsierra.org

Josh Tulkin  
Chapter Director  
Josh.Tulkin@MDSierra.org

---

<sup>1</sup> <https://www.vims.edu/research/units/projects/menhaden/research/modeling.php>

<sup>2</sup> Durrell, E. Q. & Weedon, C. (2019). Striped Bass Seine Survey Juvenile Index Web Page.

DNR.Maryland.gov/Fisheries/Pages/Juvenile-Index.ASPX. Maryland Department of Natural Resources, Fisheries Service.

Founded in 1892, the Sierra Club is America’s oldest and largest grassroots environmental organization. The Maryland Chapter has over 70,000 members and supporters, and the Sierra Club nationwide has over 800,000 members and nearly four million supporters.

**“THE FUTURE OF STRIPED BASS IN THE  
CHESAPEAKE BAY AND THEIR DEPENDENCY ON  
ATLANTIC MENHADEN”**

**Testimony in Support of  
Senate Joint Resolution 6**

**March 1, 2022**

**Phil Zalesak  
President, [www.smrfo.org](http://www.smrfo.org)**

**\* Microphones off unless speaking during meeting\***

# MD Recreational Fishing Organizations Supporting Senate Joint Resolution 6

Annapolis Anglers' Club

Atlantic Coast Sport Fishing Association

Frederick Saltwater Anglers

Kent Island Fishermen

Mid-Shore Fishing Club

North Bay Fishing Club

Northwest Fishing Club

Severn River Rod and Keg Club

Southern MD Recreational Fishing Org

Susquehanna Fishing Club

Kevin McMenamin\*

Buddy Seigel\*

Chris Linnetty\*

Bert Olmstead\*

Tom Wilkinson\*

Stan Cebula\*

Mark Kurth\*

Skip Zink\*

Phil Zalesak\*

Jim Cappetta\*

\* Confirmed by Email

# Atlantic Menhaden Harvesting



# Striped Bass Economic Summary For Maryland for 2016

Recreational Fishery Jobs: 10,193

Recreational Fishery Income: \$496,859,800

Recreational Fishery GDP: \$802,791,200

## Comparisons Between the Fisheries

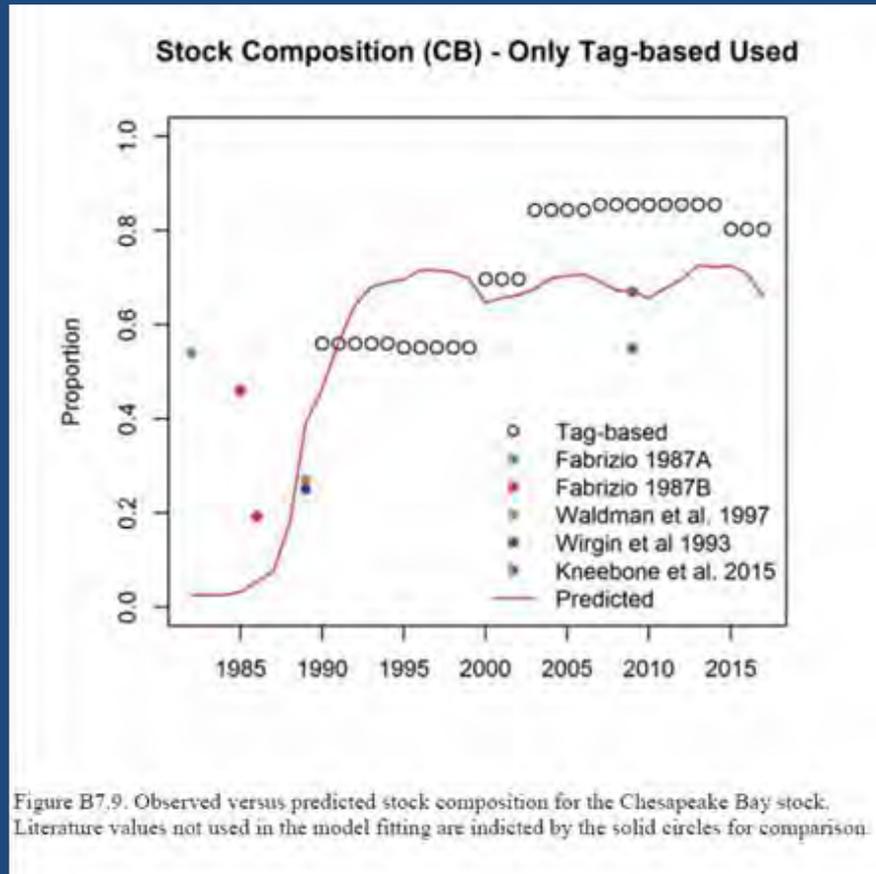
Table MD-8. Comparison of commercial and recreational impacts: Maryland 2016

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

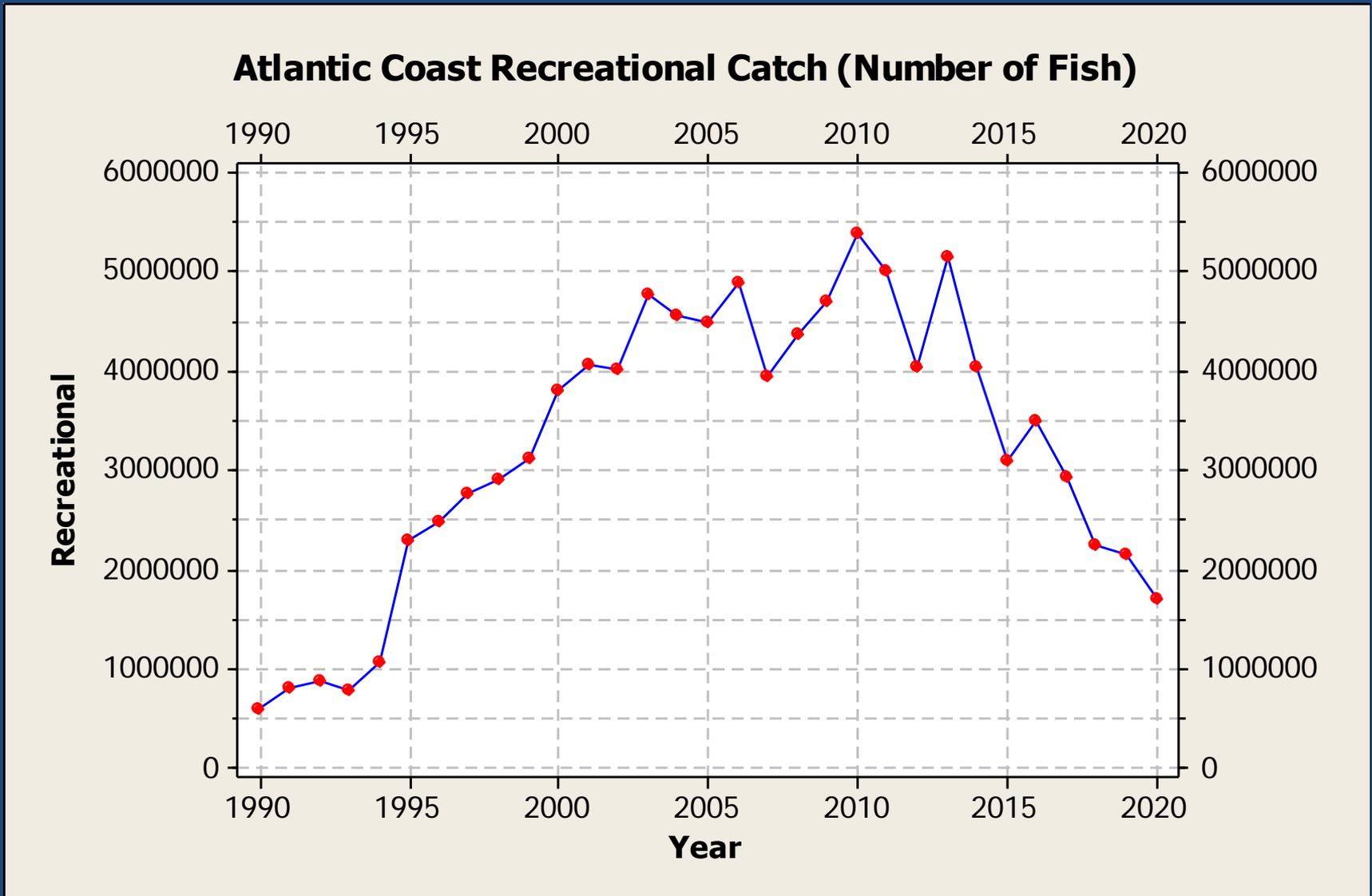
# Science Summary

# Chesapeake Bay Contribution to Coastal Stock

“Tagging estimates gave varying contribution rates on the basis of fishing mortality scenarios. Kneebone is the most recent published estimates. In general we can say that Chesapeake contributes >50% and perhaps >60% of the coastal stock” Dr. David Secor, Chesapeake Biological Laboratory, 12/1/20

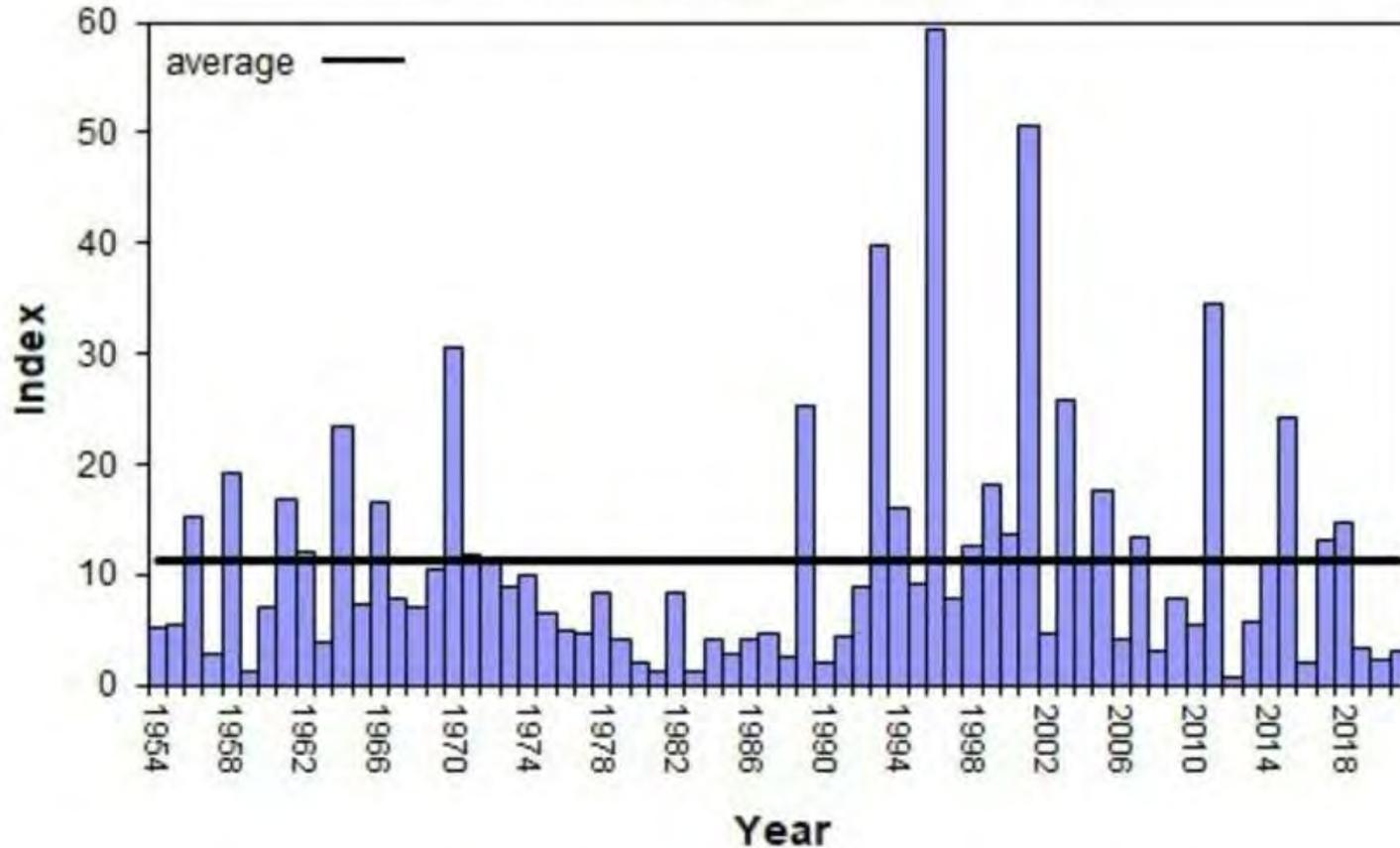


# Striped Bass Recreational Harvest Trend



# Young of the Year Index

**Maryland's Juvenile Striped Bass Index**  
Arithmetic Mean (AM) Catch per Haul



Ref: <https://news.maryland.gov/dnr/2021/10/15/chesapeake-bay-2021-young-of-year-survey-results-announced/>

# ASMFC Atlantic Menhaden Allocation

FOR IMMEDIATE RELEASE  
October 20, 2020

PRESS CONTACT: Tina Berger  
703.842.0740

## ASMFC Atlantic Menhaden Board Approves TAC for 2021-2022

The Atlantic Menhaden Management Board (Board) approved a total allowable catch (TAC) of 194,400 metric tons (mt) for the 2021 and 2022 fishing seasons, which represents a 10% reduction from the 2018-2020 TAC level. The 2021-2022 TAC was set based on the ecological reference points (ERPs) approved by the Board in August, and reaffirms the Board's commitment to manage the fishery in a way that accounts for the species role as a forage fish.

"This TAC represents a measured and deliberate way for this Board to move into the realm of ecosystem-based management," said Board Chair Spud Woodward of Georgia. "The TAC strikes a balance between stakeholder interests to maintain harvest on menhaden at recent levels, while also allowing the ERP models to do what they are intended to do."

Based on projections, the TAC is estimated to have a 58.5% and 52.5% probability of exceeding the ERP fishing mortality (*F*) target in the first and second year, respectively. The TAC will be made available to the states based on the state-by-state allocation established by Amendment 3 (see accompanying table for 2021 and 2022 based on a TAC of 194,400 mt).

2021-2022 ATLANTIC MENHADEN QUOTAS			
		Metric Tons	Pounds
<b>TAC</b>		194,400	428,578,637
<b>1% Set Aside*</b>		1,944	4,285,786
<b>TAC After Set Aside</b>		192,456	424,292,851
STATE	ALLOCATION	QUOTA (MT)	QUOTA (LBS)
ME	0.52%	995	2,194,080
NH	0.50%	962	2,121,582
MA	1.27%	2,453	5,407,708
RI	0.52%	996	2,196,488
CT	0.52%	993	2,188,342
NY	0.69%	1,330	2,931,091
NJ	10.87%	20,925	46,131,966
PA	0.50%	962	2,121,464
DE	0.51%	986	2,174,821
MD	1.89%	3,634	8,011,402
PRFC	1.07%	2,066	4,554,267
VA	78.66%	151,392	333,761,875
NC	0.96%	1,840	4,056,588
SC	0.50%	962	2,121,464
GA	0.50%	962	2,121,464
FL	0.52%	997	2,198,250
<b>TOTAL</b>	<b>100%</b>	<b>192,456</b>	<b>424,292,851</b>
*1% of the TAC is set aside for episodic events, the remaining TAC is allocated to the states per the provisions of Amendment 3. Quotas may be adjusted pending final 2020 landings and the redistribution of any relinquished quota.			

# ASMFC Atlantic Menhaden Allocation

51,000 metric tons is over  
26% of the total allowable catch for  
the entire Atlantic Coast

# Atlantic Menhaden Allocation



## The Center for Conservation Biology

William & Mary

20 August 2020

P.O. Box 8795  
Williamsburg, VA  
23187-8795

Phone  
(757) 221-1645

Fax  
(757) 221-1650

E-mail  
info@ccbbirds.org

Dr. Bryan D. Watts  
Director  
(757) 221-2247

Dr. Mitchell A. Byrd  
Director Emeritus  
(757) 221-2236

www.ccbbirds.org

The Honorable Ralph Northam  
Governor, State of Virginia  
PO Box 1475  
Richmond, VA 23218

Dear Governor Northam,

The menhaden is a keystone fish within the Chesapeake Bay ecosystem. Many of our most iconic species including the bald eagle, osprey, great blue heron and brown pelican depend on menhaden stocks to sustain their breeding populations within the Bay. Other species such as common loons and northern gannets that stage within the Chesapeake also depend on menhaden to fuel their migrations. Approximately 30% of the North Atlantic gannet population comes into the Bay during the spring to feed on menhaden before flying north to breeding grounds in Newfoundland.

Deep withdraws of menhaden stocks for the reduction fishery is having an impact on consumer species. We have conducted fieldwork with osprey throughout the lower Chesapeake Bay for 50 years and data demonstrate ongoing impacts. Through three generations of graduate students (1975-2006) we have observed shifts in diet and an associated reduction in productivity. Fish delivery rates were more than three times higher in 1975 compared to 2006. Menhaden, once the dominant fish in the diet now represents less than 30%. Shifts in diet away from menhaden have been coincident with a 90% reduction in menhaden stocks (Maryland, DNR haul surveys). No other fish species available to consumers provides the energy content of menhaden.

Reductions in menhaden stocks have caused osprey productivity to decline to below DDT-era rates. These rates are insufficient to support the osprey population within the main stem of the Bay.

Menhaden provide critical ecosystem services within the Chesapeake Bay. We request that the needs of the broader ecosystem be considered when setting harvest policy and that menhaden stocks be maintained at levels that support a healthy Chesapeake Bay ecosystem.

Sincerely,

Bryan D. Watts, Ph.D.  
Mitchell A. Byrd Professor of Conservation Biology  
Director, Center for Conservation Biology  
College of William and Mary

# Atlantic Menhaden Allocation

## William and Mary College

“Reductions in menhaden stocks have caused osprey productivity to decline to below DDT-era rates.

These rates are insufficient to support the osprey population within the main stem of the Bay.”

Bryan D. Watts, Ph.D.

Reference: Letter to Governor Ralph Northam, 8/20/20

# Conclusion

## Support Senate Joint Resolution 6:

“General Assembly requests the Atlantic States Marine Fisheries Commission to consider prohibiting the commercial reduction fishing of Atlantic menhaden, including the use of purse seines and spotter planes, in the Chesapeake Bay”

# Backup

# Striped Bass Dependency on Atlantic Menhaden



## ***Atlantic States Marine Fisheries Commission***

# **NEWS RELEASE**

*Sustainable and Cooperative Management of Atlantic Coastal Fisheries*

FOR IMMEDIATE RELEASE  
August 6, 2020

PRESS CONTACT: Tina Berger  
703.842.0740

## **ASMFC Atlantic Menhaden Board Adopts Ecological Reference Points**

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

# Striped Bass Dependency on Atlantic Menhaden

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

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

For more information, please contact Kirby Rootes-Murdy, Fishery Management Plan Coordinator, at [krootes-murdy@asmfc.org](mailto:krootes-murdy@asmfc.org) or 703.842.0740.

## ASMFC Atlantic Menhaden Allocation

“Chesapeake Bay Reduction Fishery Cap - The annual total allowable harvest from the Chesapeake Bay by the reduction fishery is limited to no more than 51,000 mt. Harvest above the cap in any given year will be deducted from the next year’s allowable harvest. Any amount of un-landed fish under the cap cannot be rolled over into the subsequent year. As a result, the cap in a given year cannot exceed 51,000 mt”

Reference: ASMFC Amendment 3 to the Interstate Fishery Management Plan for Atlantic Menhaden, November 2017, page v

# Atlantic Menhaden Allocation Salisbury University

Message From  
**JAUL BAILEY**  
Executive Director  
Virginia Department of Game and Inland Fisheries

Maryland Department of Natural Resources  
1000 North Point Boulevard, Annapolis, MD  
21404-5600 • 410-326-7000  
www.dnr.state.md.us

Message From  
**KEVIN BRIDGES**  
Legislative Director



Message From  
**NEIL GABLE**  
Executive Director  
Maryland Department of the Environment

Maryland Department of the Environment  
1500 North Point Boulevard, Room 300  
Annapolis, MD 21404-5600  
410-326-7000 • www.mde.state.md.us

Message From  
**WESLEY BREWER**  
Legislative Director

## The Maryland Legislative Sportsmen's Caucus

*The Sportsmen's Best Friend in Annapolis*

October 21, 2021

Steven G. Bowman  
VMRC Chairman  
Building 96, 380 Ferwick Road  
Ft. Monroe, Virginia 23651

**RE: "The Most Important Fish in the Sea" – IMMEDIATE ACTION**

Mr. Bowman:

Each year the number of menhaden surviving the Virginia netting gauntlet to successfully reach Maryland's portion of the Chesapeake Bay is declining. This scientifically documented fact is detrimental to both avian and marine species dependent upon the "Most Important Fish in the Sea". This must change.

On October 15, 2021, a fishery biology professor from Salisbury University (Dr. Noah Bressman, PhD) formally addressed the dire menhaden issue in a statement to Maryland's DNR Secretary, et al. For the record, the Maryland's Legislative Sportsmen's Caucus within the Maryland General Assembly fully supports the position taken by Dr. Bressman and urges time-sensitive compliance by the Virginia Marine Resources Commission.

Here's what Dr. Bressman stated:

"Currently, the Virginia-based menhaden fishery is overfishing the stock of Atlantic Menhaden in and around the Chesapeake Bay, which is preventing this important forage fish from making its way into the bay and its tributaries. As an important prey item for many important species in the bay, such as Striped Bass and Osprey, the disappearance of most of the menhaden from the bay is contributing to the disappearance of many species that rely on menhaden.

Virginia has been allotted about 75% of the entire Atlantic Coast's quota, which is a drastically disproportionate amount relative to its coastline. Additionally, much of their harvesting occurs as menhaden migrate into the bay, where they enter Maryland's waters. What this essentially means is 75% of the quota for the entire Atlantic Coast is being taken in the bay or just before they enter the bay. While this may not be causing overfishing for the entire Atlantic Coast based on quotas, because all of these fish are being taken from essentially just the bay, it is having locally drastic effects on the ecosystem.

# Atlantic Menhaden Allocation

## Salisbury University

“Currently, the Virginia based-menhaden fishery is overfishing the stock of Atlantic Menhaden in and around the Chesapeake Bay, which is preventing this important forage fish from making its way into the bay and its tributaries.

As an important prey item for many important species in the bay, such as Striped Bass and Osprey, the disappearance of most of the menhaden from the bay is contributing to the disappearance of many species that rely on menhaden.”

Dr. Noah Bressman, Salisbury University,

Ref: Maryland Legislative Sportsmen’s Caucus letter of October 21, 2021

**Senate Joint Resolution 6: Atlantic States Marine Fisheries Commission – Atlantic Menhaden – Prohibition on Commercial Reduction Fishing – Testimony of Phil Zalesak, 3/1/22**

Slide 1: Good morning, my name is Phil Zalesak and I am here today to support Senate Joint Resolution 6

Slide 2: I represent ten Maryland recreational fishing organizations throughout the State of Maryland

Slide 3:

- Atlantic menhaden are an important forage fish for striped bass.
- Overharvesting of Atlantic menhaden by industrial reduction fishing by Omega Protein is threatening the survival of striped bass and other predators in the Chesapeake Bay.
- Omega Protein is the last remaining industrial reduction fishery on the Atlantic Coast.
- The picture at the bottom is a striped bass swallowing a menhaden.

Slide 4: The recreational striped bass market represent over 800 million dollars in GDP to the State of Maryland and over 10,000 jobs

Slide 5: Science Summary

Slide 6: Chesapeake Bay contributes about 60% of the Atlantic stock of striped bass in the Atlantic Ocean. When this Bay fish is threatened, it impacts the entire Atlantic Coast.

Slide 7: Since 2010 the recreational harvest has dropped 68% (5.3 million to 1.7 million fish)

Slide 8: The Young of Year, fish less than a year old, are now at a 40 year low.

Slide 9: The Atlantic States Marine Fisheries Commission has determined that there are not enough Atlantic menhaden along the Atlantic Coast to adequately feed striped bass and other predators.

- They cut the total allowable catch by 10% from 216,000 metric tons to 194,400 metric tons.
- 78% was allocated to the State of Virginia based on history not science.
- 90% of the Virginia allocation was allotted to Omega Protein for a total of 136,252 metric tons.
- That represents over 70% of the total allowable catch for the entire Atlantic Coast
- Of that 136,000 metric tons, 51,000 metric tons was allocated to reduction harvesting in the Chesapeake Bay

Slide 10: 51,000 metric tons is over 26% of the total allowable catch for the entire Atlantic Coast.

Slide 11 & 12: Based on 50 of research at William and Mary, Dr. Bryon Watts has concluded that there are not enough Atlantic menhaden in the main stem of the Chesapeake Bay to support the osprey population.

Slide 13: Based on the economic importance of striped bass to Maryland's economy and the latest science, the recreational fishermen in the State of Maryland support Senate Joint Resolution 6.

## Testimony of Thomas Lilly for Senate Panel March 1, 2022

This is a brief summary of the "science" on this issue. This Committee is not being asked to make a decision on what level of factory menhaden fishing is appropriate for Chesapeake Bay, That decision is the responsibility of the Commission. A proper airing of this issue at the Commission, in our opinion, is long overdue.

In a letter to Governor Northam Professor Bryan Watts says ospreys are dying out on the Bay due to a chronic shortage of menhaden ( report attached to Zalesack material) , Michael Academia, who speaks for Dr Watt's Center for Conservation Biology and whose PhD thesis is on the osprey-menhaden diet connection says ..."out of all the bird species, ospreys stand out alone and are inextricably linked to menhaden. Due to the dependency, ospreys represent one of the best and highly visible ecological reference points available to science." He says " depletion of menhaden has caused osprey production to decline to levels below the DDT era." Attached. The CBF Press Release July 2020 (Attached) confirms this ...it says " in the 1980s menhaden in the diet was 75% now it is 28% and that the nestlings mortality is as high as it was in the DDT era.

The Bay's large spawning rockfish that migrate into the Bay in early Spring that once supplied 70% of all the juveniles for the Atlantic Coast are chronically below target and 2021 marked the third consecutive year the stock failed in its purpose ..three years of the lowest Young of the Year production in 70 years. (see DNR survey in Phil Zalesak's submission) The CBF Press Release says menhaden are the "most important fish in the Bay" and that " the rockfish population in the bay is showing signs of malnourishment and increasing mortality" ...These large fish like the ospreys are uniquely dependent on menhaden to keep them healthy during the rigors of spawning. But the CBF release says menhaden in their diet has declined from 70% to 8%. Matt Cieri, a Maine scientist that headed the ASMFC environmental reference point project says menhaden fishing in the Bay must be reduced along with striped bass conservation to restore the species . Attached, Commercial and recreational striped bass fishing is a great tradition in Maryland that is dying out. Fishing isn't fun anymore. Alex's story. Compare this to New York where charter fishing, ospreys and eagles have bounced back when they banned factory fishing. See mail from editor NY Angler.

All menhaden exit the Chesapeake in cold weather and begin migrating back in to form the bay's forage base in early Spring with the spawning stock and all our other migrating species. These hundreds of surface schools are targeted by 8-10 300 foot long Omega purse seiners using spotter planes. These ships have the capacity to catch two to three times what is coming in....the Delegates are aware that requiring Omega fish in the Atlantic away from the bay entrance would prevent them from catching the schools migrating to Maryland when they fish in Virginia –quite possible as many as 2,000 of the 5,000 schools they catch there. This conflict and waste of Maryland's natural resources could be resolved by having Omega just fish in the US Atlantic where they already catch 2/3rds of their quota. No lost jobs of quota. One of the purposes of the Resolution is to have the Commission consider this problem that is unique to Maryland. All the other states can protect themselves from factory fishing and have done so....only Virginia allows it. Maryland outlawed it 70 years ago, but Maryland can't control what happens in Virginia unless the Maryland Delegates take action.

Dr. Noah Bressman, a Salisbury University biology professor summed this up saying protecting Chesapeake Bay”

“can be accomplished using qualitative management measures, such as seasonal and area closures without additional research. It can also be accomplished by moving the fishing into the U S federal zone as every state except Virginia has seen the necessity for doing. While I am always in support of more research for any topic (because I am a scientist) waiting for additional research on this issue that has always already clear will likely lead to menhaden continue to plummet in the Bay which will further reduce the capacity for striped bass to recover especially after the recent report showing their abysmal recruitment over the last three years period.”

This is why the bay and the people of Maryland need this Resolution, without it the Commission will be locked in the same status quo of conveniently ignoring Chesapeake Bay and the impacts the intense factory fishing causes and they will just plow ahead when the bay could be restored by getting the menhaden to the fish and wildlife by just moving that foreign fishing company ..with its 300 foot by 50 foot ships out into the US Atlantic like every other state but Virginia has done See

Thank you *Thomas Lilly*



Pr

## **THE PROBLEM**

Overharvesting of Atlantic menhaden in the Chesapeake Bay is not only **destroying striped bass, bluefish, and weakfish; it is also destroying ospreys.**

**Michael Academia**, a graduate assistant at William and Mary College, testified before the Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission on Wednesday afternoon, August 4th, and gave the following testimony:

"First of all, thank you members of the Board for listening.

**Ospreys, also known as fish hawks, are one of our most iconic and cherished birds of prey; however, they can no longer sustain themselves within the main stem of Chesapeake Bay.** Like the proverbial canary in the coal mine, ospreys are warning us of dangerous levels of overfishing.

I am a graduate student at William & Mary and represent the Center for Conservation Biology. My master thesis focuses on the osprey-menhaden relationship.

Many birds such as pelicans, Bald eagles, herons, loons, and gannets depend on menhaden. But out of all the bird species, ospreys stand alone and are inextricably linked to menhaden. Due to this dependency, ospreys represent one of the best and highly visible ecological reference points available to science.

The Center for Conservation Biology has conducted fieldwork on osprey throughout the Chesapeake Bay for **50 years** and **evidence** gathered demonstrates ongoing impacts. Through 4 generations of graduate students, the center has documented shifts in osprey diet and reduction in productivity. For example, delivery rates of fish were 3x higher in 1971 compared to 2006. Menhaden, once the dominant prey species in the diet, now represents less than 30%. Most importantly, **depletion of menhaden has caused osprey productivity to decline to levels below the DDT-era.**

No other fish species available provides the energy content of menhaden. They provide critical ecosystem services within Chesapeake Bay and beyond.

We request that the needs of the broader ecosystem be considered when setting harvest policy and menhaden populations be maintained at levels that support a healthy ecosystem in Chesapeake Bay. Thank you."

---

## Menhaden by the Numbers

70%

The amount of an adult rockfish's diet historically filled by menhaden.

8%

The amount of an adult rockfish's diet currently filled by menhaden.

<https://www.cbf.org/about-the-bay/more-than-just-the-bay/chesapeake-wildlife/menhaden/index.html>

8%

*The rockfish population in the Chesapeake Bay is showing signs of malnourishment and increasing mortality.*

75%

The amount of an osprey nestling's diet filled by menhaden in the 1980s.

28%

The amount of an osprey nestling's diet filled by menhaden today.  
*Though the number of nests throughout the Bay region has improved, nestling mortality is as high as it was in the DDT era.*

15%

**SIGN UP  
(HTTP://WWW.  
US/STAY-UP-  
TO-DATE-  
ABOUT-THE-  
BAY.HTML)**

From: Cieri, Matthew

Matthew.Cieri@maine.gov

Subject: Re: YOUR REMARK ??

Date: Aug 2, 2020 at 10:17:54 AM

To: Tom Lilly [foranematters@aol.com](mailto:foranematters@aol.com)

Hi Tom,

---

^

€

|

er

|

✓.

Any meaningful rebuilding of striped bass has include reductions in the striped bass fishing mortality from where it currentiy is. They can get part of the way there with reductions in menhaden fishing, but it won't be enough to rebuild the stock to target levels without reductions in striped bass fishing mortality.

Matt

---

FWD: Menhaden

From: George Scocca [george@nyangler.com](mailto:george@nyangler.com)

To: Tom [foragematters@aol.com](mailto:foragematters@aol.com)

Date: Mon, March 8, 2021 7:15am

Hello Tom:

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

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

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



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

Thank you.

George R. Scocca  
[nyangler.com](http://nyangler.com)

Check out my LinkedIn profile

Dr. Noah Bressman, PhD  
Assistant Professor of Physiology  
Salisbury University  
Fish Biology, Biomechanics, Functional Morphology, and Behavior  
Noahbressman.wixsite.com/noah  
He/him/his

Begin forwarded message:

---

**From:** Noah Bressman  
**Date:** October 18, 2021  
**To:** Tina Berger <tberge  
**Subject:** Re: FW: Fina

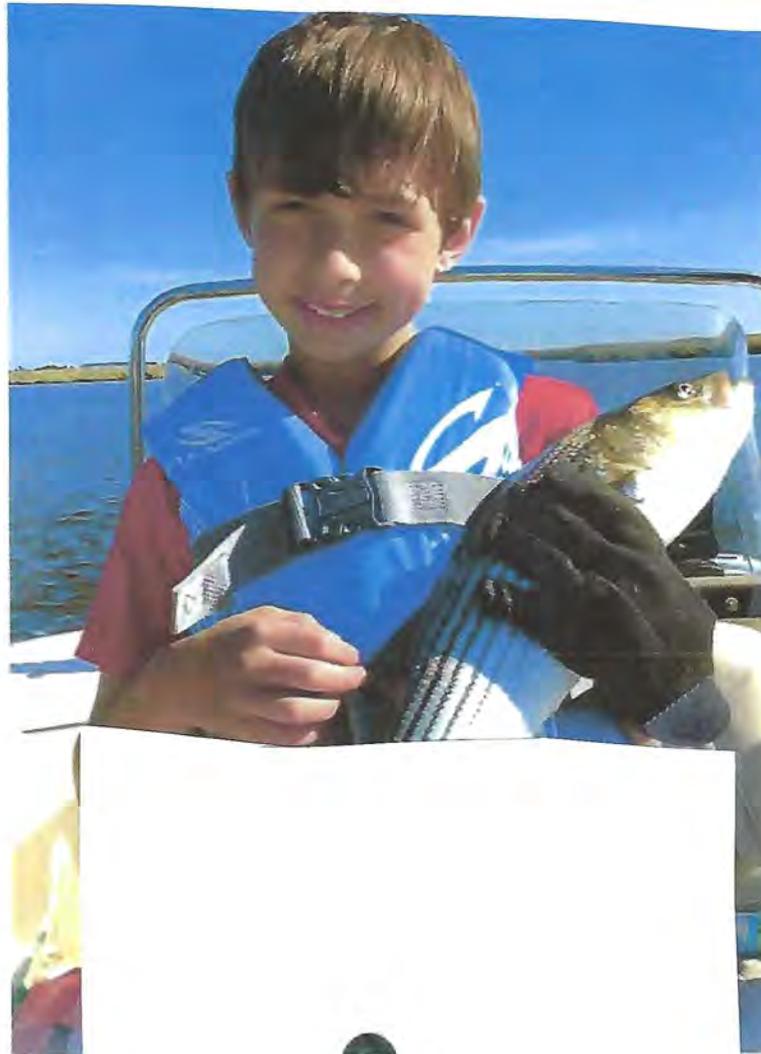
Thanks, Tina! I want to clarify that the most important thing I recommend is that the board take action now to evaluate the options to increase menhaden in Chesapeake Bay. If action was started at Tuesday's board meeting, some or all of the measures could be in effect for the 2022 season. This can be accomplished using qualitative management methods, such as seasonal and area closures without additional research. It can also be accomplished by moving the fishing into the US federal zone as every state except Virginia has seen the necessity for doing. While I am always in support of more research for any topic (because I am a scientist), waiting for additional research on this issue that is already clear will likely lead to menhaden continuing to plummet in the bay, which will further reduce the capacity for striped bass to recover in the bay, especially after the recent report showing their abysmal recruitment over the last 3 years. A delay in action, such as a several years-long stock and recruitment reassessment of the bay before action, will lead to the problem getting worse before it gets better.

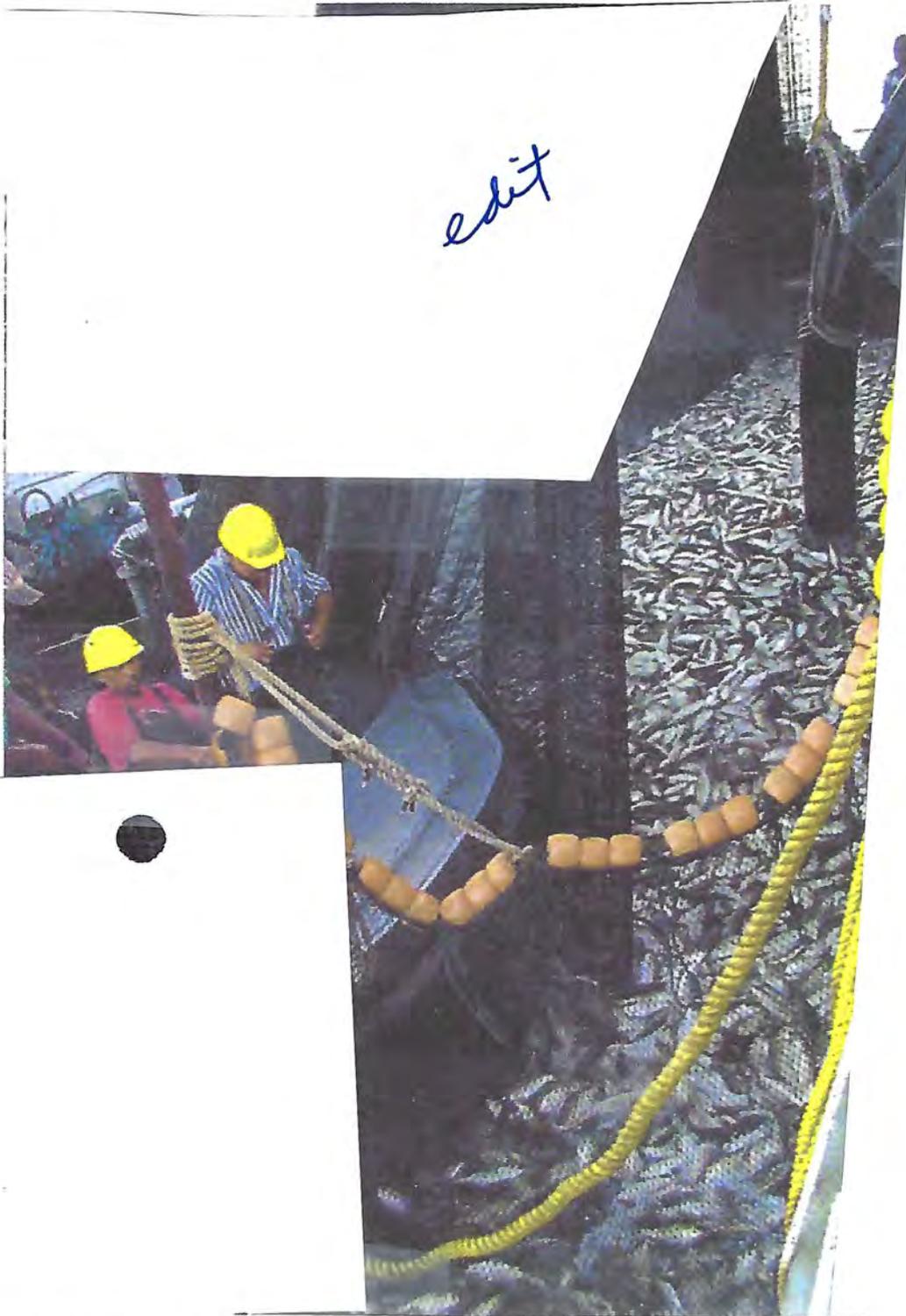
Sincerely,  
Dr. Noah Bressman, PhD

---

GRANDSON ALEX TAKEN ABOUT TEN YEARS AGO. MOST OF THE KIDS AND THEIR PARENTS HAVE LOST INTEREST .....FISHING JUST "ISN'T FUN ANYMORE"

Lets do the math. The bay's 400,000 fishing families aren't fishing much these days..the fishing has gotten worse and worse. Lets get the Chesapeake Bay the food their fish and wildlife need and deserve. Let's add more healthy fish to the equation. These families might get out on the bay a few more times a Summer and maybe have some great adventures. That could be another one million more precious days each year these parents and grandparents would have together enjoying the great sights and sounds Chesapeake bay has to offer. That is what is at stake here.





MULTIPLY THIS BY NINE OMEGA PURSE SEINERS WITH TWO FORTY FOOT SET BOATS EACH ,DIRECTED BY SPOTTER PLANES FISHING FIVE DAYS A WEEK FROM MAY TO DECEMBER VIRGINIA Virginia receives 78.6 of the entire Atlantic coast menhaden catch ( TAC) For 2021-22 the TAC is 194,400 metric tons. VA quota 152,484 mt ,Omega quota 137,000 mt. of which 51,000mt can be caught in Chesapeake bay So, about 5,000 bay sized schools of 10 tons each with about 40-50,000 fish each are removed from the bay food chain every year. Virginia is the only state that allows factory fishing.



**Testimony in SUPPORT of SJ6 – Atlantic States Marine Fisheries Commission - Atlantic Menhaden - Prohibition on Commercial Reduction Fishing**

March 1, 2022

Dear Chairman Pinsky and Members of the Committee,

Thank you for this opportunity to submit testimony in **SUPPORT of SJ6** on behalf of ShoreRivers. ShoreRivers is a river protection group on Maryland's Eastern Shore with 3,500 members. Our mission is to protect and restore our Eastern Shore waterways through science-based advocacy, restoration, and education.

This bill sets forth a resolution by the Maryland General Assembly asking the Atlantic States Marine Fisheries Commission to take further action to prohibit the commercial reduction fishing of Atlantic Menhaden, including the use of purse seines and spotter planes in the Chesapeake Bay in order to maintain a sustainable fishery. This reduction fishery poses a major threat to many Bay species every year, and when these other fisheries suffer it increases the pressure on other fisheries, including crabs and oysters. Thus, it is of critical importance to protect a foundational species like menhaden as much as possible.

Menhaden are incredibly valuable to the Chesapeake Bay and the many other commercial and recreational fisheries that occur in the rivers of the Eastern Shore. As a vital part of the ecosystem, menhaden filter plankton from the water and help to improve water quality, and they are a necessary food source for other aquatic species like striped bass and bluefish, but also for ospreys and bald eagles. The Department of Natural Resources noted in their 2021 Striped Bass survey that while the stiped bass young-of-year showed a slight increase in population from 2020, what was of note was the increased numbers of menhaden in the rivers, notable the Choptank River. When the menhaden population thrives, so do our other fisheries. And when our fisheries are healthy, we know that water quality and habitat are at healthy levels to support those populations, which means that our economies and local communities will see a benefit.

For these reasons stated above, ShoreRivers urges the Committee to adopt a **FAVORABLE** report on SJ6.

Sincerely,

Matt Pluta,  
Choptank Riverkeeper, on behalf of:

---

**ShoreRivers**

Isabel Hardesty, Executive Director

Annie Richards, Chester Riverkeeper | Matt Pluta, Choptank Riverkeeper

Elle Bassett, Miles-Wye Riverkeeper | Zack Kelleher, Sassafras Riverkeeper

---

**Main Office**  
114 S. Washington St.  
Suite 301  
Easton, MD 21601  
443.385.0511

**Regional Office**  
111A North Main St.  
Galena, MD 21635  
410.810.7556

[shorerivers.org](http://shorerivers.org)

**Regional Office**  
207 S. Water St.  
Unit B  
Chestertown, MD 21620  
410.810.7556



*Larry Hogan, Governor*  
*Boyd K. Rutherford, Lt. Governor*  
*Jeannie Haddaway-Riccio, Secretary*  
*Allan Fisher, Deputy Secretary*

**Bill Number:** Senate Joint Resolution 6

**Short Title:** Atlantic States Marine Fisheries Commission – Atlantic Menhaden – Prohibition on Commercial Reduction Fishing

**Department's Position:** Letter of Information

**Explanation of Department's Position**

The Maryland Department of Natural Resources (DNR) provides the following information on SJ 6.

This bill is a resolution to urge the Atlantic States Marine Fisheries Commission (ASMFC) to evaluate the population of Atlantic menhaden in the Chesapeake Bay and end the practice of purse seining for harvesting Atlantic menhaden in the Chesapeake Bay.

DNR agrees that menhaden, which are managed under the framework of the ASMFC, are an important species to the health of the Chesapeake Bay. As such, purse seining is already prohibited in Maryland waters.

Management of Atlantic menhaden in Virginia's portion of the Bay also occurs under the framework of the ASMFC. Primary responsibility for management was recently transitioned from Virginia's legislature to the Virginia Marine Resource Commission in 2020. Since this transition has taken place, Virginia has commenced a process of engaging a broad array of stakeholders in the scientific management of these fish.

According to ASMFC, the menhaden stock is currently healthy.

Maryland is a leader in working with ASMFC to develop conservative ecosystem reference points that were just adopted for the fishery summer 2020. This was both a major undertaking and accomplishment, and is key to ensuring a balanced approach to managing menhaden as both important for the commercial fishery and forage fish.

DNR believes that fishery management decisions should be rooted in science and within established frameworks and authorities like ASMFC. There is little precedent for ASMFC to direct a state on how to manage its quota (e.g., dictating particular gears, seasons, operating practices) so ASMFC is unlikely to support any action to prohibit a specific business from engaging in an established fishery. Initiating an action requiring specific management measures in other states through ASMFC may ultimately result in other states pursuing specific

management measures in Maryland that are counter to our state's management goals and objectives.

That said, if Virginia were to prohibit purse seining in their waters, it is likely that the unharvested Atlantic menhaden would contribute to larger stocks of menhaden, which would provide forage for species such as striped bass, bluefish, dolphins, and osprey. A larger forage base of menhaden could provide for a more diverse and abundant Bay ecosystem, which could lead to positive fiscal impacts although these connections have not yet been scientifically quantified.

For any additional information, please feel free to contact our Legislative and Constituent Services Director, Bunky Luffman.