

Atlantic States Marine Fisheries Commission

Atlantic Menhaden Management Board

October 22, 2024

2:45 – 4:15 p.m.

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*J. Clark*) 2:45 p.m.
2. Board Consent 2:45 p.m.
 - Approval of Agenda
 - Approval of Proceedings from August 2024
3. Public Comment 2:50 p.m.
4. Review Update from Work Group on Precautionary Management in Chesapeake Bay (*M. Gary*) 3:00 p.m.
5. Consider Approval of Fishery Management Plan Review and State Compliance for the 2023 Fishing Year (*J. Boyle*) **Action** 3:55 p.m.
6. Progress Update on 2025 Ecological Reference Point Benchmark Stock Assessment (*K. Drew*) 4:05 p.m.
7. Elect Vice-Chair **Action** 4:10 p.m.
8. Other Business/Adjourn 4:15 p.m.

The meeting will be held at The Westin Annapolis (100 Westgate Circle, Annapolis, Maryland; 88.627.8994) and via webinar; click [here](#) for details.

Atlantic States Marine Fisheries Commission

MEETING OVERVIEW

Atlantic Menhaden Management Board

October 22, 2024

2:45 – 4:15 p.m.

Chair: John Clark (DE) Assumed Chairmanship: 5/24	Technical Committee Chair: Caitlin Craig (NY)	Law Enforcement Committee Representative: Matthew Corbin (MD)
Vice Chair: Vacant	Advisory Panel Chair: Meghan Lapp (RI)	Previous Board Meeting: August 6, 2024
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (18 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from August 6, 2024

3. Public Comment – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time should use the webinar raise your hand function and the Board Chair will let you know when to speak. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance, the Board Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Review Update from Work Group on Precautionary Management in Chesapeake Bay (3:00 –3:55 p.m.)

Background

- In August 2024, in response to concerns about the Chesapeake Bay ecosystem, the Board established a Work Group to evaluate potential actions for additional precautionary management in Chesapeake Bay (**Supplemental Materials**).

Presentations

- Review of Work Group Progress Report by M. Gary

5. Consider Fishery Management Plan Review and State Compliance for 2023 Fishing Year (3:55-4:05 p.m.) Action

Background

- State compliance reports were due August 1, 2024.
- The Plan Review Team reviewed each state reports and compiled the annual FMP Review.
- Pennsylvania, South Carolina, Georgia, and Florida have requested and meet the requirements for *de minimis*.

Atlantic States Marine Fisheries Commission

Presentations

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| <ul style="list-style-type: none">• Overview of Atlantic menhaden FMP Review by J. Boyle (Briefing Materials) |
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Board Actions for Consideration
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- | |
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| <ul style="list-style-type: none">• Accept 2023 FMP Review and State Compliance Reports• Approve <i>de minimis</i> requests for Pennsylvania, South Carolina, Georgia, and Florida |
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6. Progress Update on 2025 Ecological Reference Point (ERP) Benchmark Stock Assessment (4:05 –4:10 p.m.)

Background

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| <ul style="list-style-type: none">• A Methods Workshop is scheduled for November 4-8, 2024, for both the Stock Assessment Subcommittee and ERP Work Group.• The ERP Benchmark Assessment and the Atlantic Menhaden Single-Species Assessment Update are both scheduled to be completed for the 2025 Annual Meeting. |
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Presentations

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| <ul style="list-style-type: none">• Update on the ERP Stock Assessment by K. Drew |
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7. Elect Vice-Chair

8. Other Business/Adjourn

Atlantic Menhaden

Activity level: High

Committee Overlap Score: High (SAS, ERP WG overlaps with American eel, striped bass, northern shrimp, Atlantic herring, horseshoe crab, weakfish)

Committee Task List

- 2025 Single-species and Ecological Reference Point Stock Assessments
- Annual compliance reports due August 1st

TC Members: Caitlin Craig (NY, Chair), Josh Newhard (USFWS), Holly White (NC), Keilin Gamboa-Salazar (SC), Jason McNamee (RI), Eddie Leonard (GA), Jeff Brust (NJ), Matt Cieri (ME), Ingrid Braun-Ricks (PRFC), Micah Dean (MA), Kurt Gottschall (CT), Shanna Madsen (VMRC), Chris Swanson (FL), Ray Mroch (NMFS), Sydney Alhale (NMFS), Amy Schueller (NMFS), Alexei Sharov (MD), Garry Glanden (DE), Heather Walsh (USGS), Kristen Anstead (ASMFC), James Boyle (ASMFC)

SAS Members: Amy Schueller (NMFS, SAS Chair), Caitlin Craig (NY, TC Chair), Brooke Lowman (VA), Matt Cieri (ME), Chris Swanson (FL), Sydney Alhale (NMFS), Jason McNamee (RI), Alexei Sharov (MD), Jeff Brust (NJ), Katie Drew (ASMFC), Kristen Anstead (ASMFC), James Boyle (ASMFC)

ERP WG Members: Matt Cieri (ME, ERP Chair), Jason Boucher (NOAA), Michael Celestino (NJ), David Chagaris (FL), Micah Dean (MA), Rob Latour (VIMS), Jason McNamee (RI), Amy Schueller (NMFS), Alexei Sharov (MD), Howard Townsend (NFMS), Jim Uphoff (MD), Shanna Madsen (VMRC), Kristen Anstead (ASMFC), Katie Drew (ASMFC)

**DRAFT PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
ATLANTIC MENHADEN MANAGEMENT BOARD**

**The Westin Crystal City
Arlington, Virginia
Hybrid Meeting**

August 6, 2024

These minutes are draft and subject to approval by the Atlantic Menhaden Management Board.
The Board will review the minutes during its next meeting.

TABLE OF CONTENTS

Call to Order, Chair John Clark1

Board Consent1

Approval of Agenda1

Approval of Proceedings from April 30, 20241

Public Comment1

Review Report from US Geological Survey on Osprey Data in Chesapeake Bay.....2

Progress Update on 2025 Ecological Reference Point Benchmark Stock Assessment10

Discuss Possible Chesapeake Bay Management10

Other Business.....19

Adjourn.....19

INDEX OF MOTIONS

1. **Approval of agenda** by consent (Page 1).
2. **Approval of Proceedings** of April 30, 2024 by consent (Page 1).
3. **Main Motion**
Motion to initiate an Addendum to the Atlantic Menhaden Interstate Fishery Management Plan to consider Chesapeake Bay-specific management options for the menhaden purse seine vessels larger than 300 gross tons in order to support the need of piscivorous birds and fish during critical points of their life cycle (e.g. osprey fledge and molt). The document should include options for seasonal closures of Chesapeake Bay Waters (inside the Colregs Line). The document should not consider changes to the Bay Cap of 51,000 MT. The document should also contain options to reevaluate seasonal closures within the Bay after 2, 3 or 4 years. The Plan Development Team should consult with outside experts as necessary to identify spatiotemporal patterns of predatory demand for menhaden (Page 10). Motion by Lynn Fegley; second by Robert LaFrance. Motion to postpone (Page 16).

Motion to Postpone

Motion to postpone until the October meeting (Page 16). Motion by Pat Geer; second by Robert LaFrance.

Motion to Amend

Motion to amend to postpone indefinitely (Page 16). Motion by Pat Geer; second by Eric Reid. Motion fails due to lack of a majority (9 in favor, 9 opposed) (Page 17).

Motion to Postpone

Motion to postpone until the October meeting (Page 16). Motion by Pat Geer; second by Marty Gary. Motion fails (6 in favor, 12 opposed) (Page 17).

Main Motion

Motion to initiate an Addendum to the Atlantic Menhaden Interstate Fishery Management Plan to consider Chesapeake Bay-specific management options for the menhaden purse seine vessels larger than 300 gross tons in order to support the need of piscivorous birds and fish during critical points of their life cycle (e.g., osprey fledge and molt). The document should include options for seasonal closures of Chesapeake Bay Waters (inside the Colregs Line). The document should not consider changes to the Bay Cap of 51,000 MT. The document should also contain options to reevaluate seasonal closures within the Bay after 2, 3 or 4 years. The Plan Development Team should consult with outside experts as necessary to identify spatiotemporal patterns of predatory demand for menhaden. Motion by Lynn Fegley; second by Robert LaFrance. Motion substituted (Page 21).

Motion to Substitute

Move to substitute to establish a Board workgroup to consider and evaluate options for further precautionary management of Chesapeake Bay menhaden fisheries, including time and area closures, to be protective of piscivorous birds and fish during critical points of their life cycle (Page 18). Motion by Allison Colden; second by David Borden. Motion passes (17, 0 opposed, 0 abstentions, 1 null) (Page 18).

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Main Motion as Substituted

Motion to substitute to establish a Board workgroup to consider and evaluate options for further precautionary management of Chesapeake Bay menhaden fisheries, including time and area closures, to be protective of piscivorous birds and fish during critical points of their life cycle (Page 18). Motion passes by consent (Page 19).

4. **Move to adjourn** by consent (Page 19).

ATTENDANCE

Board Members

Megan Ware, ME, proxy for Pat Keliher (AA)	Kris Kuhn, PA, proxy for Tim Schaeffer (AA)
Rep. Allison Hepler, ME (LA)	Loren Lustig, PA (GA)
Cheri Patterson, NH (AA)	John Clark, DE (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)	Lynn Fegley, MD (AA)
Doug Grout, NH (GA)	Dr. Allison Colden, MD, proxy for Del. Stein (LA)
Nichola Meserve, MA, proxy for Dan McKiernan (AA)	Russ Dize, MD (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	Pat Geer, VA, proxy for Jamie Green (AA)
Ray Kane, MA (GA)	James Minor, VA (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Chris Batsavage, NC, proxy for K. Rawls (AA)
David Borden, RI (GA)	Chad Thomas, NC, proxy for Rep. Wray (LA)
Matt Gates, CT, proxy for Justin Davis (AA)	Ben Dyar, SC, proxy for Blaik Keppler (AA)
Rep. Joseph Gresko, CT (LA)	Mel Bell, SC, proxy for Sen. Cromer (LA)
Robert LaFrance, CT, proxy for Bill Hyatt, CT (GA)	Malcolm Rhodes, SC (GA)
Marty Gary, NY (AA)	Doug Haymans, GA (AA)
John Mansicalco, NY, proxy for M. Gary (AA)	Spud Woodward, GA (GA)
Jim Gilmore, NY, proxy for Assy. Thiele (LA)	Erika Burgess, FL, proxy for J. McCawley (AA)
Joe Cimino, NJ (AA)	Gary Jennings, FL (AA)
Adam Nowalsky, NJ, proxy for Sen. Gopal (LA)	Ron Owens, PRFC
Jeff Kaelin, NJ (GA)	Max Appelman, NOAA
	Rick Jacobson, USFWS

(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)

Staff

Bob Beal	Caitlin Starks	Katie Drew
Toni Kerns	Jeff Kipp	Jainita Patel
Tina Berger	Tracy Bauer	Chelsea Tuohy
Madeline Musante	James Boyle	

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The Atlantic Menhaden Management Board of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, via hybrid meeting, in-person, and webinar; Tuesday, August 6, 2024, and was called to order at 10:00 a.m. by Chair John Clark.

CALL TO ORDER

CHAIR JOHN CLARK: Good morning, this meeting of the Atlantic Menhaden Management Board is now in session. I am Delaware Administrative Commissioner, John Clark, I'll be chairing this meeting. I am joined here up front from ASMFC by Plan Coordinator, James Boyle, Katie Drew, our Stock Assessment Scientist, and we have guests from the USGS, Dave Ziolkowski and Barnett Rattner, who will be giving a presentation later. We have a very full agenda and not a lot of time, so we will get right down to it.

APPROVAL OF AGENDA

CHAIR CLARK: The consent items, are there any changes to the agenda? Seeing none; the agenda is approved.

APPROVAL OF PROCEEDINGS

CHAIR CLARK: Are there any corrections to the proceedings from the April, 2024 meeting? Seeing none; the proceedings are approved.

PUBLIC COMMENT

CHAIR CLARK: Now we move on to public comment for items that are not on the agenda, and a reminder that both the osprey issue and the Chesapeake management issue are on the agenda. Do we have comments for items not on the agenda? I see one hand here, is that Mr. Zalesak, and this is for an item not on the agenda, Phil.

MR. PHIL ZALESAK: Just before I get started here, is John Clark the Chairman of this Committee? All right, Mr. Clark, my name is Phil Zalesak, I'm a spokesman for the Save Our

Menhaden Coalition. The Coalition is demanding an end to localized depletion of Atlantic Menhaden in the Chesapeake Bay and its entrance.

Simply capping the reduction harvest in the Chesapeake Bay to an unscientific quota, and ignoring the entrance to the Bay, is irrational, ineffective and violates common sense. As a U.S. citizen with family in both Maryland and Virginia, I am proposing a solution, which has proven to be effective in eliminating localized depletion of Atlantic menhaden.

I am requesting that you and members of the Delaware delegation put forth a motion to end purse seine fishing in Virginia waters, just as your legislature did in Delaware in 1984. I am also requesting that the motion be seconded by New York delegation. This delegate, his legislature took the same action in 2019.

Since 2019, striped bass recreational harvest in New York has increased by 50 percent from 7 million to 10.5 million. Since 2019, the New York for-hire recreational business has increased, and whales, predator fish, birds have returned to New York waters in abundance. This has been documented in a two-minute video produced by Tim Reagan, a fishing guide and professional videographer. This action is supported by the latest science as documented in the ERP assessment of 2019, is supported by the latest empirical data provided by NOAA.

It will not impact Virginia quota, will not impact Omega Protein's reduction harvest quota by one fish, will end bycatch of the port recreational fishing in Virginia waters, and will end fish spills in Virginia beaches. The current situation is an ecological and economic disaster for both Maryland and Virginia.

According to the Maryland Department of Natural Resources, the striped bass juvenile young of year index has decreased for long term value of 11 to 1. According to NOAA, since 2016 the striped bass recreational harvest in Maryland/Virginia has decreased by 72 percent, from 11.9 million pounds to 3.4 million pounds. According to the Southwest

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Associates Study of 2016, Maryland/Virginia striped bass recreational GDP was over 900 million dollars, and responsible for over 11,000 jobs.

What is the economic loss in GDP and employment of a 72 percent reduction in striped bass recreational harvest in Maryland/Virginia waters, 500 million dollars, 5,000 jobs? It is time to take action. End purse seine fishing in Virginia waters now. That is exactly what Delaware and New York did, nothing more, nothing less, and it worked. Mr. Chairman, be a leader and save the Bay. You can do it. Thank you.

CHAIR CLARK: Thank you, Mr. Zalesak. That concludes our public comments.

**REVIEW A REPORT FROM THE U.S.
GEOLOGICAL SURVEY ON OSPREY DATA IN
CHESAPEAKE BAY**

CHAIR CLARK: We will now move on to Item Number 4, which is Review a Report from the U.S. Geological Survey on Osprey Data in Chesapeake Bay, and we have to present, Dave Ziolkowski and Barnett Rattner from USGS.

MR. DAVID ZIOLKOWSKI: It is our pleasure to be here today. Barnett and I will be trading off as we present slides to you here. It is not difficult for me, but I am going to follow some notes to keep myself on schedule here, because we have a lot of information to cover in a very short period of time.

As Mr. Clark said, we're from the U.S. Geological survey, which is a bureau within the Department of Interior. We're often called the science arm of the department. That is just a bit of a misnomer, because some of our sister bureaus like Fish and Wildlife Service also have science capabilities.

But what makes USGS unique is that we're a non-management, non-regulatory agency that is solely dedicated to providing objective and

impartial science to resource managers like yourselves and the public. Barnett and I work at the Eastern Ecological Science Center, specifically at the Laurel Maryland Campus, but we have two other campuses as well, and those are in Kearneysville, West Virginia and Turners Fall, Massachusetts.

As you can see from the green on the map here, we have staff located through many states. Our Center has broad and diverse science capabilities, which you can see listed on the slide here, and we're recognized the world over as leaders in fish, wildlife and associated ecosystem science. But among the work that we do, we're probably most prominently known for our migratory bird science. We house two of the world's largest wildlife surveillance program, those being the North American Breeding Bird Survey and the Bird Banding Lab.

We also have a great many long term bird studies, including a collaborative study working on osprey in the Chesapeake Bay Region for over 50 years. Most of you are familiar with ospreys, you've probably seen them before. They are a large day hunting raptor that is found on every continent, except for Antarctica.

They are loud, they are conspicuous, they tolerate human activity relatively well, and not surprisingly, they are one of the world's best studied birds of prey. The wingspan is about the same as mine, so pretty big bird there. They weigh just under four pounds. They are a long-lived species; most adults can look forward to living up to ten years.

They are often called the fish hawk, which is a really fitting name, because their diet is almost wholly consisting of fish, and in particular they go for a certain size of fish. Most of them are about a foot long, sometimes a little bit less, and they weigh about as much as a small can of soup, so just under a pound.

Osprey plunge dive for their food, and they take food within the first three feet of the water column, just under the surface there. They can be found in pretty much any aquatic habitat close to wetlands, bays, rivers, lakes, mangroves, just about any

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habitat that has shallow water and the right size fish.

As you can see from the map here in North America, they occupy these northern regions and northern populations, start heading south as the waters cool, and then they will travel sometimes thousands of miles down to subtropical and tropical areas. We're very fortunate. Here in the Chesapeake Bay Region, we live in what is called the Osprey Garden oftentimes, just because it is the home of the greatest number of breeding pairs of ospreys in the world.

Here is just a quick look at the phenology of these birds in our area. Birds start arriving in the Chesapeake Bay around St. Patrick's Day each year, and many of them have traveled thousands of miles, excuse me, thousands of miles from their wintering areas, it probably feels like thousands of years, thousands of miles from their wintering areas in the Caribbean and Northeastern South America.

They've expended a lot of energy so their first order of business is to start eating, to get their bodies up to breeding condition, and then they start doing courtship activities, and they start nest building. Their nests are these enormous, magnificent structures built from sticks. In historical times, those were then erected in natural structures like trees, but now in modern times they are using channel markers, cell phone towers, utility poles, artificial net platforms, net platforms, and you name it.

By late April, most females begin laying up to four eggs. They are speckled brown, and they are about the size of a large chicken egg. Females do most of the incubation, and unlike songbirds, they start incubating once they've laid the first egg. This gives an advantage to the first chick, which Barnett will talk a little bit about in a few minutes. Then come June, the eggs are hatching and the parents stay close to the nest for about a month, helping the chicks

thermoregulate, and protecting them from predation.

Then by late July, in the Chesapeake Region, the young have grown to just about adult size, and they start exercising their flight muscles in preparation for fledging, and fledging is when a chick takes a voluntary movement off the nest to begin its life outside of the nest. For weeks after they fledge, they hang out with parents and they perfect their hunting techniques, and they learn how to acquire food. Then they start departing the Bay in September and start heading south again for their multi-thousand-mile journey to the south.

Osprey, being a very long-lived species and on the top of the food chain, they are very susceptible to the body of accumulation of contaminants, and in North America in the 1950s and '60s, osprey populations started declining rapidly, due to the effects of organochlorine pesticides like DDT.

It is estimated that the Chesapeake Bay probably lost about half or more of its population at that time. Partly in response, the North American Breeding Bird Survey was formed in 1966, to start measuring bird populations across the continent at that time. The BBS is a federal program that is jointly coordinated by the U.S. Geological Survey at the Eastern Ecological Center Science Center, in an environment it also partnered with Environment Canada.

The BBS provides the definitive record of large-scale long-term bird population change since 1966. It uses a statistically rigorous scientifically credible bird survey methodology that samples along predetermined roadside routes each year at the height of the breeding season. What I'm going to do in this slide is I'm going to cover a lot of information, but I'm going to walk you through it.

I'm going to review some of the results of the North American Breeding Bird Survey. Here you can see population growth is on the left-hand side, and it's increasing to the right. Between 1966 and 2022, the eastern population of osprey improves by about 300 percent. Then in the Atlantic Coast, where you

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can imagine abundance is even higher, the population increased by about 587 percent. Then in the Chesapeake Bay Region it has increased by about 1800 percent since 1966.

Now you can see here that these blue routes are BBS routes, and that this sampling is not entirely thorough in the area. This estimate of 1800 percent should be given a little less confidence than the other ones, just because the BBS methodology is not optimized for sampling very localized areas, such as the Chesapeake Bay.

But it's still informative, and what these numbers bear out is that osprey have made an astounding recovery by all accounts. The numbers are now in excess of historical numbers, and in part that is because they have returned to a world that is very different than the world was before they started declining. There are more suitable nesting structures, the water may be cleaner. This graph here on the Y axis is an index to abundance, so low abundance down low, and high abundance up high, and the time is on the bottom there, shows you what such great increase in population looks like over time, pretty tremendous climb there. But if you look on the right-hand side of this graph, you'll know something is going on in recent years. I'll take a closer look at this period of time; this is 2012 to 2022. In the lower left-hand corner that yellow section there. What you see is you'll see a line marked by zero. Everything to the right of that is population growth, everything to the left of that is population lost in that 11-year interval there.

The top figure there, that negative 8.8 percent is the trend estimate from BBS during that time period, and as I said, it doesn't operate very well at small scales, so you can see the confidence intervals there are pretty wide, and they cross zero, and that is telling us that we don't have enough statistical power to really say that that estimate is different from zero.

However, there is a bird program that collects recreational observations from birders, and that is called eBird. It's run by the Cornell Lab of Ornithology, and they started to produce trends from their pool of recreational birding observations. You can see those trends here, they are from Maryland is the second down, and Virginia is the third down there.

You can see them both estimating a lot here, and the confidence intervals don't cross zero, so suggesting that the population is declining in that time period in the Chesapeake Bay Region. One great thing about eBird is you can actually bear down and look at the count data to see where exactly those counts are changing.

What you see in this figure here is the state of Maryland, Virginia below it. You can see very large circles all around the Chesapeake Bay, very small circles to the left of it. That tells you that there is very high abundance. Larger circles are higher abundance in the Chesapeake region, dark red indicates the greatest amount of change in the count over that time period.

Care must be used when you are interpreting these kinds of results. To understand what I mean, it's helpful to look at osprey trends across the country for perspective. Here I'll point out three things that I hope you take notice of in these graphs. On the left-hand side here for example, California and Washington, opposite coasts.

You can see that there is something going on in the same time period as there is here in Maryland, Virginia and the Chesapeake Bay Region. Another thing to notice here is that in some of these graphs, even during the long-term increase, there are periods where there is short-term decline.

If you were to focus on those areas of short-term decline, not knowing what is coming to the right of it, you might feel like your population is in a full-scale nosedive, when in fact it's just having a perturbation over time. That is something to keep in mind. Then lastly, populations don't grow forever. We know this ecologically, and at some

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point, density dependency factors kick in and resources.

You would have food or territories, nest platforms, et cetera, become limiting and populations tend to level off to what is called the carrying capacity. Sometimes populations overshoot their carrying capacity and then have adjustment period to come back down. But one thing I wanted to point out on the right-hand side here is that when populations plateau off, like Florida, for example here, whose population underwent some growth but has by most suggestions leveled off now since prior to 2002. That leveling period, that plateau, is very uneven, and there are a lot of perturbations that can happen during that time. This information from these large-scale indices can be very informative. But really the gold standard for local population monitoring is to work with local census data, which are trying to completely enumerate a population. That is where Barnett is going to take us.

MR. BARNETT RATTNER: There have been two major surveys of the distribution and abundance of breeding osprey in the Chesapeake. A 1973 aerial survey in association with some intensive ground surveys of nests with ospreys present, indicated that the population was about 1450 pairs in 1973, and this was during really the height of the DDT use era.

In 1995 and '96, a boat survey of tributaries with some aerial survey components was undertaken and revealed that the population had more than doubled, that is the population of breeding pairs, up to almost 3500, and by the year 2020, it was estimated that there were 11,000 nesting pairs of ospreys in the Chesapeake.

Ospreys, as Dave mentioned, are nearly strictly piscivorous. If a fish species is abundant, the right size and catchable, it's eaten. A great deal is known about the energy requirements during osprey nesting, with males foraging daily during

daylight hours for more than three hours, traveling as much as five to ten miles to catch fish and to bring them back to the nest to provide its mate and young in the nest.

Provisioning depends on the number of young in the nest. For ospreys, what is eaten depends on where they are nesting in the Chesapeake. A snapshot of foraging activity can be gleaned from studies conducted in 2006, '7, '11, '12 and 2013. Catfish and gizzard shad in low salinity tributaries and in the upper bay estuarine areas are the principal foods, at least during some of those study years.

It's striped bass and menhaden in the midday, where there was moderate salinity, and it is sea trout and menhaden again as a snapshot in the lower bay in high salinity areas. Data summarized by Watts and Paxton during the recovery from the adverse effects of DDT documented an increasing reproductive rate for ospreys in the Chesapeake.

It is generally accepted that the rate for maintenance of a stable population is about 1.15 young fledged per active nest, an active nest being a nest in which an egg was laid. Prey abundance is a major factor that drives the osprey reproductive rate. When prey is abundant, the size of chicks is general symmetrical as portrayed on the left side of that slide. Chicks hatched but different days, but well into incubation they are all about the same size, because there is plenty of food.

However, when food is limited a dominance hierarchy is established with sibling aggression and actual brood reduction, which is kind of portrayed on the right. That smaller chick compared to its larger siblings. As you likely know, in the lower Chesapeake the osprey reproductive rate has been reported to be well below the threshold to maintain a stable population for a number of years, particularly in the Mobjack Bay area that is viewed as a demographic sync, and this is work that has been conducted by Brian Watts, students and coworkers. It's important to keep in mind that there are many factors and stressors that can affect osprey reproduction. Yes, limited food availability

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can have effects on reproduction, as well as depredation, competition, disease events, inexperienced breeders. There can be storms, weather events, and even very hot weather like we've experienced this year that can affect reproduction.

Certainly, environmental contaminants and also water clarity, it's needed actually for the males to catch their prey. We have identified some important information needs and data gaps related to ospreys in the Chesapeake, specifically. The relation between osprey abundance and reproduction with factors like abundance and reproduction of their prey.

Potential shifts in fish community composition and population trends, not only in ospreys, but in other high trophic level feeders, fish eating birds, striped bass, and bluefish. More detailed information on the relation between salinity, osprey diet, brood provisioning and demography is also needed. Perhaps fisheries independent data on prey fish abundance, age and class size structure.

This year we in the USGS are working with collaborators of the U.S. Fish and Wildlife Service, the College of William and Mary, and others to study osprey productivity and craving brought to their nest in the lower Bay and in Patuxent River, Poplar Island and in the Choptank River vicinity. I think we'll stop at this point and Dave, and I will be glad to entertain any questions you might have. Thank you.

CHAIR CLARK: Thank you very much for that very interesting and informative presentation, Dave and Barnett. I'm sure there are a lot of questions, so I've got Dennis Abbott followed by David Borden.

MR. DENNIS ABBOTT: Mr. Ziolkowski and Mr. Rattner, a real informative presentation. I think we today at the Board are being asked to look at this in a manner of similarities between what was a canary in the mine is the osprey in the Bay, tied into a lack of menhaden. If you would

ask to believe that menhaden, lack of menhaden is the cause, and we should be taking action.

I do say that we can see what is going on physically with the osprey, but we can't see what is going on under the water with the help of the menhaden. If we're to use, can we with some assurance use your studies to tie into a lack of menhaden in the Bay at this point in time? I think that is what we're being asked to do. I'll leave it at that for the moment.

MR. RATTNER: Yes, that is a tough question, and in some areas, it may be a lack of menhaden, but as I showed in a couple of the slides, menhaden aren't in the diet in some regions of the Bay, and some of the work we're doing this year, just at a data collection stage, is really looking at what is being brought to the nest by the adult male, and also pulling together information. There may be some issues with menhaden populations in some parts of the Bay, and it could even be some other species that are dependent on menhaden in other parts of the Bay.

CHAIR CLARK: Go ahead, Dennis.

MR. ABBOTT: Yes, thank you. In your presentation you showed us that there was a 299 percent increase in the population of osprey. That seems counter to the fact that there is a lack of menhaden or adequate food supply in the Bay, with 11,000 pairs nesting there. Would they not be seeking other places to live if the food situation was so bad?

MR. ZIOKOWSKI: You know the response of populations to stressors is often density dependent. As the density of osprey increased, the acuity in which they feel stressors on the population as a whole, can change. If you have a very, very low abundance it may be that the stressor is not of a magnitude to cross threshold that amounts to a population loss.

That as the population increases, you reach a point where certain thresholds get crossed, once certain prey items decline. But ecological systems are very complex. It is often difficult to understand to have a one-to-one relationship between population in a region and one particular stressor.

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MR. CLARK: One last comment, Dennis.

MR. ABBOTT: All it is, is a comment. I noted in one of your slides that striped bass take up 48 percent of their diet, so we've really gotten to the problem of where the striped bass are going.

MR. CLARK: Next question is David Borden.

MR. DAVID V. BORDEN: Excellent presentation. I look forward to looking at it in more detail after the meeting, when we get the slides of it. I'm just wondering to what extent USGS has looked at competitor populations and the relationship between competitor populations like, up our way in Rhode Island, black back gulls, bald eagles, there is an interaction between them and ospreys, and to what extent have you modeled the different populations, to see whether or not that could possibly be having an influence on them.

MR. ZIKOWSKI: That is an excellent question, and that is work that has yet to be done. It can certainly be done with the resources and the datasets that we have. There are relationships between many species, and you can bear out the correlations between population trends. Then if you can understand the mechanism of the relationship between them, you can start to get to the heart of that.

But certainly, bald eagles have recovered as well in the Chesapeake Bay Region, very similar to how osprey have, and they compete for nest locations. Great horned owls have also experienced changes in their population, and they prey sometimes on osprey. It would be very interesting to look at the ecological interactions between these species as the populations change.

CHAIR CLARK: Follow up.

MR. BORDEN: Yes, just a personal observation. I have an osprey tower about maybe 90 feet from the house, not mine, somebody else put it

up. It's amazing how often the bald eagles in the area interact with the ospreys and try to get the ospreys to drop herring or menhaden. The same thing goes on with other species like black back gulls. I think it is worthwhile to look at that.

CHAIR CLARK: Next question is from Representative Gresko.

REPRESENTATIVE JOSEPH P. GRESKO: In your presentation you had some graphs indicating the plateauing or increasing in certain other states at the same time, but they didn't go as far north as New York, Connecticut, Rhode Island, Massachusetts and I'm wondering in simple terms if the potential reason for the plateau or decline of osprey in the Chesapeake Area is because they are going north. Because I'm seeing quite a multiple fold increase of osprey, even in the district that I represent, and I see it all over in New England. Could that be a factor, and has it been factored in?

MR. RATTNER: It's interesting you bring that up. There is a lot of data pouring in, in other states besides those around the Chesapeake Bay, and we've heard, at least I have, in the media, some issues in other estuaries up the Atlantic Coast. One thing to keep in mind is when a pair is formed, a male and female, it's a long-term relationship.

They exhibit nest site fidelity, returning to the same nesting location annually to reproduce. But it is certainly possible that the young might end up in a very different location, and they really don't reproduce until they are three, four or five years of age. It's a little bit of an unknown.

CHAIR CLARK: Next question is from Marty Gary.

MR. MARTIN GARY: Thank you, Dave, and Barnett, for your presentation and your good work. There was a slide you went through pretty quickly; I was wondering if you could bring it back up. It had to do with clutch and fledgling success. I guess the question when you get to that is, how are those trends, at least as they present today, relate to maintenance rates, if that is the right question, and I have a follow, Mr. Chair, if we could after that.

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MR. RATTNER: Could you just repeat the last part of that, please?

MR. GARY: Looking at the clutch success and fledgling success, and I'm not sure this is the right term, maintenance rate to maintain the population.

MR. RATTNER: Yes. That number has been around for quite some time, and it has a pretty good scientific basis. It's about 1.15 young fledged per nest. In the data that I showed from this lower bay, if you look at it, and I'm sorry it's small print. The reproductive rate in the middle column you see in the seventies and '85, well over 1.15, it's 1.7, 1.4, then around 2006, 2007 it is 0.08, so that is not a stable population.

Then more recently 2021, it's 0.3, which is very low. What happens then is birds are moving into that area, because it's a sync, essentially to try to fill in. But they are not doing well, and that is continuing on. It may be certainly beyond the lower Bay. We don't know that and have all that information at this point.

MR. GARY: All right, excellent, thank you, Mr. Chair for a quick follow, just an observation. Having grown up in Chesapeake Bay, worked there for a long time. I look at some of those trends in the charts and I flashback to my childhood, when I read Gilbert Klingel's iconic book, *The Bay*, which I'm always amazed, a lot of people have never even heard of. But in that book of vignettes that was captured in the 1940s from Klingel's very detailed observations, he talks about a huge colony in a very rural, undeveloped area near Smith Plain, Virginia, a tremendous osprey colony.

Now flash forward to the present day, the anthropogenic impacts throughout the Chesapeake Bay watershed, where development is everywhere, including that area that you describe near Smith Point. That osprey colony doesn't exist anymore, but upriver at the agency I worked up to through last year in

Colonial Beach, Virginia. Ospreys are everywhere throughout highly suburban, honestly urban areas, and they seem to be doing fine up there. It was just an observation. It's interesting how these animals have adapted, and then one last point.

You mentioned catfish in one of the diet slides. It was amazing that in that part of the river where there are lots of blue catfish, they are obviously eating a lot, because they are dropping all over the streets, on people's cars. They are everywhere. I don't know how they catch the blue catfish, but they do that. Anyway, I did want to thank you for your presentation.

MR. RATTNER: I have one comment on one thing you said, and it's important to point out that in recent decades the ospreys have actually moved up the tributaries, where historically they were not. I think that was shown in one of the figures in a map that the volume wants published.

CHAIR CLARK: Thanks Marty, thanks, Barnett. Next question is from Eric Reid.

MR. ERIC REID: Most of my questions have already been asked. Everybody has talked about bald eagles, and I want to remind everybody that the last time we had a discussion about this, Craig Pugh brought up the interaction with bald eagles, which apparently are doing very well in the population.

My only other question would be, in one of your slides when you had a diet composition, you know in one area it was menhaden and striped bass, for 92 percent, but in the lower Bay, which according to your red dots the fish are not doing that well. I think it was 29 percent sea trout, 24 percent menhaden and 12 percent croakers. What is the other 35 percent?

MR. RATTNER: That I can pull out of Brian Watts paper for you. Please recognize that that is a snapshot, one year, and what was observed in a series of nests. There might be different things going on in other areas near there.

CHAIR CLARK: Next question is Roy Miller.

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MR. ROY W. MILLER: I would like to ask your opinion, Dave, and Bennet. You said earlier that there was an 1801 percent increase in the breeding bird survey population for the Chesapeake Bay. I guess that was in comparison to the earlier time record. Given that, and let's just assume for a moment that the supply of osprey food in the Bay has remained relatively stable during that period of time. Is it possible that the osprey population has reached carrying capacity, and what you're seeing where there are fluctuations the last few years up and down a little bit, is just random population responses to other factors, other than forage. Is that a possibility or is there in fact in your view a crisis for the osprey population, in terms of its available forage and osprey nesting success. Are we in a crisis mode or is there a crisis mode in one particular portion of the Chesapeake range of the osprey? Where are we in that regard in your view?

MR. ZIOLKOWSKI: You know, I think that is right on the nose. That is the question right there. It depends on the scale that you look at. When you look at the population from the entire United States, or from the Eastern Region or the Atlantic Coast, or Maryland and Virginia or just the Chesapeake Region.

You can draw different conclusions based on what you see from these different datasets. It certainly may be the case that that localized population that is experiencing food depletion is in a very big nose dive, and it depends on what context and what frame of reference you take that in, as to what conclusions you draw from, in terms of whether we're in the red zone or we're okay there.

In terms of whether the population is plateauing off, well, I often tell people, when you're working with these trends at these very large scales, it's not that different than when you are trying to manage your investment portfolio. We all know, buy low and sell high. But most of us are not billionaires. That is because it is easier to tell what the stock market

is doing in retrospect, when you think, I should have bought.

These large datasets like this and these large trends, they can be very difficult to tell in the short time period what the long-term trajectory is going to end up being. You kind of have to just pick the scale that you're going to focus on. Then you know, you look at what is happening in that localized population or large regional population, and you make your decisions based on that as to whether or not that is an acceptable loss or not. Barnett, do you want to add to that?

MR. RATTNER: Yes, and that is really the answer to the question that was asked and Dave handled. Kind of ask yourself, and I hope not to get in hot water. The osprey is not endangered, it's doing very, very well compared to its history, recent history, 50 years. But, in some parts of the Bay it doesn't seem to be doing well. Maybe it's just the osprey, or maybe it's sort of a sentinel or ecosystem indicator that things might not be quite as well for some other species of fish-eating birds, and that is something that needs to be determined.

CHAIR CLARK: This is a fascinating topic, but we do have to move on, so Pat Geer will be the last question. Thanks.

MR. PAT GEER: I'm honored. Thank you for the great presentation. I just want to follow up on what Dave Borden was talking about. In our species competition we've already talked about bald eagles. But Dr. Watts has done a survey in Virginia, for a number of years going back to, I believe, 1993.

This has shown the double crested cormorant population has increased 1416 percent in that 25 years, and brown pelicans have been about 882 percent. Now those are species that are primarily piscivores. They are competing for the same food source as well. As you said, maybe the nests aren't surviving and they're moving out, and these two species are moving in. Is that possible?

MR. RATTNER: Yes, it's possible, certainly.

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CHAIR CLARK: Thank you very much for the great presentation, Dave, and Barnett. If there are other questions, I'm guessing you guys will be around for a little while here.

PROGRESS UPDATE ON 2025 ECOLOGICAL REFERENCE POINT BENCHMARK STOCK ASSESSMENT

CHAIR CLARK: Okay, thank you, and now we're going to move on to Agenda Item Number 5, which is a Progress Update on the 2025 Ecological Reference Point Benchmark Stock Assessment. I'll turn that over to Katie Drew.

DR. KATIE DREW: I'll keep this brief so we can stay on track, but the ERP Workgroup is continuing to work on the assessment, and we are working on bringing in this information from USGS on bird trends into the full model. We're going to see if we have enough information to do it at a finer spatial scale. But I think that still remains to be seen, based on data availability.

But that will include both the information on osprey that was presented here, in terms of trends and abundance, as well as information from basically the same data sources on other near-source piscivorous birds, like eagles and cormorants, where we can pull these data together. We're working on that.

The single-species assessment update continues on pace, more or less, and we will be having our next assessment workshop in the first week of November, the week of November 4, where we will be having the SAS meet to discuss the assessment update for the first day of that workshop, and then the ERP Workgroup to meet to conceive the SAS model runs for the rest of the week. We are continuing on pace with that, and I'm happy to take any questions.

CHAIR CLARK: Thank you, Katie, that is an amazing effort there. Are there any questions for Katie about this update? Not seeing any; let's move on to our, oh, excuse me, sorry. Jeff, go right ahead.

MR. JEFF KAELIN: Thank you, Katie. I have been listening in to the discussions, and you had some pretty positive eagle and osprey data, I think that is going to be part of that consideration. Can you comment on that now, or should we wait until a more full update? It was pretty positive, and I thought it was important for this discussion that we just had.

DR. DREW: Yes, it's positive in the sense that we're seeing a lot of the same trends coastwide that we just saw for osprey, which is really just increasing trends in a lot of these nearshore piscivorous birds coastwide. I think the question is, do we have enough additional information on things like diet composition and other vital rates coastwide, or coastwide versus the Chesapeake Bay, in order to fully incorporate them into the assessment models.

But definitely, I think that we will have better data on these species going into these models this time around, definitely for the full model than we did during the last benchmark assessment.

DISCUSS POSSIBLE CHESAPEAKE BAY MANAGEMENT

CHAIR CLARK: Okay, that brings us to Agenda Item 6, a little item that is Discuss Possible Chesapeake Bay Management. To get this started, I'm going to turn it over to Lynn Fegley, from Maryland. Go right ahead, Lynn.

MS. LYNN FEGLEY: I really appreciate it, and I also want to thank the Board for listening. I very much want to thank the team from USGS for providing us with a wonderful presentation that puts the birds in context for all of us, so thank you for that. I'm just going to go right ahead. I am going to make a motion, and Mr. Chair, if I get a second, I would like to speak to it.

My motion is to initiate an Addendum to the Atlantic Menhaden Interstate Fishery Management Plan to consider Chesapeake Bay-specific management options for the menhaden purse seine vessels larger than 300 gross tons in order to support the need of piscivorous birds and

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fish during critical points of their life cycle (e.g. osprey fledge and molt). The document should include options for seasonal closures of Chesapeake Bay waters (inside the Colregs Line). The document should not consider changes to the current Bay Cap of 51,000 MT. The document should also contain options to reevaluate seasonal closures within the Bay after 2, 3 or 4 years. The Plan Development Team should feel free to consult with outside experts as necessary to identify spatiotemporal patterns of predatory demand for menhaden.

CHAIR CLARK: Thank you, Lynn, we have a motion up and we have a second from Rob LaFrance. Now I will go to the maker of the motion for further discussion.

MS. FEGLEY: By this motion, you were asking for the development of options for seasonal closures of the Chesapeake to the largest of the purse seine gears, as a precautionary measure to ensure that animals such as osprey that depend on menhaden during critical points of their life cycle, have as much opportunity as they need to access these fish.

In Maryland, we do not believe that this motion addresses just the Chesapeake issue. If you need an essential estuary provides critical habitat for many of the species that we manage, and lots that we do not, during critical points in their life cycle. In Maryland we are seeing many signs of stress in our Chesapeake. There are no menhaden in Maryland.

The artisanal stational gears that Maryland watermen fish are not capturing bait for our crab fisheries. We are seeing bottlenose dolphins in unprecedented areas, and we are fielding far too many calls to remove dead dolphins from citizen shoreline. While we don't lay all this at the feet of the large purse seine fisheries, we believe it is common sense to alleviate stress where we can control it. As we saw from the presentation we just received,

bird populations have expanded tremendously in the Bay region.

The demand for forage in the Bay has increased, along with their population. Years ago, when a peer review panel from the Center of Independent Experts convened to review Chesapeake work, to examine localized depletion, they said, as the abundance of predators continues to increase, their food requirements will also continue to increase, to the point where they may become food limited. They also said things like, a stable menhaden population will not be able to sustain the increasing predator population, and offered to us that time and area zoning of fisheries would be a logical way to mitigate negative impacts. These experts gave the Commission the path, that at the time we chose not to take. All of this said, this Commission has diligently and carefully managed this resource, according to the best available science on a coastal level. I am personally extremely proud of the work to develop ecosystem reference points that ensure more conservative fishing levels to leave extra fish in the water.

However, I also believe it is hubris to some degree, to think that we understand all of the dynamics at play with menhaden and the animals that depend on them within the Chesapeake. While we can say with confidence that the stock is healthy on a coastal level, we have not been successful in getting the Chesapeake-specific science needed to ensure sustainable fisheries.

We are not asking that the Bay cap be changed, and we are not asking that gears of all sizes leave the Bay, just the very largest, to mitigate the amount of removals. We are also suggesting that any closures be reevaluated in a certain number of years, and this evaluation could be on new science around menhaden in the Chesapeake. To close this up, we feel that this is responsible to start this conversation to look at seasonal closures. I'm just going to stop and leave it there, Mr. Chair. Thank you for listening.

CHAIR CLARK: Thank you, Lynn, and Rob, as the seconder, would you like to make some comments?

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MR. ROB LaFRANCE: Just quickly, a few. I just want to point out that this particular management board, the Menhaden Management Board, has been a leader for system-based management. I think what we're asking here is to use that vision that we've had for this species, and focus that vision on the Chesapeake.

We have information from new science that we know about ospreys and the impact of that, and there is a lot of information that needs to be delved into. But to look at time of year closures to help species that may be in trouble in Chesapeake, given the large amount of output that we've heard from our constituents, I think is very important.

I also would argue that looking at the Chesapeake Bay, and looking at it in sort of precise terms, we're really looking at the ecological efficiency. We're not talking about changing the Bay Cap. What we're talking about is possibly changing where and how we take. I think that is an important element for us to look at, and I think we have some really talented folks in Atlantic States who can really delve into this, and give us some really helpful information.

CHAIR CLARK: I'm guessing there are a lot of people who would like to make comments, so why don't we do this. If you would like to speak in favor of the motion, would you please raise your hand now, so I can write it down? I've got Dennis, Allison, Russel, I'm going around, Jeff.

MR. KAELIN: I'm not raising my hand in support, I'm raising my hand to make a motion, Mr. Chairman.

CHAIR CLARK: Okay, well, why don't we do this. Why don't we take a few comments, and then I'll come back to you on that. Anybody else that wanted to speak in favor of the motion? Go right ahead, Eric.

MR. REID: How many purse seine vessels are over 300 tons in the Bay? How many vessels that actually carry purse seines and fish from a 300 ton or more vessel is there? There are a lot of carriers that are 300 tons, but they get fish from pairs of small boats. I'm not sure what this actually accomplishes, if anything at all, my only question.

CHAIR CLARK: Lynn, or perhaps Virginia, do you have an answer to that question?

MR. GEER: I kind of question that myself, because our licensing for purse seine boats is greater than 70 tons and less than 70 tons, so I'm not sure where this 300 is coming from as well.

CHAIR CLARK: Okay, we've got some confusion on that. Let me get the hand on those that want to speak against the motion, and then we will start going at comments. I've got Joe, Nichola, Pat and Megan. Anyone else? Emerson, okay. I guess we'll take some of these discussions, and then we will go to you, Jeff, for a motion. Let's start, we have Dennis to speak for the motion.

MR. ABBOTT: I do thank Lynn Fegley for bringing this motion forward. I can't thank her enough for doing it. Having sat on this Board since its inception, really, going back over 20 years. How many times have we heard that we should be doing something for the menhaden? I can remember a gentleman named Jim Price from Maryland, he used to come to every meeting, and give us history on what he felt was going on in the Bay with poor health of striped bass, and relating it to menhaden.

I think we should take a look at the previous meeting that we just had, where we saw that Atlantic herring are in, I'll call it serious trouble. It wasn't very long ago that we were harvesting over 100,000 metric tons of herring, and this morning we heard that we can be looking forward to harvesting, what 783 tons or something like that, some low number. How that all happened, I don't know.

But I go back to the canary in the mine situation, that we should be getting ahead of this problem, and we've waited too long. I won't dig into the

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weeds of this motion. But this gets us off the ground and doing something. I think that the people in Virginia and Maryland have been crying to us, crying to us for years for us to do something for the menhaden in the Bay.

I think in whole, we've sat back and done very little, very little for the benefit of menhaden, and for the people in the Chesapeake Bay Region. Therefore, even though I live up in New Hampshire, and don't have a very big oar in this water, by any means. I think that the time has come to do something.

CHAIR CLARK: Against I have Joe Cimino.

MR. JOE CIMINO: I'm certainly not against exploring this, I'm against seeing this motion prior to what Katie talked about, and seeing the ERP come out. What is happening in the Chesapeake Bay isn't happening in a vacuum. Striped bass stopped showing up in North Carolina over a decade ago, and coastal Maryland and southern Virginia stopped seeing coastal migrants of striped bass many years ago.

Six or seven years ago, Maryland started showing 0 harvest in their MRIP estimates. It's not just in the fisheries, the winter, which we'll be talking about later today, the winter tagging survey has been moving farther and farther north to find fish. Climate change is real. You know weakfish didn't disappear from the Chesapeake Bay, they disappeared from Massachusetts to Florida. We're dealing with something that we need to take a holistic approach to.

The idea that 300 gross ton vessels are part of the problem, and then the other end of that is part of the solution, is not something I'm very comfortable with. I do hope that as we move forward, because everything is changing, we are in unprecedented times. We do need to take a look at this. But I think we need to get past the ERP and see what happens, and take a holistic approach to this, you know all the literature

suggests that menhaden overwinter off of North Carolina.

Of course, the Chesapeake Bay would be a very important Ingress to where juvenile menhaden show up. The literature also suggested that some portion was overwintering off of New Jersey. It's very possible that a larger portion of those fish are now overwintering off of New Jersey. That is why we're seeing a year-round fishery for striped bass in New Jersey.

We're seeing the whales year-round in New Jersey, and because of that we wouldn't expect to see the Chesapeake Bay have the importance that it has had in the past. I think all these things are something that needs to be addressed. We need to do our best to stay on top of that, for the management of all of these species. But I think this is really jumping the gun and very pointed at something that may not be a solution in any way.

CHAIR CLARK: Next in favor of the motion I have Allison Colden.

DR. ALLISON COLDEN: I just want to express my gratitude as well to USGS for being here and presenting that information. When it comes to menhaden management in Chesapeake Bay, I'll just go ahead and acknowledge there are a lot of things that we don't know. But there are a few things that we do know.

First of all, and maybe to Joe's point. We do know that the ERPs that they are currently being developed and worked on, will not address questions in the Chesapeake Bay. Those opportunities are very far off in the future, if they are possible at all. Our attempt thus far to get those studies and those data surveys and other things needed to answer those questions, have not been successful or fruitful.

We know a couple of other things, that we are seeing incredibly fast-paced changes in environmental conditions in the Chesapeake Bay. Our average water temperature has increased. The amount of fish habitat availability has decreased,

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and this recovery of osprey is absolutely tremendous. But what that translates to is a tremendous change in the predatory demands on the Chesapeake Bay's menhaden population. That necessitates a reevaluation of our approach to menhaden management in the Bay. Obviously, being around this table not nearly as long as some others. But this, even for me, is not a new conversation. It is obviously something that the Commission has been grappling with for a while. But the conditions that we're seeing now are new, and they are unprecedented.

Ospreys and other birds are now recovering from those DDT era levels, and increasing in abundance. Our large-scale fisheries have contracted to operating in only one state in the same time that those osprey populations have been increasing. When those menhaden fishing rates were higher historically, they were also more distributed along the coast.

We have not seen this overlap in space or time of high avian predatory demands with concentrated spatial harvest in the history of our management of the fishery thus far. Hopefully, I hope it's to say that the predatory demand will be increasing further in the Bay, as we work to rebuild and recover the striped bass population. Using again, osprey as a canary in the coal mine, or a signatory species for the Chesapeake Bay ecosystem, will only help serve our striped bass rebuilding, as we continue to move forward.

Lastly, I just want to address. We acknowledge the fact that there may be other factors at play here. I just listed a couple of them for you that our organization, DNR and others, are tracking within the Bay. But this Board is responsible for managing the menhaden fishery in the Chesapeake Bay and along the coast. While we can't possibly address all of the issues facing the Chesapeake Bay, I'll take that on in my day job. I don't think the public expects us to. But they do expect us to manage menhaden in the way that we have committed to, and that is to be

precautionary and protective of the ecosystem that relies on menhaden. I believe that this motion will have the opportunity for us to open that important conversation, provide opportunities for the public to weigh in, and provide opportunities to address the ecosystem concerns. I would urge everyone's support and thank you.

CHAIR CLARK: Next opposed, I have Nichola Meserve.

MS. NICHOLA MESERVE: I don't disagree with many of the comments that have been made, by supporters of the motion. What I'm struggling with a little bit is the process and diving immediately into an addendum process. The presentation and discussions have underscored the complexity of the issue here, that this is a significant action.

There have already been questions about the singular focus on purse seine vessels larger than 300 gross tons. I think the PDT could potentially use some additional direction than what's provided in the motion on the range of strategies to consider. I've been thinking about the process that this Board took when it began Addendum II to look at allocation, and the incidental catch provision.

All of that began with a work group, a board work group that discussed the issues and the concerns that developed potential strategies to address these concerns, outline the benefits and the challenges of those strategies. I think that in this instance that would be a better way to move forward at this time, to tackle this item. I am opposing it just on the basis of wanting there to be another step before we initiate a document. Thank you.

CHAIR CLARK: Next up in favor I have Russel Dize.

MR. RUSSEL DIZE: I'm speaking as a life long fisherman, around the Chesapeake Bay we're called watermen, and a pogy fisherman. I have actually worked on a pogy boat and seen what pogy boats catch. I think we're trying to save the osprey, and we're forgetting about the other predator, which is man.

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In Maryland, this year we have no menhaden, none. A friend of mine, Robbie Wilson, who has 3 pound-nets set in the Bay, his highest catch is a half a bushel. One half a bushel, Maryland has no menhaden. What we need to do, what I had planned to do, until Lynn put this motion up, was to ask for a moratorium for two years on pogy fishing in the lower Bay.

This isn't coming from someone who doesn't know it. My brother was a captain of a pogy boat for nearby 40 years. I fished on a pogy boat. I fished in Britain Sound, Mississippi Sound, and the Gulf of Mexico, all the way to Raccoon Point, which is Texas. I know what they can catch and I know what they can do.

But the problem in Maryland is, I want to say the creatures, the predators that have two arms and two legs, because we don't have them and we can't punish the fish for the crab industry. Where do you think the fish are coming from for the crab industry? Maine. They are shipping them down from Maine to furnish bait for the crab industry. Look, we can save the osprey, but I want to save our watermen too. We have plenty of osprey. I love the osprey; I don't want to see anything happen to the osprey.

I want to save our fishermen too. Think about this, because what I had planned to put up here was much more aggressive than this, because we're talking about pogy boats. Let's get down to it, 300-ton boats are pogy boats. There are the boats working out of the factory in Virginia. Think about crossing the Maryland area of the Chesapeake Bay, because we don't get any menhaden if they don't come through Virginia., so think about it. Thank you, Mr. Chairman.

CHAIR CLARK: Thank you, Russel, and opposed now we have Pat Geer.

MR. GEER: A number of factors are affecting osprey; we've already talked about that. You know huge increases in other bird species that are competing with them for food sources. This

motion is basically singling out an industry because of public opinion, in a sense. It doesn't seem appropriate without the necessary science.

You know we're saying, let's go in and try this and see what happens. This motion is leading down a path that the seasonal closure for a fishery, based on public opinion. We need the science first. We need to have that information. You know it is very frustrating for us, and it's embarrassing that we can't get the funding to do this if it is that important. I want to see the science done. I want to see the ERP results first. I want to see what is going on with that before we move forward with anything such as this. The ERP assessment will come out and we'll have information from that. We can look at that and see what happens with that first. But we shouldn't be taking a management action until we have that science in the ERP assessment.

CHAIR CLARK: In the interest of time, I know we have a couple more, Megan Ware and Emerson Hasbrouck that wanted to speak against this motion, but we are running up against it, and I know we have another motion that was wanted to be made by Jeff Kaelin. In the interest of time, I'm just going to turn it over to Jeff right now. My apologies.

MR. KAELIN: I move that this motion be tabled until the Ecosystem Reference Point Peer Review results are available in 2025. That's my motion.

CHAIR CLARK: That would be postpone, Jeff, are you okay with changing the wording.

MR. KAELIN: Postpone uncertain, yes if we're not going to table it.

CHAIR CLARK: Is there a second to that motion? I am not seeing a second, is there a second online? No second, so that motion goes away for lack of a second. That leaves us with the main motion. Pat Geer.

MR. GEER: I'll make a motion to table this.

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CHAIR CLARK: Table would be to consider it in this motion. Would you like to postpone the motion?

MR. GEER: I don't want to postpone it; I want to table it.

CHAIR CLARK: Based on the terminology, table we would still be coming back to it at this meeting.

MR. GEER: At this meeting.

CHAIR CLARK: This meeting, so you want to table it?

MR. GEER: Well, it doesn't have to come forward at this meeting, it has to come forward at the next meeting, according to Roberts Rule.

CHAIR CLARK: Okay, Toni.

MS. TONI KERNS: Pat, tabling is for just within the meeting, postpone you would postpone it to the October meeting.

MR. GEER: Sorry for the clarification on that.

CHAIR CLARK: We're getting a crash course in Roberts Rules of Order here. **Next motion here is to postpone this motion until our October meeting**, we have a second from Marty Gary.

MR. ABBOTT: Point of order.

CHAIR CLARK: Yes, sir.

MR. ABBOTT: Yes, thank you, Mr. Chair. Is this a debatable motion?

CHAIR CLARK: Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: The only portion of a motion to postpone that is debatable is the time element, so if somebody wanted to suggest something other than October that could be debated, but the part

about postponing or not postponing is not debatable.

CHAIR CLARK: Thanks, Bob, so I see a hand there from Allison Colden, did you want to change the time?

DR. COLDEN: No, I have an additional motion.

CHAIR CLARK: Okay, based on the rules, do we have to vote on this first? Okay, so this is the motion that must be voted on, so I think we all want a little time to caucus here, so can we have a two-minute caucus? Okay, we've had caucus time. Does anybody need more time here? Please, raise hands if you do. Not seeing any hands, please return to the table. Thank you. Before we take a vote on this, we have a Board member who has asked to amend the motion with the legal part of the amendment, which is to change the time.

MR. GEER: We just had a discussion of tabling versus postponement, and it's different how you define Roberts Rules, but my intent was to postpone this indefinitely.

CHAIR CLARK: This would be to **amend the motion to change the October meeting to postpone indefinitely**. Do we have a second for that motion? We have a point of order coming from Mr. Abbott.

MR. ABBOTT: We have a motion made by Mr. Geer. That motion now belongs to the Board. I don't believe that it can be changed at this point.

CHAIR CLARK: In other words, Pat made the motion that is up on the Board right now. Let me go to Bob here. Boy this is quite a rule of order.

EXECUTIVE DIRECTOR BEAL: Thanks, turning into a parliamentarian by default. An individual on the Board can amend their own motion, so I don't think Mr. Geer is asking for a friendly amendment here. He is asking to make a motion to amend, changing October meeting to indefinitely.

CHAIR CLARK: Thanks, Bob, okay. It is a legal motion; we have a second from Eric Reid. Do we

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need to caucus on this, because now this is a whole different thing. Instead of bringing it back in October we would be motioning to just put this off forever. Does the Board need time to caucus? Yes, another two minutes. Does anybody need more time to caucus? It looks like everybody is back at the Board. I'm not seeing any hands. Before we vote on this, we do have a hand online from James Minor of Virginia.

MS. KEARNS: I think the Chair has just said, as a reminder you're speaking to the time only. James, you're talking but we can't hear you.

MR. THOMAS P. FOTE: Toni, this is Tom Fote, we can hear him online, it's just not getting through to the meeting.

MR. JAMES MINOR: Just leave the sea with the boat. I'm good. As long as you all can hear me. I was having, I think it was some technical difficulties going on, so I'm here.

CHAIR CLARK: Okay, we've had time to caucus, we have a motion to amend on the floor, and let's vote. **All those in favor of the motion to amend the motion to postpone, please raise your hand and hold them up there. Okay, put those hands down, and now for those opposed, please raise your hands.**

MS. KERNS: **Online we have Florida, South Carolina, and Georgia in opposition.**

CHAIR CLARK: **Is it 9 to 9? Okay, I'm sorry, are there any abstentions? Are there any nulls? Not seeing any, okay the motion fails. It's tied 9 to 9, so that means the original motion is now the main motion, and that motion is, move to postpone until the October meeting. All those in favor, please raise your hands. Okay, sorry about that, put your arms down now, I'm sure you're getting tired. All those opposed to the motion, please raise your hand.**

MS. KERNS: **I also have Florida, South Carolina, and Georgia.**

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CHAIR CLARK: Holy moly, so it looks like the main motion just failed there, right? That's what I meant, not the main motion, I meant the postponed motion. Our motions to postpone, in other words, have both been defeated. Are we going back? Instead, I see, I think we have some other motions that want to be made here. Allison.

DR. COLDEN: Just procedure wise, I want to make sure we're back to the main motion now.

CHAIR CLARK: We are back to the main motion, yes.

DR. COLDEN: You know obviously I was giving my comments earlier, actually I just need to give you the motion first, hold on. **Move to substitute to establish a Board workgroup to consider and evaluate options for further precautionary management of Chesapeake Bay menhaden fisheries, including time and area closures, to be protective of piscivorous birds and fish during critical points of their life cycle.** I did add something to what you had there.

CHAIR CLARK: Thank you, Allison, and we have a second from David Borden. Would you like to speak to the motion, Allison?

DR. COLDEN: Yes, obviously this is something that is critically important to our delegation. I appreciate all of the supportive comments around the table for the main motion, but I do want to just point out that we hear and are responsive to the other members of the Board who have an interest in sitting with this for a little bit longer.

But we also want to make sure that if we were to revisit this later on that we continue to make progress, given all of the concerns that we have seen with the osprey information that was presented, given all the concerns that we hear on a consistent basis from our constituents. I wanted to offer the opportunity to continue that conversation, so that we can have a continued discussion of this at the October annual meeting.

CHAIR CLARK: David, were there any comments you would like to make?

MR. BORDEN: I don't have much to add, other than the fact that I think this is a more logical way to proceed. We'll get back a product that has been thought through, carefully crafted, and hopefully refined. Thank you.

CHAIR CLARK: Okay, I think we've discussed this issue quite a bit, but we do have one person who has not had a chance to really comment on the motion, that is James Minor, oh and Bob has something to say here.

EXECUTIVE DIRECTOR BEAL: Just briefly, before Mr. Minor has a chance to talk. I just wanted to let everyone know that the Chair is recognizing James Minor, because he is a new Commissioner from Virginia, so he is not a member of the public. I just wanted to let people know that that is his position. He hasn't been able to attend the meeting, but he is a new Commissioner from Virginia.

CHAIR CLARK: Thanks, Bob, and thank you, and welcome to the Board, Mr. Minor, and please, go right ahead.

MR. MINOR: My hand was just raised. I think there is something going on with this internet, so I'm good. I don't have any comment, thank you.

CHAIR CLARK: All right, thank you. Do we need time to caucus? We have a comment from Doug Haymans.

MR. DOUG HAYMANS: I thought I heard the maker of the motion say something about time area closures in the motion that I don't see on the board. Also, I'm curious as to whether there is a time that this workgroup should be reporting back to the Board. Thank you.

CHAIR CLARK: Bob, looking at Allison, I think you meant to have some of that in there. Can

that be added as a friendly at this point, or is this that?

EXECUTIVE DIRECTOR BEAL: If she said it, and Allison, I don't remember, so I apologize. If Allison said it, as she was making the motion and it is just differed from what staff had, it's not even a friendly motion, it's just recording what she said, so we could do that. Then I think in her comments Allison mentioned that the workgroup could make some progress and bring at least a first report back at the annual meeting.

CHAIR CLARK: Okay, could the motion be modified to reflect that?

EXECUTIVE DIRECTOR BEAL: Maybe Allison can provide the language around potential spatial and temporal.

DR. COLDEN: Yes, would you like me to just read it into the record again from the beginning?

EXECUTIVE DIRECTOR BEAL: Please.

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

CHAIR CLARK: Okay, thank you. At this point we still have the second from Mr. Borden. I think we've discussed this issue quite a bit. Do any of the delegations need time to caucus? I am not seeing that, so in that case, **I'll call out the states. Okay, so want me to just do the roll call? You're going to do the roll call, okay. Toni is going to do a roll call of the states here. Okay, all in favor raise your hands, and Toni will call out the state. All right, go right ahead.**

MS. KERNS: Massachusetts, Connecticut, New York, New Jersey, Fish and Wildlife Service, NOAA Fisheries, Pennsylvania, North Carolina, Virginia, Potomac River Fisheries Commission, Maryland,

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**Delaware, Maine, New Hampshire, Florida,
South Carolina, Georgia.**

CHAIR CLARK: Okay, was that unanimous?

**Okay, it was not unanimous, all those
opposed, please raise your hand.**

MS. KERNS: None.

**CHAIR CLARK: Okay, so it was unanimous. Is
anybody abstaining from this vote? Are there
any null votes?**

MS. KERNS: Rhode Island.

**CHAIR CLARK: Oh, sorry, I'm sorry, Eric. You
guys are confusing me. Now this motion
becomes our main motion, correct, and we
have to take another vote. Do we need
another roll call, or is this just going to be,
okay, is there any opposition to the motion?
I'm looking at you, Rhode Island.**

**Okay, so we're not having any opposition, the
motion passes, and I believe that will end this
agenda items, correct?**

ADJOURNMENT

Now we are on to Other Business. Is there any
other business to come before the Board? I
hope not. I'm not seeing any, so with that is
there a motion to adjourn? Yes, we do have a
motion to adjourn, so we are adjourned. Thank
you, everybody.

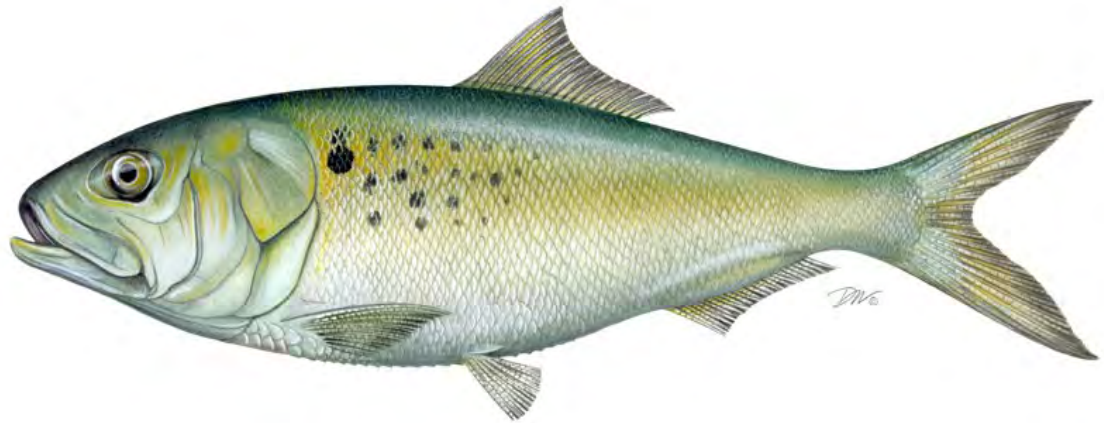
(Whereupon the meeting adjourned at 11:25
a.m. on Tuesday, August 6, 2024)

ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR ATLANTIC MENHADEN
(*Brevoortia tyrannus*)

2023 FISHING YEAR



Prepared by the Plan Review Team



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

**REVIEW OF THE ASMFC FISHERY MANAGEMENT PLAN AND STATE COMPLIANCE FOR
ATLANTIC MENHADEN (*Brevoortia tyrannus*) FOR THE 2023 FISHERY**

Management Summary

<u>Date of FMP:</u>	Original FMP: August 1981
<u>Amendments:</u>	Plan Revision: September 1992 Amendment 1: July 2001 Amendment 2: December 2012 Amendment 3: November 2017
<u>Management Unit:</u>	The range of Atlantic menhaden within U.S. waters of the Northwest Atlantic Ocean, from the estuaries eastward to the offshore boundary of the Exclusive Economic Zone (EEZ).
<u>States With Declared Interest:</u>	Maine – Florida, including Pennsylvania
<u>Additional Jurisdictions:</u>	Potomac River Fisheries Commission, National Marine Fisheries Service, United States Fish and Wildlife Service
<u>Active Boards/Committees:</u>	Atlantic Menhaden Management Board, Advisory Panel, Technical Committee, Stock Assessment Subcommittee, Plan Review Team, Plan Development Team, Ecological Reference Point Workgroup
<u>Stock Status:</u>	Not overfished, and overfishing is not occurring relative to the current ecological reference points (2022 Single-Species Stock Assessment Update)

I. Status of the Fishery Management Plan

Atlantic menhaden management authority is vested in the states because the vast majority of landings come from state waters. All Atlantic coast states and jurisdictions, with the exception of the District of Columbia, have declared interest in the Atlantic menhaden management program.

The first coastwide fishery management plan (FMP) for Atlantic menhaden was passed in 1981. The FMP did not recommend or require specific management actions, but provided a suite of options should they be needed. In 1992, the plan was revised to include a suite of objectives intended to improve data collection and promote awareness of the fishery and its research needs.

[Amendment 1](#), implemented in 2001, provided specific biological, ecological and socioeconomic management objectives. Addenda I and V revised the biological reference points for menhaden and specified that stock assessments are to occur every three years. Although Amendment 1 did not implement any recreational or commercial management measures, Addenda II through IV instituted a harvest cap on the reduction fishery in Chesapeake Bay. Specifically, Addendum II implemented a harvest cap for 2006-2010 fishing seasons; before its first year of implementation, Addendum III revised the cap amount to be the average landings from 2001 to 2005 (or 109,020 mt); and Addendum IV extended the provisions of Addendum III through 2013.

[Amendment 2](#), implemented in 2012, established a 170,800 metric ton (mt) total allowable catch (TAC) for the commercial fishery beginning in 2013. This TAC represented a 20% reduction from average landings between 2009 and 2011. This Amendment also used the 2009-2011 period to allocate the TAC among jurisdictions. Additionally, the Amendment established timely reporting requirements for commercial landings and required states to be accountable for their respective quotas by paying back any overages the following year. Amendment 2 also included provisions that allowed for the transfer of quota between jurisdictions and a bycatch allowance of 6,000 pounds per day for non-directed fisheries that operate after a jurisdiction's quota has been landed. Addendum 1 to Amendment 2 allows two licensed individuals to harvest up to 12,000 pounds of menhaden bycatch when working from the same vessel using stationary multi-species gear; the intent of this provision is to accommodate cooperative fishing practices that traditionally take place in Chesapeake Bay. The Amendment also reduced the Chesapeake Bay reduction fishery harvest cap by 20% to 87,216 mt.

Amendment 2 also enabled the Board to set aside 1% of the coastwide TAC for episodic events. Episodic events are times and areas where Atlantic menhaden are available in more abundance than they normally occur. Technical Addendum I to Amendment 2 established a mechanism for New England states from Maine to Connecticut¹ to use the set aside, which includes a qualifying definition of episodic events, required effort controls to scale a state's fishery to the set aside amount, and a timely reporting system to monitor the set aside. Any unused set aside quota as of October 31 is redistributed to jurisdictions on November 1 based on the Amendment 2 allocation percentages.

In 2015, the TAC was increased by 10% to 187,880 mt for the 2015 and 2016 fishing years. In 2016, the Board again increased the TAC by 6.45% to 200,000 mt for the 2017 fishing year.

Atlantic menhaden are managed under [Amendment 3](#). Approved in November 2017, the Amendment maintained the management program's single-species biological reference points until the review and adoption of menhaden-specific ecological reference points (ERPs) as part of the 2019 benchmark stock assessment process. In doing so, the Board placed development of menhaden-specific ERPs as its highest priority and supports the efforts of the ERP Workgroup to reach that goal. Amendment 3 also changed commercial quota allocations in order to strike

¹ At its May 2016 meeting, the Board added New York as an eligible state to harvest under the set aside.

an improved balance between gear types and jurisdictions. The Amendment allocated a baseline quota of 0.5% to each jurisdiction, and allocated the rest of the TAC based on average landings between 2009 and 2011. This measure provides fishing opportunities to states that had little quota under Amendment 2, while still recognizing historic landings in the fishery. States also have the option to relinquish all or part of its quota which is then redistributed to the other jurisdictions based on the 2009-2011 landings period. The Amendment also prohibits the rollover of unused quota; maintains the quota transfer process; maintains the bycatch provision (which was rebranded as the ‘incidental catch/small-scale fisheries’ (IC/SSF) provision and applicable gear types were defined) and the episodic event set aside program (EESA) for the states of Maine – New York. Finally, the Amendment reduced the Chesapeake Bay cap to 51,000 mt, recognizing the importance of the Chesapeake Bay as nursery grounds for many species by capping recent reduction landings from the Bay at current levels.

[Addendum I](#), implemented in 2023, modifies Amendment 3 by creating a three-tiered system for minimum allocations to the states, with Pennsylvania receiving 0.01%; South Carolina, Georgia, Connecticut, Delaware, North Carolina, and Florida receiving 0.25%; and the remaining states continuing to receive a minimum of 0.5%. Furthermore, the Addendum allocates the remainder of the TAC, excluding the 1% reserved for the EESA, on a state-by-state basis based on landings history of the fishery from 2018, 2019, and 2021. Regarding the IC/SSF provision, the Addendum codifies the ability for states to elect to divide their quotas into sectors, enabling individual sectors to enter into the provision at different times. Additionally, the Addendum removes purse seines as a permitted small-scale directed gear, thereby, prohibiting them from harvesting under the IC/SSF provision. Finally, the Addendum counts IC/SSF landings against the TAC and if IC/SSF landings cause the TAC to be exceeded, then the Board must take action to modify one or both of permitted gear types and trip limits under the provision.

State	Addendum 1 Allocations (%)
ME	4.80%
NH	1.19%
MA	2.12%
RI	0.81%
CT	0.33%
NY	0.84%
NJ	11.00%
PA	0.01%
DE	0.27%
MD	1.17%
PRFC	1.09%
VA	75.21%
NC	0.37%
SC	0.25%
GA	0.25%
FL	0.29%

In August 2020, the Board formally approved the use of ERPs to manage Atlantic menhaden, with Atlantic striped bass as the focal species in maintaining their population. Atlantic striped bass was chosen for the ERP definitions because it was the most sensitive predator fish species to Atlantic menhaden harvest, so an ERP target and threshold sustaining 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 November 2022, the Board approved a TAC for 2023-2025 of 233,550 mt, based on the ERPs. The new TAC represents a 20% increase from the 2021-2022 TAC level. Based on projections, the probability of exceeding the ERP fishing mortality target of 0.19 is 2% in 2023, 22% in 2024, and 28.5% in 2025.

II. Status of the Stock

In February 2020, the Board accepted the results of the [Single-Species](#) and [Ecological Reference Point \(ERP\)](#) Benchmark Stock Assessments and Peer Review Reports for management use. These assessments were peer-reviewed and approved by an independent panel of scientific experts through the 69th SouthEast, Data, Assessment and Review (SEDAR) workshop. The single-species assessment acts as a traditional stock assessment using the Beaufort Assessment Model (BAM), a statistical catch-at-age model that estimates population size-at-age and recruitment. According to the model, the stock is not overfished or experiencing overfishing relative to the current single-species reference points.

The ERP assessment evaluates the health of the stock in an ecosystem context, and indicates the fishing mortality rate (F) reference points for menhaden should be lower to account for the species' role as a forage fish². The ERP assessment uses the Northwest Atlantic Coastal Shelf Model of Intermediate Complexity for Ecosystems (NWACS-MICE) to develop Atlantic menhaden ERPs. NWACS-MICE is an ecosystem model that focuses on four key predator species (striped bass, bluefish, weakfish, and spiny dogfish) and three key prey species (Atlantic menhaden, Atlantic herring, and bay anchovy). These species were chosen because diet data indicate they are top predators of Atlantic menhaden or are key alternate prey species for those predators.

The ERP assessment indicates the F reference points for menhaden should be lower than the single-species reference points, but it also concluded that the final ERP definitions, including the appropriate harvest level for menhaden, depend on the management objectives for the ecosystem (i.e., management objectives for both Atlantic menhaden and its predators). Accordingly, instead of proposing a specific ERP definition, the assessment recommends a combination of the BAM and the NWACS-MICE models as a tool for managers to evaluate trade-offs between menhaden harvest and predator biomass.

Atlantic menhaden are now managed by menhaden-specific ERPs as indicated above. The ERP target is the maximum F on Atlantic menhaden that sustains Atlantic striped bass at their biomass target when striped bass are fished at their F target, a measure of the intensity with which the population is being fished, is used to evaluate whether the stock is experiencing overfishing. The ERP threshold is the maximum F on Atlantic menhaden that keeps Atlantic striped bass at their biomass threshold when striped bass are fished at their F target. Population fecundity, a measure of reproductive capacity, is used to evaluate whether the stock

² it should be noted, however, that the conservative TAC the Board has set for recent years is consistent with the ERP F target provided in the ERP Assessment

is overfished. According to the 2022 single-species stock assessment update, the 2021 estimate of fecundity was above both the ERP FEC target and threshold, and the 2021 estimate of fishing mortality was below the ERP F target and threshold, indicating the stock was neither overfished nor experiencing overfishing. The next ERP benchmark stock assessment and single-species assessment update are underway and scheduled to be presented to the Board in 2025.

III. Status of the Fishery

Commercial

Total commercial Atlantic menhaden landings in 2023, including directed, incidental catch, and EESA landings, are estimated at 166,844 mt (367.8 million pounds), an approximate 15% decrease relative to 2022 and 71.4% of the coastwide commercial TAC of 233,550 mt (514.9 million pounds). There were no reported landings from the incidental catch fishery in 2023 (Table 1).

Reduction Fishery

The 2023 harvest for reduction purposes is estimated at 117,019 mt (258 million pounds), a 13% decrease from 2022 and 15% below the previous 5-year average of 137,583 mt (303.3 million pounds) (Table 2; Figure 3). Omega Protein's plant in Reedville, Virginia, is the only active Atlantic menhaden reduction factory on the Atlantic coast.

Bait Fishery

The coastwide bait harvest estimate for 2023 from state compliance reports, including directed, incidental catch, and EESA landings, is 49,825 mt (109.8 million pounds). This represents a 17% decrease relative to 2022 and a 13% decrease compared to the previous 5-year average (Table 2; Figure 3). New Jersey (37%), Maine (27%), Virginia (24%), and New Hampshire (4%) landed the four largest shares in 2023.

Incidental Catch and Small-Scale Fisheries Landings

There were no reported landings from the incidental catch fishery in 2023 (Table 4).

Episodic Events Set Aside Program

The 2023 EESA quota was 2,317 mt (5.1 million pounds), including a deduction of 40,723 pounds from an overage in 2022. Maine began harvesting under the EESA program on September 4th and continued until their EESA fishery closed on October 31st. Preliminary estimates reported landings of 2,622,635 pounds. Based on the preliminary estimate, 2,485,538 pounds of leftover set aside was redistributed to the states on November 3rd. However, late reporting resulted in a final estimate of 1,274 mt (2.8 million pounds) landed under the EESA fishery (Table 5), resulting in an overage of 185,538 pounds. In December 2023, January 2024, and July 2024, Maine transferred a total of 185,538 pounds to cover the overage (see Table 7).

Chesapeake Bay Reduction Fishery Cap (cap)

Amendment 3 implemented a 51,000 mt harvest cap for the reduction fishery in the Chesapeake Bay. The cap for 2023 was set once again at 51,000 mt with harvest remaining

under the limit in 2022. Reported reduction landings from Chesapeake Bay in 2023 were less than 40,000 mt, which is below the cap.

Recreational

Menhaden are important bait in many recreational fisheries; some recreational fishermen use cast nets to capture menhaden or snag them with hook and line for use as bait, both dead and alive. The Marine Recreational Information Program (MRIP) estimate for Atlantic menhaden harvest (A + B1) in 2023 is 3.9 million pounds (PSE of 20.6) which is a 55% decrease from 2022 (8.8 million pounds).

Additionally, it is important to note recreational harvest is not well captured by MRIP because there is not a known, identified direct harvest for menhaden, other than for bait. MRIP intercepts typically capture the landed fish from recreational trips as fishermen come to the dock or beach. However, since menhaden caught by recreational fishermen are often used as bait during their trip, they are typically not part of the catch that is seen by the surveyor completing the intercept.

Quota Transfers

There were 5 state-to-state transfers in 2023 (Table 8), a decrease from 24 in 2022. Quota transfers were generally pursued to ameliorate overages. One of the purposes of the commercial allocation changes in Addendum I to Amendment 3 was to reduce the need for quota transfers, and the PRT notes the significant decrease in transfers from 2022 to 2023.

IV. Status of Research and Monitoring

Commercial fisheries monitoring

Reduction fishery - The NMFS Southeast Fisheries Science Center Beaufort Laboratory in Beaufort, North Carolina, continues to monitor landings and collect biological samples from the Atlantic menhaden purse-seine reduction fishery. The Beaufort Laboratory processes and ages all reduction samples collected on the East Coast. In addition, the purse-seine reduction fishery continues to provide Captains Daily Fishing Reports (CDFRs) to the Beaufort Laboratory where NMFS personnel enter data into a database for storage and analysis.

Bait fishery - Per Amendment 3, states are required to implement a timely quota monitoring system to maintain menhaden harvest within the TAC and minimize the potential for quota overages. The Standard Atlantic Fisheries Information System (SAFIS) daily electronic dealer reporting system allows near real time data acquisition for federally permitted bait dealers in the Mid-Atlantic and Northeast. Landings by Virginia's purse-seine for-bait vessels (snapper rigs) in Chesapeake Bay are tabulated at season's end using CDFRs maintained on each vessel during the fishing season. A bait-fishery sampling program for size and age composition has also been conducted since 1994. The Beaufort Laboratory, and some states, age the bait samples collected. See *Section VII* for more information on quota monitoring and biological sampling requirements.

Atlantic menhaden research

The following studies relevant to menhaden assessment and management have been published within the last few years:

- Anstead, K. A., K. Drew, D. Chagaris, A. M. Schueller, J. E. McNamee, A. Buchheister, G. Nessler, J. H. Uphoff Jr., M. J. Wilberg, A. Sharov, M. J. Dean, J. Brust, M. Celestino, S. Madsen, S. Murray, M. Appelman, J. C. Ballenger, J. Brito, E. Cosby, C. Craig, C. Flora, K. Gottschall, R. J. Latour, E. Leonard, R. Mroch, J. Newhard, D. Orner, C. Swanson, J. Tinsman, E. D. Houde, T. J. Miller, and H. Townsend. 2021. The path to an ecosystem approach for forage fish management: A case study of Atlantic menhaden. *Front. Mar. Sci.* 8: 607657.
- Chagaris D., K. Drew, A. M. Schueller, M. Cieri, J. Brito, and A. Buchheister. 2020. Ecological Reference Points for Atlantic Menhaden Established Using an Ecosystem Model of Intermediate Complexity. *Front. Mar. Sci.* 7:606417.
- Deyle, E., A. M. Schueller, H. Ye, G. M. Pao, and G. Sugihara. 2018. Ecosystem-based forecasts of recruitment in two menhaden species. *Fish and Fisheries* 19(5): 769-781.
- Drew, K., M. Cieri, A. M. Schueller, A. Buchheister, D. Chagaris, G. Nessler, J. E. McNamee, and J. H. Uphoff. 2021. Balancing Model Complexity, Data Requirements, and Management Objectives in Developing Ecological Reference Points for Atlantic Menhaden. *Front. Mar. Sci.* 8: 608059.
- Liljestrand, E.M., M.J. Wilberg, and A.M. Schueller. 2019. Estimation of movement and mortality of Atlantic menhaden during 1966-1969 using a Bayesian multi-state mark recapture model. *Fisheries Research* 210: 204-213.
- Liljestrand, E.M., M. J. Wilberg, and A. M. Schueller. 2019. Multi-state dead recovery mark-recovery model performance for estimating movement and mortality rates. *Fisheries Research* 210: 214-233.
- Lucca, B. M., and J. D. Warren. 2019. Fishery-independent observations of Atlantic menhaden abundance in the coastal waters south of New York. *Fisheries Research* 218: 229-236.
- Nessler, G. M., and M. J. Wilberg. 2019. A performance evaluation of surplus production models with time-varying intrinsic growth in dynamic ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences* 76(12): 2245-2255.
- Schueller, A.M., A. Rezek, R. M. Mroch, E. Fitzpatrick, and A. Cheripka. 2021. Comparison of ages determined by using an Eberbach projector and a microscope to read scales from Atlantic menhaden (*Brevoortia tyrannus*) and Gulf menhaden (*B. patronus*). *Fishery Bulletin* 119(1): 21-32.

Theses and Dissertations of Potential Interest:

- McNamee, J. E. 2018. A multispecies statistical catch-at-age (MSSCAA) model for a Mid-Atlantic species complex. University of Rhode Island.

V. Implementation of FMP Compliance Requirements

All states are required to submit annual compliance reports by August 1.

Quota Results

The Board set the TAC at 233,550 mt (514.9 million pounds) for 2023-2025 based on the adopted ERPs. 1% is set aside for episodic events. States may relinquish all or part of its annual quota by December 1st of the previous year. Delaware relinquished one million pounds of quota, which was redistributed to the states according to procedures outlined in Addendum I to Amendment 3 and is reflected in the 2024 Preliminary Quota in Table 7.

Table 7 also contains 2023 state-specific quotas and directed harvest. The final quotas for 2023 account for one million pounds of quota relinquished by Delaware, state-to-state transfers (Table 8), and transfers to the EESA. Based on preliminary 2023 landings, Maine incurred an overage of 807,216 pounds, which was deducted from their 2024 quota.

Quota Monitoring

The Board approved timely quota monitoring programs for each state through implementation of Amendment 3. Monitoring programs are intended to minimize the potential for quota overages. Table 6 contains a summary of each state's approved quota monitoring system.

Menhaden purse seine and bait seine vessels (or snapper rigs) are required to submit CDFRs. Maine, New York, and Virginia fulfilled this requirement in 2023. New Jersey did not require purse seine vessels to fill out the specific CDFR but did require monthly trip level reporting on state forms that include complementary data elements to the CDFR. Rhode Island purse seine vessels must call in daily reports to RI DMF and fill out daily trip level logbooks. New Hampshire also does not require the specific CDFR, but does require daily, trip-level reporting from dealers and monthly trip-level reporting from harvesters. Massachusetts requires trip level reporting for all commercial fishermen. Menhaden purse seine fisheries do not currently operate in all other jurisdictions in the management unit.

Biological Monitoring Requirements

Amendment 3 maintains biological sampling requirements for non *de minimis* states as follows:

- One 10-fish sample (age and length) per 300 mt landed for bait purposes for Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Delaware; and
- One 10-fish sample (age and length) per 200 mt landed for bait purposes for Maryland, Potomac River Fisheries Commission, Virginia, and North Carolina

Table 9 provides the number of 10-fish samples required and collected for 2023. These are based on the best available 2023 total bait landings data (including directed, incidental, and EESA landings) provided to the Commission by the states. In 2023, Connecticut fell short of the requirement, failing to collect one required sample. However, Connecticut noted the fishery-independent samples collected from the Long Island Sound Trawl Survey, which produced 100 age and 525 length samples over 158 tows.

The PRT continued to discuss whether a sufficient number of age and length samples are being collected from different commercial gear types as well as regions, and whether substituting samples from fishery-independent sources is appropriate for meeting the requirement. The Stock Assessment Subcommittee will evaluate the biological sampling as part of the 2025 single-species assessment update.

Adult CPUE Index Requirement

Amendment 3 requires that, at a minimum, each state with a pound net fishery must collect catch and effort data elements for Atlantic menhaden as follows; total pounds landed per day, number of pound nets fished per day. These are harvester trip level ACCSP data requirements. In May of 2013, the Board approved North Carolina's request to omit this information on the basis that it did not have the current reporting structure to require a quantity of gear field by harvesters or dealers. In recent years, NC DMF staff have worked to develop a proxy method to estimate effort but this approach likely would not work for developing an adult CPUE index.

De Minimis Status

To be eligible for *de minimis* status, a state's bait landings must be less than 1% of the total coastwide bait landings for the most recent two years. State(s) with a reduction fishery are not eligible for *de minimis* consideration. If granted *de minimis* status by the Board, states are exempt from implementing biological sampling as well as pound net catch and effort data reporting. The Board also previously approved a *de minimis* exemption for New Hampshire, South Carolina and Georgia from implementation of timely reporting. The states of Pennsylvania, South Carolina, Georgia, and Florida requested and qualify for *de minimis* status for the 2023 fishing season.

VI. Plan Review Team Recommendations and Notable Comments

Management Recommendations

- The PRT recommends that the *de minimis* requests from Pennsylvania, South Carolina, Georgia, and Florida, be approved.

VII. Literature Cited

Atlantic States Marine Fisheries Commission (ASMFC). 2022. Atlantic Menhaden Stock Assessment Update. Prepared by the ASMFC Atlantic Menhaden Stock Assessment Subcommittee. 127 pp.

Southeast Data, Assessment, and Review (SEDAR). 2015. SEDAR 40 – Atlantic Menhaden Stock Assessment Report. SEDAR, North Charleston SC. 643 pp.

SEDAR. 2020. SEDAR 69 – Atlantic Menhaden Benchmark Stock Assessment Report. SEDAR, North Charleston SC. 691 pp. available online at: <http://sedarweb.org/sedar-69>

SEDAR. 2020. SEDAR 69 - Atlantic Menhaden Ecological Reference Points Stock Assessment Report. SEDAR, North Charleston SC. 560 pp. available online at: <http://sedarweb.org/sedar-69>

Table 1. Directed, bycatch, and episodic events set aside landings in 1000s of pounds for 2023 by jurisdiction. Source: 2023 ASMFC state compliance reports for Atlantic menhaden. NA = not applicable; C = confidential

State	Directed	Incidental Catch	EESA
ME	26,456	-	2,808
NH	4,376	-	-
MA	2,972	-	-
RI	160	-	-
CT	200	-	-
NY	650	-	-
NJ	40,857	-	NA
DE	47	-	NA
MD	2,001	-	NA
PFRC	2,051	-	NA
VA	284,270	-	NA
NC	826	-	NA
SC	0	-	NA
GA	0	-	NA
FL	155	-	NA

Table 2. Atlantic menhaden reduction and bait landings in thousand metric tons, 1989-2023.

	Reduction Landings (1000 mt)	Bait Landings (1000 mt)
1989	284	31.5
1990	343	28.1
1991	330	29.7
1992	270	33.8
1993	310	23.4
1994	260	25.6
1995	340	28.4
1996	293	21.7
1997	259	24.2
1998	246	38.4
1999	171	34.8
2000	167	33.5
2001	234	35.3
2002	174	36.2
2003	166	33.2
2004	183	34.0
2005	147	38.4
2006	157	27.2
2007	174	42.1
2008	141	47.6
2009	144	39.2
2010	183	42.7
2011	174	52.6
2012	161	63.7
2013	131	37.0
2014	131	41.6
2015	143	45.8
2016	137	43.1
2017	129	43.8
2018	141	50.2
2019	151	58.1
2020	125	59.6
2021	137	58.4
2022	134	60.1
2023	117	49.8
Avg 2018-2022	138	57.3

Table 3. Incidental fishery landings by state in 1000s of pounds, 2013-2023. Only states that have reported incidental catch landings are listed. Average total incidental catch landings for the time series is 7.7 million pounds.

State	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
ME		-	-	506	5,374	2,995	10,751	13,605	11,771	15,602	-
MA								49	174	595	-
RI	16	99	70	40	136	-	-	-	C	-	-
CT	0	-	10	-	124	-	-	-	C	-	-
NY	0	325	769	281	807	-	-	282	310	-	-
NJ	0	626	241	196	-	204,240	-	20	C	-	-
DE	76	112	92	21	29	-	-	-	-	-	-
MD	2,864	2,201	1,950	996	-	-	-	-	-	-	-
PRFC	1,087	1,112	455	106	670	-	-	-	-	-	-
VA	268	2,232	2,103	326	-	110,281	-	-	-	1,784	-
FL	65	126	302	111	264	-	-	-	-	-	-
Total	4,377	6,831	5,992	2,581	7,404	3,215	10,751	13,957	12,336	16,152	0

Table 4. Total incidental landings (1000s of pounds), number of trips, and number of states reporting landings in the incidental catch fishery, 2013-2023.

Year	Landings (1000s of pounds)	Number of Trips	Number of states landing
2013	4,377	2,783	6
2014	6,831	5,275	8
2015	5,992	4,498	9
2016	2,581	2,222	9
2017	7,407	2,108	7
2018	3,310	1,224	3
2019	10,751	3,113	1
2020	13,957	3,565	4
2021	12,336	3,099	6
2022	17,980	4,134	3
2023	0	0	0
Total	85,522	32,021	

Table 5. Episodic Events Set-Aside (EESA) fishery quota, landings, and participating states by year. *The 2022 overage was partially covered by a quota transfer and the remainder was deducted from the 2023 set aside.

Year	States Declared Participation	EESA Quota (MT)	Landed (MT)	% EESA Quota Used
2013		1,708	-	-
2014	RI	1,708	134	7.8%
2015	RI	1,879	854	45.5%
2016	ME, RI, NY	1,879	1,728	92.0%
2017	ME, RI, NY	2,000	2,129	106.5%
2018	ME	2,031	2,103	103.6%
2019	ME	2,160	1,995	92.4%
2020	ME & MA	2,160	2,080	96.3%
2021	ME, MA, RI	1,944	2,213	113.8%
2022	ME, MA	1,944	1,992	102.4%
2023*	ME	2,317	1,274	55.0%

Table 6. State quota reporting timeframes in 2023. The **bold** text indicates which reporting program (dealer or harvesters) the states use to monitor its quotas. **Blue text** indicates changes from 2022.

State	Dealer Reporting	Harvester Reporting	Notes
ME	monthly	daily/weekly	Harvesters must report same day during directed and episodic event trips; harvesters report daily trips weekly for trips <6,000 lbs. Harvest reports are used for quota monitoring.
NH	daily	monthly	Exempt from timely reporting. Implemented daily, transaction level reporting for state dealers.
MA	weekly	monthly/daily	Harvesters landing greater than 6,000 lbs must report daily
RI	twice weekly	quarterly/daily	Harvesters using purse seines must report daily
CT	weekly/monthly	monthly/daily	CT operates as directed fisheries until 90% of the quota is harvested. Then operates at the 6,000 pound bycatch trip limit.
NY	Weekly	monthly	Capability to require weekly harvester reporting if needed
NJ	weekly	monthly	All menhaden sold or bartered must be done through a licensed dealer
DE	—	monthly/daily	Harvesters landing menhaden report daily using IVR
MD	monthly	monthly/daily	PN harvest is reported daily, while other harvest is reported monthly.
PRFC	—	weekly	Trip level harvester reports submitted weekly. When 70% of quota is estimated to be reached, then pound netters must call in weekly report of daily catch.
VA	—	monthly/weekly/daily	Purse seines submit weekly reports until 97% of quota, then daily reports. Monthly for all other gears until 90% of quota, then reporting every 10 days.
NC	monthly (combined reports)		Single trip ticket with dealer and harvester information submitted monthly. Larger dealers (>50,000 lbs of landings annually) can report electronically, updated daily.
SC	monthly (combined reports)		Exempt from timely reporting. Single trip ticket with dealer and harvester information.
GA	monthly (combined reports)		Exempt from timely reporting. Single trip ticket with dealer and harvester information.
FL	monthly/weekly (combined reports)		Monthly through the FWC Marine Fisheries Trip Ticket system until 75% of quota is projected to have been met, then weekly phone calls to dealers who have been reporting menhaden landings until the directed fishery is closed.

Table 7. Results of 2023 quota accounting in pounds. The 2024 base quotas account for the redistribution of relinquished quota by Delaware (1 million pounds).

State	2023 Base Quota*	Returned Set Aside	Transfers^	Final 2023 Quota	Overages	2024 Base Quota*
ME	24,510,314	113,697	1,025,000	25,649,011	867,754**	23,642,560
NH	6,052,530	18,140		6,070,670		6,052,530
MA	10,838,902	42,919	-100,000	10,781,821		10,838,902
RI	4,147,882	8,279	-300,000	3,856,161		4,147,882
CT	1,472,767	2,170	-750,000	724,937		1,693,471
NY	4,298,217	9,057		4,307,274		4,298,217
NJ	56,172,891	277,616		56,450,507		56,172,891
PA	50,974	-		50,974		50,974
DE	375,998	527		376,526		375,998
MD	5,947,968	17,598		5,965,566		5,947,968
PRFC	5,547,544	15,525	-2,000,000	3,562,968		5,547,444
VA	384,164,855	1,975,692	2,000,000	388,140,547		384,172,558
NC	1,892,146	3,198		1,895,344		1,892,146
SC	1,274,601	1		1,274,603		1,274,601
GA	1,274,352	-		1,274,352		1,274,352
FL	1,490,464	1,119		1,491,583		1,490,464
Total	509,387,305	2,485,538		512,226,250		508,872,958

*Includes redistributed relinquished quota for that year and any overages from the previous season.

**Includes 2023 directed fishery overage and transfer of 2024 quota to EESA to ameliorate overage in 2023 EESA from late reporting.

^Includes inter-state transfers and transfers to the EESA quota.

Table 8. State-to-state transfers of menhaden commercial quota for the 2023 Fishing year.

Transfer Date	ME	NH	MA	RI	CT	NY	NJ	PA	DE	MD	PRFC	VA	NC	SC	GA	FL
8/24/2023											7,703	(7,703)				
10/11/2023											(2,000,000)	2,000,000				
10/13/2023	750,000				(750,000)											
12/21/2023	300,000			(300,000)												
1/26/2024	100,000		(100,000)													
Total	1,025,000	-	(100,000)	(300,000)	(750,000)	-	-	-	-	-	(1,992,297)	1,992,297				

Table 9. Biological monitoring results for the 2023 Atlantic menhaden bait fishery.

*Age samples are still being processed

State	#10-fish samples required	#10-fish samples collected	Age samples collected	Length samples collected	Gear/Comments
ME	47	55	550	550	50 samples from directed fishery, 5 during EESA; 47 samples from purse seines, 8 samples gillnets
NH	7	7	70	70	Purse Seine
MA	4	10	100	100	All purse seine
RI	1	1	10	10	Otter Trawl (42 additional FI samples available)
CT	1	-	-	-	Long Island Sound Trawl Survey - 158 tows in 2023; collected 100 age/525 length samples
NY	1	16	161	161	cast net, seine net
NJ	58	85	85	850	Purse Seine
	3	3	3	30	Other Gears
DE	1	1	10	10	Gill net
MD	5	26	455	1,095	Pound net
PRFC	5	8	80	80	pound net
VA	3	5	56	56	Pound Net
	2	50	502	502	Gill Net
	-	12	120	120	haul seine
NC	2	9	86	236	gillnet
Total	140	288	2200	3870	

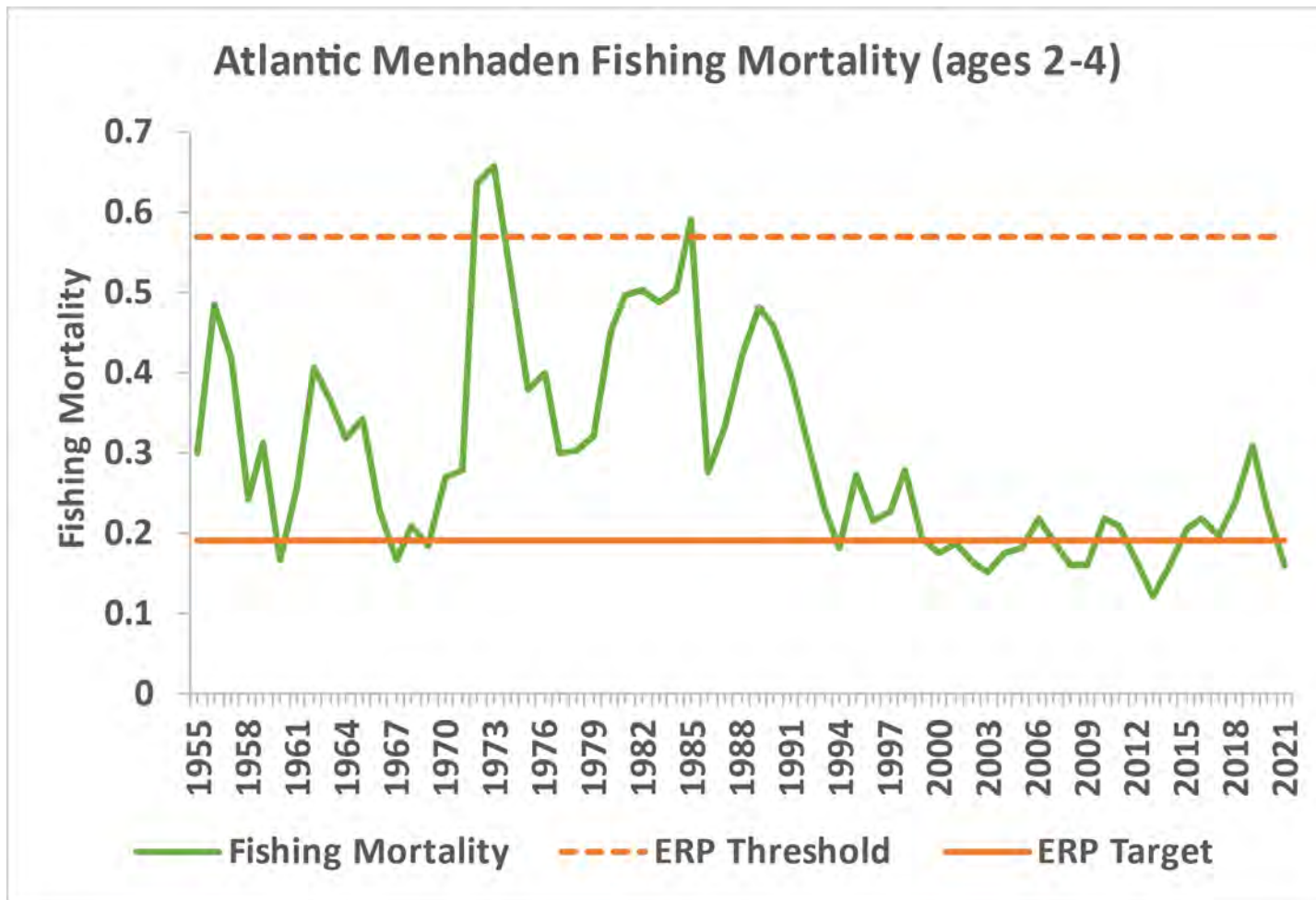


Figure 1. Fishing mortality, 1955-2021. The ERP fishing mortality reference points are $F_{\text{target}} = 0.19$ and $F_{\text{threshold}} = 0.57$. $F_{2017} = 0.16$. Source: ASMFC 2022.

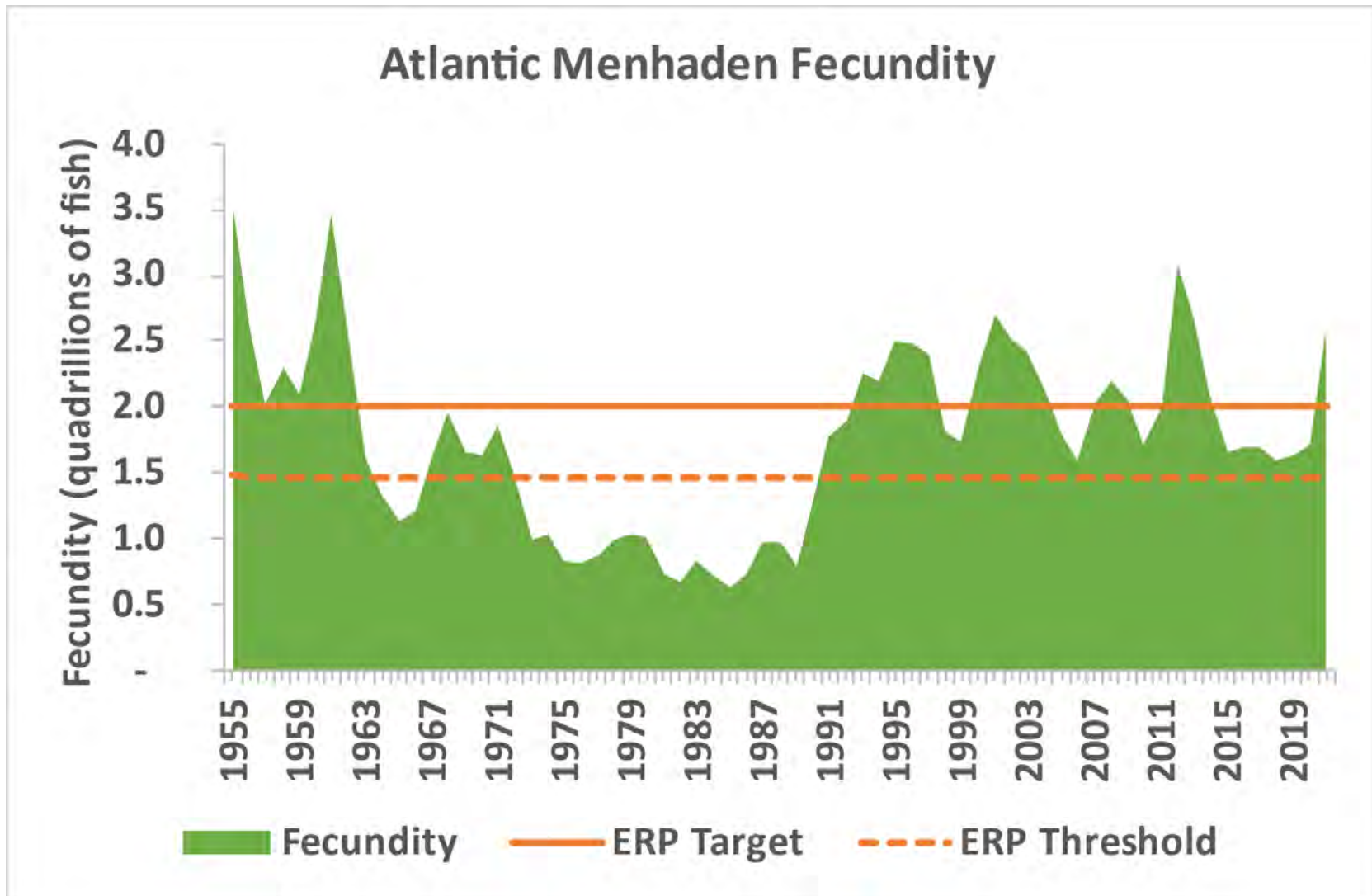


Figure 2. Atlantic menhaden fecundity, 1955-2021. The ERPs for population fecundity are $FEC_{target} = 2,003,986$ (billions of eggs), and $FEC_{threshold} = 1,492,854$ (billions of eggs). Source: ASMFC 2022.

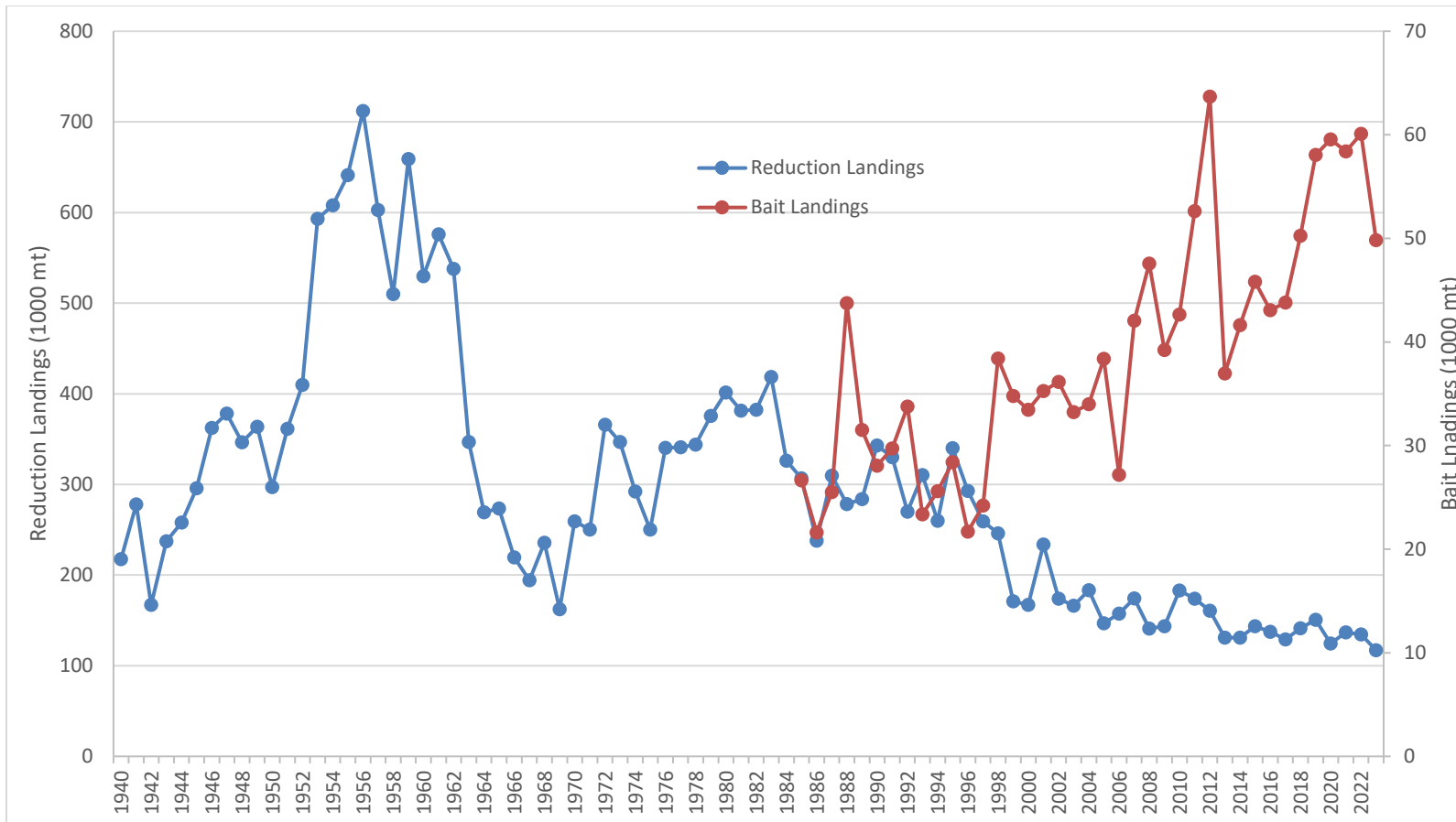


Figure 3. Landings from the reduction purse seine fishery (1940–2023) and bait fishery (1985–2023) for Atlantic menhaden. Note: there are two different scales on the y-axes.

James Boyle

From: tomoko hamada <hamada.tomoko.san@gmail.com>
Sent: Wednesday, September 18, 2024 4:28 PM
To: John Clark; Caitlin Craig; Meghan Lapp
Cc: James Boyle
Subject: [External] Atlantic Menhaden 2024 Latest osprey report

ASMFC Menhaden Management board Please Distribute to Atlantic Menhaden working group in preparation for ASMFC October meeting.

Please include this as public comments before the upcoming October meeting. Thank you.

Dear Menhaden Management board and menhaden working group members .

I am a professor emerita of the College of William and Mary, Ph.d., who lives at 1076 Sand Bank Rd, Port Haywood, VA 23138 that faces the Chesapeake Bay. I have been an osprey observer and a citizen scientist member of [Osprey-watch.org](https://www.osprey-watch.org), which is a global community of observers focused on breeding osprey. The mission of Osprey-watch is to collect information on a large enough spatial scale to be useful in addressing most pressing issues facing aquatic ecosystems that include depletion of fish stocks and environmental degradation.

The Chesapeake is the world's largest osprey breeding ground. Live fish make up almost 99% of the osprey diet. In the lower Bay with waters above 10 ppt salinity, osprey pairs has been suffering due to very low menhaden stocks, while those nesting in the upper Bay continue to grow, partly because the States facing the Upper Bay waters (Maryland, Delaware, New Jersey, New York) have already banned commercial menhaden fishing and because the Upper Bay osprey can depend on other fish species (gizzard shad & blue/channel catfish) besides menhaden.

In the Mobjack Bay near my house, the osprey story is heart-breaking. In June 2022, the Center for Conservation Biology researchers at William and Mary found that only three chicks out of 84 nests in the Mobjack Bay were alive. The rest had starved to death. In 2023 the Center found that only 21 young among 167 nests were alive in the lower Bay. The fish delivery rate has declined despite the fact that male osprey spending more hunting effort to catch them. The current low reproductivity of osprey is worse than the worst of the DDT era.

In summer 2023, together with some 80 Virginians, I organized the OspreyWatch Alliance which is a group of private citizens who are very much concerned about the crisis of ospreys in our back water and who want to do something to save ospreys.

This year, in September 2024, the Center for Conservation Biology has compiled 2024 breeding performance results for osprey.

The CCB researchers' monitoring efforts included 511 osprey pairs distributed among twelve study areas. Nine study areas where salinity exceeded 10 ppt were selected as the main sample data, while two study areas on upper tributaries where salinity was less than 1ppt were used as reference sites for comparison. Cameras were mounted on a subsample of nests within all study areas to quantify diet and brood provisioning and to determine the cause of nest failure.

Collectively, the reproductive rate of osprey pairs in the main stem of the Bay was 0.55 young/pair, that was below the population maintenance level of 1.15. In comparison, reproductive rate within reference sites was 1.36 young/pair, that was above the maintenance target.

Based upon direct observations during nest visits, there was no question to osprey observers that the largest contributing factor to poor breeding performance was the loss of young due to starvation.

One of the best indicators of food stress in Chesapeake Bay ospreys is the frequency of single-chick broods in the population. Of all broods successfully produced within main stem study areas (N=152), more than half (53.3%) were single-chick broods. In contrast, only 18.2% of the 55 broods within reference study areas were single-chick broods. On average, main stem pairs lost 1.1 young between hatching and fledging compared to only 0.3 for pairs in reference sites. This subpopulation of osprey is underwater, demographically.

What is more, osprey observers noticed that a large number of osprey pairs did not lay clutches during the 2024 nesting season. These pairs arrived from wintering grounds in a timely manner (late Feb-early March) and defended their territories but they never laid eggs. This is the first time that this behavior has been documented on a large scale within the Bay. A likely explanation for the behavior is that females were not able to reach the adequate physiological body condition required to lay eggs. What we are seeing is a hollowing out of the population specific to the main stem of the Bay, and it was clear that ospreys in our water could not find menhaden to feed the young.

Please note that Omega Protein (<https://omegaprotein.com>) in Reedville VA is the ONLY commercial menhaden fishing Company in the State of VA. ALL other ASMFC member-States have already prohibited industrial menhaden fishery-- Thus, the Atlantic menhaden quota allocations of these states are very low (between 0.01% of the total in Pennsylvania to 11.0% in New Jersey), except for Virginia that gets a whopping 75.21% of menhaden quota allocations. And I like to repeat that Omega is the only commercial fishery company in Virginia, owned by Canada's Cooke Inc., and Omega uses most destructive purse seine fishing methods (to scoop up not only menhaden but also many bi-catches).

Against Virginia citizens' complaints, Omega has indicated that they have not fished in the Mobjack Bay area since 2000. But they state that their vessels work where the fish are; that they use spotter planes daily to determine where to fish; and then they send convoys of vessels to use purse seine fishing to catch menhaden.

I understand that the management board has already examined the USGS studies discussed during the August meeting. However, please do note that the USGS does not represent all that is known about the Bay osprey population. USGS did minimal (actual observation) fieldwork with osprey and they used breeding bird survey data (BBS) to examine regional trends. There are many other scientific data specific to ospreys. Please DO make sure to listen to other very reliable, scientific and osprey-specific studies compiled by scientists.

As precautionary measures, we osprey watchers sincerely and strongly request that the Atlantic Menhaden management board formalize restrictive rules and measures against menhaden reduction fishing in the Virginia/lower Bay waters in order to revive ospreys annual reproductive performances. For the sake of the osprey, we propose that there should be no fishing within the Chesapeake Bay from March 15 to August 15.

I can not see any compromise positions that would allow any fishing within 3 miles of the shoreline within the Bay during those months.

Sincerely yours

Tomoko Hamada, Ph.D.

Organizer

Osprey-Watch Alliance

hamada.tomoko.sann@gmail.com

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

James Boyle

From: tomoko hamada <hamada.tomoko.san@gmail.com>
Sent: Wednesday, September 18, 2024 4:47 PM
To: John Clark; Caitlin Craig; Meghan Lapp; James Boyle
Subject: [External] Response to Omega's claim re Menhaden issue

Dear Atlantic States Fisheries Management Board, Menhaden management board

As you may know Omega Protein is the only company that continues commercial purse-seine fishing of menhaden in the Virginia Water.

The company sent the comments re ospreys and menhaden to your board and the following response are given by Osprey scientist/expert.

Thank you

Tomoko Hamada, Ph.d.

Osprey-Watch Alliance

RESPONSE TO OMEGA COMMENTS.

BY BRYAN WATTS

COMMENT - To put it charitably, the motion puts the proverbial horse before the cart, assuming that "further precautionary management" measures – *i.e.*, measures beyond the precautionary

Chesapeake Bay reduction fishery cap 51,000 metric tons ("mt") – are needed to protect

piscivorous birds and fish. There is no evidence, however, that the menhaden bait and reduction fisheries in the Bay are having any adverse impacts on avian or fish predators. Nor is it likely that the current menhaden fishery in the Chesapeake Bay is having adverse effects given that it is currently being prosecuted at some of the lowest levels in the past 150-plus years and the unitary, migratory menhaden stock is both highly abundant and conservatively managed.

RESPONSE – To the contrary, this assessment and consideration is overdue not premature. There has been evidence for at least 20 years that consumers in the Bay (osprey and striped bass as only 2 examples) that depend on menhaden as a primary food source have been impacted by low menhaden availability. The current level of harvest relative to historic harvest is not relevant to this issue. The famous collapse of the Pacific sardine stock is a prime example of this same pattern. When a stock is limited within a specific location you do not accelerate harvest you ease back on harvest to allow for recovery.

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

RESPONSE – The USGS did not present all that is known about the Bay osprey population. USGS has done minimal fieldwork with osprey in the Bay. They used breeding bird survey data (BBS) to examine regional trends. This metric is based on point counts conducted by citizens and is a poor representation of the population. It is not really designed to examine fine-scale trends. Its use was not necessary in this case since we have population assessments for the Bay. Yes, it is true that the osprey population in the Bay has increased dramatically since the DDT era. As with virtually all osprey populations around the globe the Bay population declined by approximately 90% due to DDT. The population has recovered ten fold since the lows of the 1960s. We reached 3,500 pairs by 1995 and now are in the range of 10,000 pairs. However, we have seen dramatic spatial variation in recovery patterns. Pairs in lower salinity (<5 ppt) reaches have increased dramatically and this increase is continuing to

present. These lower salinity subpopulations are driving the Bay-wide recovery. Subpopulations around the main stem of the Bay are either stable or declining since the mid-1990s. See Watts et al. 2004 – Status and distribution of osprey in the Chesapeake Bay. We are now seeing a hollowing out of populations along the main stem. The main stem of the Chesapeake Bay was considered a global stronghold for osprey during the DDT era and was a key population that supported the restoration of osprey populations across many states. This historic population is now suffering from an inadequate prey base.

Osprey populations are not declining along the entire Atlantic Coast. Your figure is from e-bird data which reflects reports of detections from birders. These should not be confused with systematic or benchmark surveys. What is going on in the Bay should not be conflated with what is going on elsewhere. The patterns we are seeing in the main stem of the Bay are specific to the main stem of the Bay.

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

RESPONSE – There is no documented general coastal decline in osprey. Yes, there are many ways for an osprey nest to fail and these have been documented widely. The facts in this case which have been presented in several different ways and are unequivocal demonstrate that poor breeding performance in the main stem of the Bay is due to brood reduction via starvation. We have shown this in the 40+ year retrospective (see Watts et al. 2024) that indicates 1) reproductive rates have gone from surplus to deficit during the 1990s, 2) this decline is due to an increase in brood reduction (chicks starving in the nest) and 3) the brood reduction is the result of reduced provisioning rates with menhaden. We later demonstrated this deficit by conducting a food supplementation study (Academia and Watts 2023) and showed definitively that increases in menhaden provisioning will drive productivity back to surplus. The issue here is that there is not enough menhaden available to osprey to support a viable breeding population within the main stem of the Bay. In 2024, we worked throughout the main stem of the Bay and showed that 1) none of the 10 study areas broke even demographically and 2) low reproductive rates were attributed to brood reduction via starvation. Let me be clear that the issue of 1) reproductive rates for osprey in the main stem of the Bay are below that required to sustain a population and 2) the driving factor for the poor reproductive performance is brood reduction via starvation is settled. The debate needs to move beyond this point.

The issue of food competition continues to be brought up in this discussion. Yes, it is true that a number of species that depend on fish within the Bay have recovered from DDT lows including osprey, bald eagle, great blue heron, brown pelican, double-crested cormorants and others. However, to suggest that food competition between these birds is driving the poor reproductive performance in osprey shows no understanding of the basic metabolic demands. It was shown in McLean and Byrd (1991) – (the diet of Chesapeake Bay ospreys and their impact on the local fishery) that consumption by osprey is trivial compared to harvest. Later modeling that I conducted in the 2000s showed that the entire bird community does not have the capacity to exert control on fish populations. All of the species combined represent a rounding error on both the commercial harvest and the estimated consumption by fish predators. The birds on their own do not have the capacity to undermine productivity. However, both the commercial harvest and the community of fish predators do.

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

RESPONSE – The study that USGS is referring to is mine. The intent is to compile data from osprey monitoring efforts along the entire Atlantic Coast (dozens of efforts some of which date back several decades). This includes hundreds of thousands of nest checks. Once the data have been compiled, we would be in a position to relate population and demographic metrics for osprey to menhaden indices over time. The amount of effort expected to collect, compile and make the monitoring data usable is significant. To date, there has been no funding made available to support this work. Without funding this effort will not be completed by the end of 2025.

COMMENT - Beyond the lack of scientific information to inform any management action, another reason to avoid a narrow focus on the menhaden fisheries is that it is far from the only or even most important food source for osprey. USGS presented information that only in the large mid-Bay

region, where salinity is about 8-13 parts per million, do menhaden comprise a significant portion of ospreys' diet. And in that region, osprey are even more dependent on striped bass, an overfished population currently subject to a rebuilding program. In the southern portion of the Chesapeake Bay, where the reduction fishery is concentrated, menhaden comprise only about 24% of osprey diet, with spotted sea trout being the dominant forage fish.

RESPONSE – This statement is nonsensical. Ospreys nesting in waters of the Chesapeake Bay that are >10ppt (including all the way to the mouth) are menhaden-dependent. This is a very large swath of the Chesapeake and includes the lower reaches of major tributaries. Within these waters menhaden appear to be a keystone species. Historically, menhaden accounted for more than 70% of the diet and Chesapeake Bay osprey were considered from the 1960s to 1980s to be menhaden specialists. Osprey are not more dependent on striped bass which represents a minor diet component. The importance of menhaden in the diet since the 2000s has declined to below 30% and this is why we believe that productivity has declined. I have no idea where the comment comes from about dietary percentages in the lower Bay.

Globally and within the Chesapeake, osprey take a wide range of fish species. However, all of these species are not equal. I would ask why is it that Omega does not run the reduction operation on spot or trout? It is because these species do not have the same energy density (lipid content) and they do not school in the same way. The same is true for osprey. Osprey depend on the energy density and the schooling behavior of menhaden to break even. They do not do well with a diet dominated by species with low energy density.

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

RESPONSE – Osprey are not generalists when it comes to feeding. As indicated above, menhaden are a keystone species for osprey and for other piscivores in the Bay. Their characteristics of high energy density and dense schooling make them unique in the Bay to predators.

COMMENT - There is only one study that purports to identify the menhaden fishery as the culprit in the lack of nesting success in one small portion of the Chesapeake Bay. That report, "[Food supplementation increases reproductive performance of ospreys on the lower Chesapeake Bay](#)," authored by master's candidate Michael H. Academia and Bryan D. Watts, director of the College of William & Mary's Center for Conservation Biology ("CCB"), focuses on observed low rates of reproductive success among osprey inhabiting Mobjack Bay, an area along the western side of the lower Chesapeake Bay. The study found that providing fish to nests improves survival of the young birds.

RESPONSE – This is not the only study focused on the issue. See Watts et al. 2024 that examines a range of reproductive metrics across more than 40 years and concludes that changes in menhaden abundance and the most likely explanation for shifts in reproductive rates, provisioning rates, brood reduction, nest failure, etc.

The food supplementation study shows that not only are supplemented nests more productive than control nests but reproductive rates were pushed above maintenance levels which has implications at the population level.

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

RESPONSE – As indicated above, the food stress experienced by osprey pairs and the resulting poor breeding performance extends throughout the main stem of the Bay and is not restricted to Mobjack Bay.

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

RESPONSE – Everything in the patterns we have collected suggests that menhaden abundance is the cause of the lower provisioning rates and poor reproduction. Provisioning overall and with menhaden has declined dramatically. If you look at the energy content of the diet it has declined by 50% due to the lack of menhaden. The data we have indicates that the change in reproductive performance occurred during the 1990s and likely the late 1990s. If you don't believe the osprey in terms of menhaden declines in Mobjack Bay then listen to both the bait and reduction fisheries. During the partnership meeting in the summer of 2023, both Omega and the bait companies indicated that they used to fish for menhaden in Mobjack but have not since about 2000. Given that they are using spotter planes the clear implication is that there are now not enough menhaden in Mobjack to make it worth their while to fish there. Their own fishing behavior suggests that there has been a change in menhaden within Mobjack Bay.

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

RESPONSE – Typical osprey fish size is 10-12 inches but will take smaller and larger fish. Most of the menhaden taken by osprey are likely in the year 2-4 classes. I do not know of any menhaden data that will help to resolve the spatial variation in menhaden abundance at the consumer level. If such data existed it would be a simple matter to relate osprey reproductive success at the subestuary level with menhaden abundance.

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

RESPONSE – These comments are reminiscent of those made during the 1940s before the loss of the Pacific sardine fishery. The gross take is not the issue but rather the take relative to what the stock can sustain. Since we have no independent data on the abundance of menhaden in the Bay, we have no way of independently assessing if the current take is sustainable. Omega is the only entity that has the data to evaluate trends in menhaden over time. Release the flight logs and the catch data so that we can evaluate the trend in catch per unit search over time. Since this is the only dataset capable of resolving trends over time, without using it we will continue to twist in the wind and have unproductive debates.

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

RESPONSE – I have been asking about fisheries data since the early 2000s. It is clear that the fisheries data is inadequate to address the questions. This is why in 2021 we did a supplementation study. If the menhaden data were available at a scale that is relevant to the consumer it would have been a simple matter to relate the two. There is no indication that osprey are declining along the entire south Atlantic. I would say that along the Atlantic north of the Chesapeake where menhaden have shown recent recovery, osprey are producing very well.

COMMENT - The timing and location of the menhaden fishery do not suggest that it could have had an impact on the availability of menhaden in Mobjack Bay. At the recent meeting of the Ecological Reference Point Working Group meeting, Dr. Watts indicated that the highest number of nest failures in 2021 occurred in May. However, that month, none of Ocean Harvester's vessels made all of its sets above the study area, indicating that

menhaden had entered the Bay, but apparently did not choose to enter Mobjack Bay in significant numbers. Likewise in June, no sets were made anywhere near the nesting sites.

RESPONSE – To suggest that the only way that harvest can impact the distribution and availability of fish is when the fleet is removing them is far too limited a perspective. It is hard to know how repeated harvest over a long time period will influence distribution. In terms of water quality, development pressures, etc. may have on menhaden in Mobjack we will never know since the menhaden data do not exist. However, poor performance across the 10 study areas monitored in 2024 which vary in many respects suggest that this is not solely a localized cause. One of the more interesting findings in 2024 was that Lynnhaven River and Eastern Shore study areas did marginally better than the other sites. These two areas are near where Omega operated during the year which may indicate that menhaden were more available in those areas. Again, we have no direct menhaden data.

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

RESPONSE – There is no question that menhaden abundance was adequate to support osprey during the 1980s. Again, the gross take is not the issue but rather the take relative to what the stock can sustain. Since we have no independent data on the abundance of menhaden in the Bay, we have no way of independently assessing if the current take is sustainable. Omega is the only entity that has the data to evaluate trends in menhaden over time. Release the flight logs and the catch data so that we can evaluate the trend in catch per unit search over time. Since this is the only dataset capable of resolving trends over time, without using it we will continue to twist in the wind and have unproductive debates.

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

RESPONSE – This is not my understanding of the charge of the working group.

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

RESPONSE – I would argue that policy related to harvest has never been science-driven. Aside from the ecosystem issues, how are you able to evaluate impacts of harvest levels on the stock itself without an independent measure of the Chesapeake Bay stock and a reasoned assessment of risk to the stock which we have never had. The answer is you can't. In lieu of such an independent assessment, you have set harvest limits based on the past five years of harvest. I don't believe that meets anyone's definition of science-driven. In short, decisions about harvest have been based on political influence rather than biological data.

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James Boyle

From: Dylan Joyner <joynerde@gmail.com>
Sent: Wednesday, September 25, 2024 11:12 AM
To: Comments
Subject: [External] ASMFC atlantic menhaden work group

Please help impose fishing regulations in the lower chesapeake bay! The fishing and wild life are suffering due to the drastic over fishing of menhaden by the omega protein company out of reeds reedsville VA.

R,
Dylan Joyner

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James Boyle

From: Jake Monahan <monahanjake3@gmail.com>
Sent: Wednesday, September 25, 2024 10:56 AM
To: Comments
Subject: [External] ASMFC Atlantic Menhaden Work Group

Commercial fishermen and their families are essential to a healthy economy and restaurants.....OMEGA Factories floating around strip mining our oceans taking product that small business owners need is a CRIME

Jake

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James Boyle

From: Ellen Stromdahl <ellen.stromdahl@gmail.com>
Sent: Tuesday, September 17, 2024 8:32 PM
To: Comments
Subject: [External] Pungoteague creek

Hello,

We have been fishing Pungoteague Creek for nearly 20 years and have noticed a big decline in numbers of fish and size of species (croaker, kingfish, spot). Nowadays these once abundant species rarely measure more than 7". Ten years ago we could catch 30-40 big (12 - 14" long) of these fish on a good day - summer after summer.

Stop the menhaden removal and let's see if these species rebound.

Ellen Stromdahl

Harborton 23389

Sent from my iPhone

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James Boyle

From: jtefankjia <jtefankjia@aol.com>
Sent: Wednesday, September 25, 2024 11:24 AM
To: Comments
Subject: [External] ASMFC Atlantic Menhaden work group

I am a 65 yr old NJ fisherman and enviormenaltist, Fished the Atlantic City/ Brigantine waters all.my life, I've participated in fish and Osprey surveys and tagging , I also build and install Osprey Nesting platforms, I monitor the arrival , feeding, nest building , egg laying, incubation and feeding habits , I also observe the chicks development feeding and fledging.. As a young man I remember Adult Menhaden schools the size of football fields in our bays and Oceans ! In March huge adult bunker would come in and lay their eggs, They would be "popping" everywhere! Now barely any adult bunker come in during the spring , hence a shortage of any Menhaden. I also volunteer with Ben Wurst to help with the NJ Osprey Project! Even Ben has recognized the absence of the main food source Menhaden! We have had consecutive years of very poor Osprey fledglings, Many young birds are perishing due to lack of Menhaden from the Chesapeake to New York, pretty coincidental that the Menhaden Reduction fleet and failing Osprey nests are in the same areas, Whales, Dolphins, Seals, Striped Bass all depend on Menhaden for survival.. Did you know the Ospreys get their hydration from the Menhaden they consume, So lack of bunker not only causes starvation but dehydration as well.. Many Osprey fly further to find their favorite food leaving nests for long period of time, many Ospreys have gone missing looking for food leaving a starving female with starving chick's.. Striped Bass follow the Menhaden schools during migration, the absence of the once large schools has caused a reduction in Striped Bass population as well as Dolphins, Whales, Seals, Bluefish, Tuna, Gannets etc.. Menhaden is one of the primary food sources for all sea creatures, This practice of harvesting Menhaden must stop before more species already struggling gets much worse.. We closed down Striped Bass and they rebounded let's do the same with Menhaden.. ASMFC let's make an intelligent decision based on facts , NOT POLITICAL OR DOLLARS! THANK YOU FOR YOUR TIME JOHN TEFANKJIAN

Sent from my Verizon, Samsung Galaxy smartphone

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James Boyle

From: Phil Zalesak <smrfo2021@gmail.com>
Sent: Thursday, October 3, 2024 9:26 AM
To: James Boyle
Cc: Marty Gary; Philip Zalesak
Subject: [External] Fwd: MENHADEN WORK GROUP PROBLEM STATEMENT
Attachments: 2024-0916 Menhaden Working Group Comments.pdf

----- Forwarded message -----

From: **Phil Zalesak** <smrfo2021@gmail.com>
Date: Wed, Oct 2, 2024, 12:23 PM
Subject: MENHADEN WORK GROUP PROBLEM STATEMENT
To: SPUD WOODWARD <SWOODWARD1957@gmail.com>, ALLISON COLDEN <acolden@cbf.org>
Cc: Philip Zalesak <flypax@md.metrocast.net>, Phil Zalesak <smrfo2021@gmail.com>

Spud / Allison,

Here's a problem statement based on previous work done for the ASMFC in 2009. It is concise and encompasses the problem - "Localized depletion of Atlantic menhaden is occurring in the Chesapeake Bay." See reference (a) and the enclosure.

The Fishery Subgroup can get all the data they need from Ray Mrock regarding menhaden purse seine harvest in the Chesapeake Bay on a monthly and annual basis. All they have to do is call him. This is the most critical data set.

The Osprey Subgroup can get peer reviewed publications from Dr. Bryan Watts.

Forwarded for your review and consideration.

Take care, Phil

Reference

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

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From: [Tom Lilly](#)
To: [Tina Berger](#); [Comments](#)
Subject: [External] Fw: comments to menhaden board
Date: Tuesday, October 8, 2024 9:47:00 AM
Attachments: [Two on Page Landing data.pdf](#)
[Virginia Southwick data.pdf](#)
[Frontiers 2021 and pg 12.pdf](#)

Tina please acknowledge one more time ...this is for the board and James Tom

James, Martin, Spud, Allison and Bob,

What happens next in menhaden management is very important to me, my family and friends that have seen the disappearance of our striped bass and the starvation of our ospreys as the menhaden have quit coming to the Wicomico River where I live a short distance from the Virginia line. It's very hard to stay here anymore looking out on the river every day knowing I have failed in my best efforts to protect this wildlife that meant so much to us.

We thought this would change for the better when the Commission adopted the ERP science in 2020 and said striped bass were the "canary in the coal mine" as to menhaden harvests, but, sadly, we now know that the interests of one foreign owned fishing company in Virginia, is much more important to the menhaden board than the ecology of Chesapeake bay and millions of people and their children that would benefit if that intense wasteful fishing stopped in Virginia waters.

That said, will you please advise what recommendations the work group will be making to the board on October 22 ? Will the board have access to the total landing by the factory fishing in the bay for 2023 and the monthly landings for the bay for this season to see if the disturbing trends discussed in the mail below are continuing? Will they recommend moving the factory fishing out of Virginia waters? Will they take steps to protect the small amount of menhaden migrating to the bay in the spring to rebuild the forage base? Will they take steps to prevent the factory from catching 1,000s of menhaden schools just before they migrate to Maryland to feed our wildlife? Will they prevent the factory from catching the schools migrating from Maryland in the fall to the Atlantic that would have become the bay's future breeding stock ? Moving the factory fishing into the US Atlantic would accomplish all these goals.

Thank you for a prompt reply so we can pass this on the supporting groups listed in note 2 of the below mail in time for them to make their own comments to the board (send to comments@asmfc.org attn

menhaden board, J. Boyle) prior to the deadline of 10 am Friday October 18th. Tom Lilly Whitehaven , MD

----- Forwarded Message -----

From: Tom Lilly <foragematters@aol.com>

To: comments@asmfc.org <comments@asmfc.org>; Tina Berger <tberger@asmfc.org>

Sent: Tuesday, September 24, 2024 at 04:08:27 PM EDT

Subject: comments to menhaden work group

To the work group (Tina can you once again confirm receipt?)

DECLINE IN SPRING MENHADEN IN BAY

From the monthly catch charts (n.1) (scan) for 2017-2023 there is much less menhaden in the bay in the spring. The end of May totals are a strong proxy for what was there in March and April when our striped bass spawning stock and ospreys need it the most. There is no limit on what eight purse seiners can catch of the little bit coming in. The cause of this decline is debatable but whatever the cause isn't it more important than ever to fully protect what is coming in and what's there? That can be done by closing the season entirely until say June 15th to allow menhaden to migrate to safety to Maryland and moving the factory fishing into the US Atlantic zone to protect the bay's forage base.

PROTECTING THE MARYLAND SPAWNING STOCK

Please note the uptick in catching that consistently starts around mid September until end October. (n.1) Is this increase in fish coming mainly from schools that are migrating out of Maryland and the Potomac river on their way to the Atlantic wintering grounds to become the new spawning stock in spring 2026? Don't these fish have it in their genes to return to the bay but they are getting caught? They are being caught in the thousands of schools before they spawn the first time. Those fish migrating from and then back to Maryland would be largely protected by moving the factory and bait purse seining into the US Atlantic a reasonable distance from

the bay entrance. In a few years time that could lead to a much larger and more age diverse breeding stock to benefit the bay. This would also solve other bay problems of bycatch, toxic bilge discharges and net snags fouling beaches.

WHO SUPPORTS CHANGE

The people that care about the bay ecology and want to enjoy it with their families, friends, children and grandchildren and the organizations they support have done about everything possible in the last fifteen years or so to convince this board and the MRC to take decisive action (n.2) .

BAY STUDIES AND EXPERT ADVICE

In 2004 Chesapeake Bay fish and wildlife were in such poor condition that the menhaden board began looking at menhaden depletion issues. After five years with no action the board turned to a consultant, Dr. Maguire, for advice. In 2009 he said further research wasn't necessary, that time and area controls could be used to mitigate the factory fishing and avoid the "negative consequences" of inaction.(n.3) All of the states but Maryland and Virginia followed his advice and moved the factory fishing to the US Atlantic Zone. Maryland is the only state that cannot protect its bays, in this case Chesapeake Bay , from factory fishing because Maryland alone can't control what happens in Virginia so thousands of menhaden schools are being caught in VA near the Maryland line just before they get into Maryland to feed our wild life. The menhaden board did not follow Dr. Maguire's advice on Chesapeake bay and Virginia and the factory fishing continued. That was fifteen years ago and counting.

CONSEQUENCES NO SUCH THING AS A FREE LUNCH

The resulting decline in striped bass recreational fishing and its economic impact in Virginia was measured from 2009-2016 by Southwick Associates (n.4) The data shows that in Virginia striped bass trips declined annually from over a million in 2009 to less than half that by 2016 . So a half million trips with family, friends and children and all the physical and mental benefits that this nature based recreation would have provided (especially for children) was lost. (n.5) The economic losses were staggering. By 2016 economic impact from striped bass trip expenses had fallen annually in Virginia to \$106 million

from \$240 million in 2009 and related jobs had declined from 3,583 to 1,444 by 2016. Two thousand jobs lost. We expect current Va information if available will continue these trends. Because recreational fishing in Maryland has declined 70% in the last ten years it is expected the current Maryland data would show the same scale of losses. What is the social and cultural impact of hundreds of charter captains leaving the business in both states ? What is the dollar loss when thousands of baby ospreys starve in the nest and the whales and bluefin tuna are disappearing ? We are told that NOAA values the landings of menhaden in Reedville at about 36 million dollars a year. Under the ERP science there is a direct connection between menhaden harvests and the well being of our striped bass stocks and ospreys.(n.6) So can an argument be made that when Virginia (and the Commission) "gave" the factory fishing 90 % of the Virginia quota worth 36 million dollars a year the economic cost to Virginians in 2016 was at least \$140 million in lost income for businesses and the loss of over two thousand jobs? And what is the dollar value of Virginian's missing out on 500 thousand striped bass fishing trips a year? Fifty dollars a trip? A hundred? for a parent, friend or grandparent Priceless? There are hundreds of thousands of people in the two states involved with groups concerned with wildlife welfare.(n.2) What is the dollar cost to these people when they see bay wildlife suffering ? What is the value of their loss of enjoyment of bay resources? What is the cost in quality of life lost when millions of people in the two states see the very culture of the bay slipping away?

So there is no free lunch....someone always pays and it is the Chesapeake Bay ecology and the people of Maryland and Virginia that are paying a very high price when the factory fishing takes something approaching a hundred thousand tons of menhaden from the bay and approaching the bay a year and exports all that resource and profits to Canada. The people pay for it in their loss of business income, loss of jobs and most important in the loss of use and enjoyment of Chesapeake Bay.

In conclusion, we urge you to weigh the consequences of

leaving the factory fishing in Virginia "as is" compared to requiring that company that has received and is receiving hundreds of millions of dollars worth of resources that belonged to the people to do its future fishing in the US Atlantic zone during the times you judge best in your exercise of protective management for Chesapeake Bay.

Thank you for listening Tom Lilly

PS will the group chair or James Boyle please ask Ray Mroch at Beaufort Lab for the total factory landings in Chesapeake Bay for this season to see if the factory was able to catch the quota? Will they also ask for the weekly bay landings for this May and June to see if the trends for less and less menhaden continued in 2024. From what was observed there were many days they did not fish in the bay or ocean this season there were so few fish. Although confidential all that data is available to a menhaden board member or ASMFC staff on request according to the latest agreement between the industry and NOAA. Please request it.

NOTES;

(n.1) scan of charts below

(n.2) Theodore Roosevelt Conservation Partnership, Sierra Club Maryland (85,000 members) Virginia and National Audubon Society(1.6 million members), Southern Md Audubon, Virginia Salt Water Fishing Assoc.- VSSA, CCA, American Sport fishing Association, National Marine Mfgs Assoc, Marine Retailers Assoc of the Americas, International Game Fish Assoc, Guy Harvey Ocean Foundation. Izaak Walton Foundation, Virginia Anglers Assoc., and seven other Virginia fishing groups, Southern Md Recreational Fishing Org., SMRFO, Maryland Saltwater Fishing Assoc., Center for Conservation Biology.. William and Mary and many other osprey groups, Maryland Charter Captains and Watermen, Northampton County Virginia Board of Supervisors , Delaware-Maryland Synod of the Lutheran Church, Blue Water Baltimore, Virginia Aquarium and Science Center, Chesapeake Legal Alliance, Audubon Societies of Northern Virginia and Richmond (5,000 members) , The 30 senators and delegates of the Maryland Legislative Sportsmen's Caucus collectively representing over a million Marylanders . Sierra Club of Virginia (5,000

members) , St Marys (Md) River Watershed Assoc (92 members) numerous other MD fishing groups, Save our Menhaden Coalition..... Endorsements on request
(n.3) From the letter to Secretary Ross from Bob Beal dated November 15,2019 copy on request
(n.4) From " Economic Contributions of Recreational and Commercial Striped Bass fishing" Southwick 2018 (scan)
(n.5) References on request
(n.6) See ASMFC ERP Press Release , For osprey as ERP indicator species for menhaden harvests and for inclusion in MICE model etc see journal article "The Path to an Ecosystem Approach to Forage Fish Management. Frontiers...May 2021 page 11 (scan) by 30 menhaden scientists from the MRC, ASMFC, Chesapeake Biological Lab, MD DNR and VIMS etc (scan)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Monthly Chesapeake Bay /Atlantic Landings from the NOAA Review of the 2017 Fishing Season
NOAA Beaufort Lab

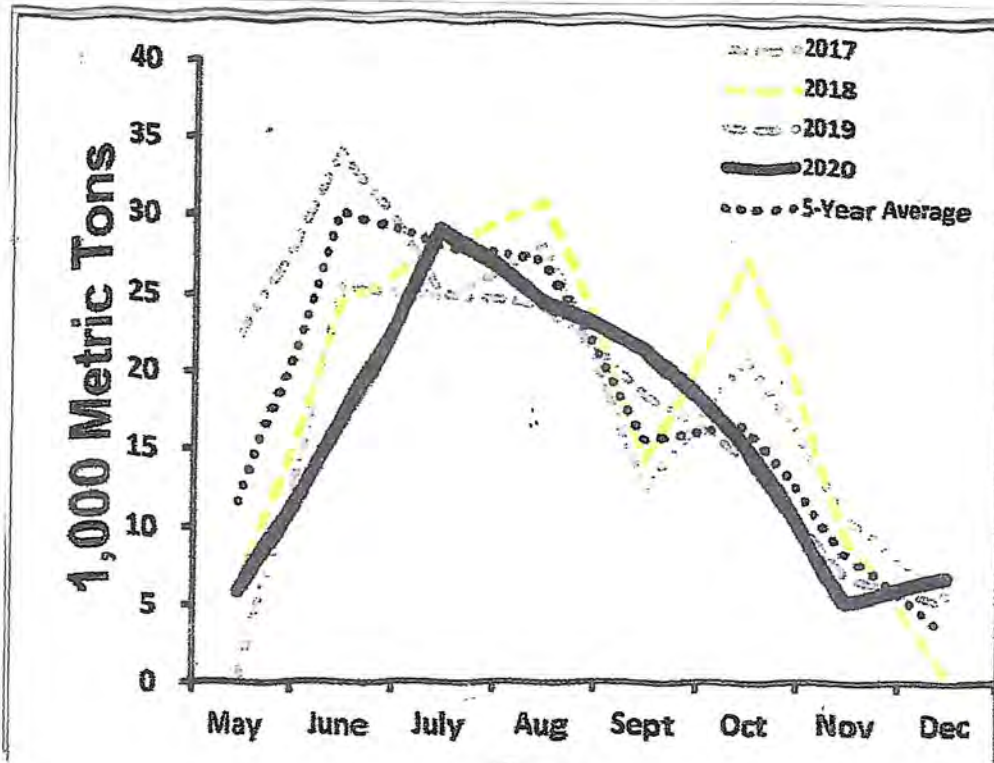
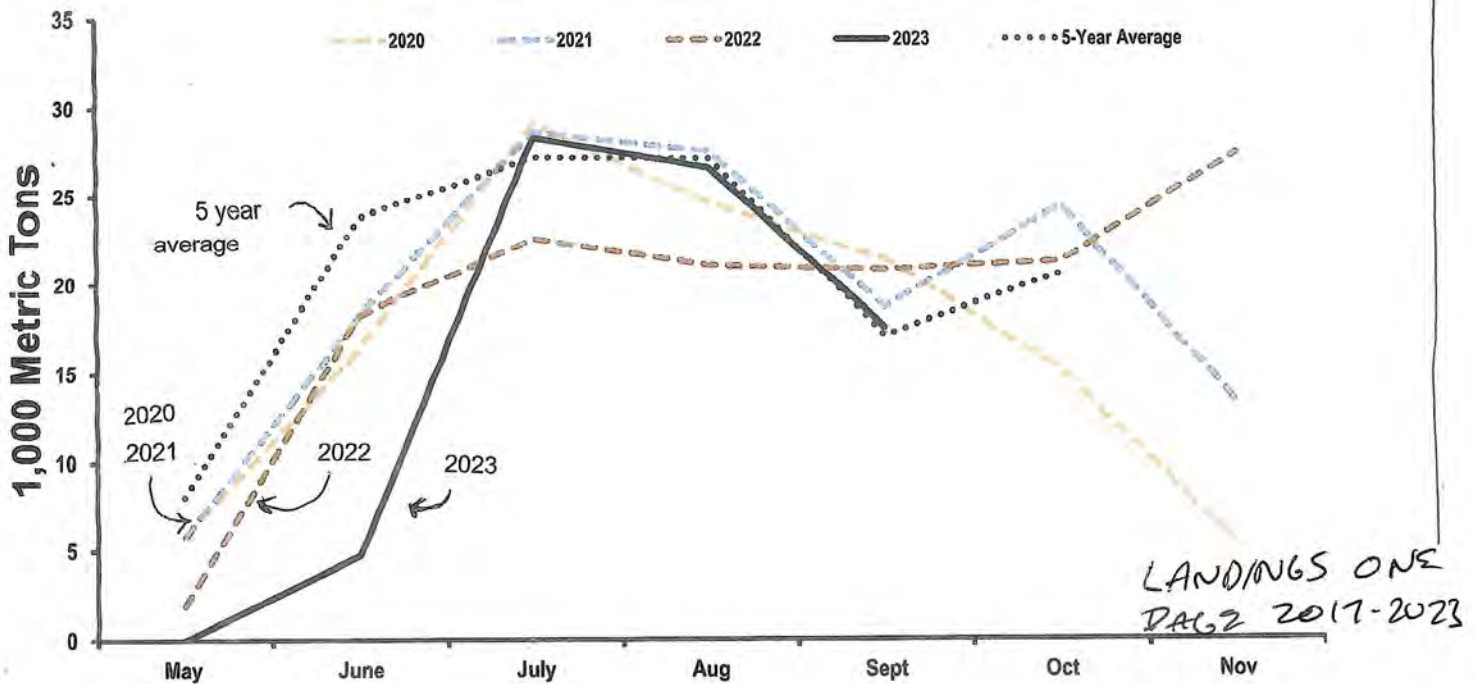


Figure 4. Atlantic Menhaden landings by month, 2017–2020.

Monthly Chesapeake Bay/ Atlantic Landings from the NOAA Review of the 2020 Fishing Season NOAA Beaufort Lab*

Reduction Landings by Month



The Economic Contributions of Recreational and Commercial Striped Bass Fishing

Produced for:

The McGraw Center for Conservation Leadership



**SOUTHWICK
ASSOCIATES**

Revised April 12, 2019

PO Box 6435 ■ Fernandina Beach, FL 32035 ■ Office (904) 277-9765

Virginia

Participation

In 2016 and 2009, over 724,000 and over 907,000 anglers fished in Virginia, respectively. In each year, the average angler participated in around 10 fishing trips, of which a moderate portion was striped bass trips.

Table VA-1. Anglers and angler trips in Virginia

	2009	2016
Total Anglers	907,422	724,276
Total Trips	8,410,827	7,247,361
Striped Bass Trips	1,192,172	436,169
Bass Trips % of total	14%	6%

Table VA-2. Trip distribution by type in Virginia

	2009	2016
For-Hire	4%	4%
Private	79%	68%
Shore	18%	28%

Spending & Revenues

For Virginia, total landings and their associated expenditures are presented below. We caution about using spending and revenues to make statements about the economic impacts created by the recreational and commercial fisheries, however. The multiplier effects for a dollar associated with each fishery are markedly different. A better approach is to examine each fishery's economic impacts which are in the next section.

Table VA-3. Sales and spending attributed to striped bass fishing in Virginia

	2009	2016
Commercial Landings (lbs)	2,108,685	1,333,572
Commercial Revenue (\$000s)	\$4,219.4	\$4,968.3
Recreational Landings (lbs)	5,387,784	1,024,378
Recreational Spending (\$000s)	\$249,746.5	\$108,002.9
Trip Spending (\$000s)	\$64,330.4	\$22,552.0
Durable Goods (\$000s)	\$185,416.0	\$85,450.7

Recreational Economic Impacts

In 2016, \$106.6 million was added to the gross domestic product of Virginia, compared to just over \$240.5 million in 2009. There were 1,444 jobs supported in 2016 and 3,582 jobs supported in 2009.

Table VA-4. 2009 Economic impacts from spending related to recreational striped bass angling in Virginia

	Jobs	Salaries and Wages (\$000s)	GDP (\$000s)	Total Output (\$000s)	State/Local Taxes (\$000s)	Federal Taxes (\$000s)
Direct Effect	2,362	\$95,282.9	\$142,119.2	\$210,982.3	\$19,266.9	\$22,408.3
Multiplier Effect	1,220	\$56,634.5	\$98,401.3	\$171,009.9	\$8,227.7	\$14,301.0
Total	3,582	\$151,917.4	\$240,520.4	\$381,992.2	\$27,494.6	\$36,711.2

Table VA-5. 2016 Economic impacts from spending related to recreational striped bass angling in Virginia

	Jobs	Salaries and Wages (\$000s)	GDP (\$000s)	Total Output (\$000s)	State/Local Taxes (\$000s)	Federal Taxes (\$000s)
Direct Effect	959	\$42,451.4	\$62,924.8	\$90,355.4	\$8,623.6	\$10,016.5
Multiplier Effect	485	\$25,099.3	\$43,698.4	\$75,556.7	\$3,624.1	\$6,350.9
Total	1,444	\$67,550.7	\$106,623.3	\$165,912.0	\$12,247.6	\$16,367.5



Introduction

Assessment

and

Management

History

Current

Management

Challenges

and Future

Work

Lessons

Learned

Author

Contributions

Funding

Conflict of Interest

References

The Path to an Ecosystem Approach for Forage Fish Management: A Case Study of Atlantic Menhaden

Kristen A. Anstead (<https://www.frontiersin.org/people/u/1089781>)^{1*}, Katie Drey (<https://www.frontiersin.org/people/u/990320>)¹, David Chagaris (<https://www.frontiersin.org/people/u/495125>)², Amy MeSchueller (<https://www.frontiersin.org/people/u/1119106>)⁴, Jason E. McNamee (<https://www.frontiersin.org/people/u/1124192>)⁵, Andre Buchheister (<https://www.frontiersin.org/people/u/1120381>)⁶, Geneviève Nesslage (<https://www.frontiersin.org/people/u/1126723>)⁷, Jim H. Uphoff Jr. (<https://www.frontiersin.org/people/u/1171712>)⁸, Michael J. Wilberg (<https://www.frontiersin.org/people/u/344791>)⁷, Alexei Sharov⁹, Micah J. Dean¹⁰, Jeffrey Brust¹¹, Michael Celestino¹¹, Shanna Madsen¹², Sarah Murray (<https://www.frontiersin.org/people/u/1096785>)¹, Max Appelman¹, Joseph C. Ballenger (<https://www.frontiersin.org/people/u/1146004>)¹³, Udana Bhat (<https://www.frontiersin.org/people/u/359070>)^{2,14}, Ellen Cosby¹⁵, Caitlin Craig¹⁶, Corrin Flora¹⁷, Kurt Gottschall¹⁸, Robert J. Latour (<https://www.frontiersin.org/people/u/1146038>)¹⁹, Eddie Leonard²⁰, Ray Mroch⁴, Josh Newhard (<https://www.frontiersin.org/people/u/1111904>)²¹, Derek Orner²², Chris Swanson²³, Jeff Tinsman²⁴, Edward D. Houde (<https://www.frontiersin.org/people/u/615796>)⁷, Thomas J. Miller⁷ and Howard Townsend (<https://www.frontiersin.org/people/u/530527>)²⁵

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- ¹Atlantic States Marine Fisheries Commission, Arlington, VA, United States
- ²Nature Coast Biological Station, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL, United States
- ³Maine Department of Natural Resources, Boothbay Harbor, ME, United States
- ⁴NOAA Fisheries, Beaufort, NC, United States
- ⁵Rhode Island Department of Environmental Management, Providence, RI, United States
- ⁶Department of Fisheries Biology, Humboldt State University, Arcata, CA, United States
- ⁷Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, Solomons, MD, United States
- ⁸Cooperative Oxford Lab, Maryland Department of Natural Resources, Oxford, MD, United States
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- ¹⁰Massachusetts Division of Marine Fisheries, Gloucester, MA, United States
- ¹¹New Jersey Division of Marine Fisheries, Port Republic, NJ, United States
- ¹²Virginia Marine Resources Commission, Hampton, VA, United States
- ¹³South Carolina Department of Natural Resources, Charleston, SC, United States
- ¹⁴OKEANOS Research Center, University of the Azores, Horta, Portugal
- ¹⁵Potomac River Fisheries Commission, Colonial Beach, VA, United States
- ¹⁶New York Department of Environmental Conservation, East Setauket, NY, United States

The 3

from BAM. All focal species had recently undergone single-species stock assessments, which provided life history, landings, and index data through 2017, as well as estimates of fishing mortality and population size. Newer data were not available for all of the groups included in the full NWACS EwE model; as a result, inputs for those groups were extrapolated from the terminal year of 2013.

The ERP WG evaluated the five ERP models based on their performance (i.e., residuals, sensitivities, and other diagnostics), their strengths and weaknesses, and their ability to inform the fundamental ecosystem management objectives (Buchheister et al., 2017a,b; McNamee, 2018; Uphoff and Sharov, 2018; Nesslage and Wilberg, 2019; Chagaris et al., 2020). The ERP WG ultimately recommended using the NWACS-MICE model rather than the other four for two reasons. First, the EwE framework used by the NWACS-MICE model was the only approach that could address both the top-down effects of predation on Atlantic menhaden and the bottom-up effects of Atlantic menhaden on predator populations, which were required to evaluate the key tradeoffs between Atlantic menhaden harvest and predator needs that were central to the identified ecosystem objectives. Second, the NWACS-MICE implementation was less data-intensive than the full NWACS model, which reduced some of the uncertainty associated with modeling the data-poor predators and prey in the full model. This meant the NWACS-MICE model could be updated more quickly and efficiently, on a timeframe that met manager's needs. Comparisons of the full and MICE versions of the NWACS model indicated that the NWACS-MICE model included the fish predators most sensitive to the menhaden population. Striped bass was the most sensitive fish predator to Atlantic menhaden harvest in both models. In the full NWACS model, nearshore piscivorous birds were also sensitive to Atlantic menhaden F , but their response was similar to striped bass over the range of scenarios explored by the full model (Southeast Data Assessment and Review [SEDAR], 2020b). This choice was consistent with a growing body of literature that has recommended models of intermediate complexity (i.e., MICE) for ecosystems as representing a compromise between complexity/realism and uncertainty for use in management (Plagányi et al., 2014; Collie et al., 2016; Punt et al., 2016). Specifically, the ERP WG recommended using the NWACS-MICE in conjunction with the single-species assessment model, BAM; the NWACS-MICE model would provide strategic advice about the trade-offs between Atlantic menhaden fishing mortality and predator biomass to set reference points, while the single-species model would be used to provide short-term tactical advice about harvest strategies to achieve the ERP F target (Chagaris et al., 2020; Southeast Data Assessment and Review [SEDAR], 2020b). The ERP report was peer-reviewed with the single-species assessment in 2019, and the ERP WG's recommended tool was deemed acceptable for management use by a panel of independent experts (Southeast Data Assessment and Review [SEDAR], 2020b). The peer-review panel also recommended the continued development of the alternative models going forward.

Current Management

The development and implementation of ERPs for Atlantic menhaden was a lengthy process (Figure 4 and Table 1), but in August 2020, ASMFC adopted the approach from the ERP WG for management use. The ERP target was defined as the maximum F on Atlantic menhaden that would sustain striped bass at their biomass target when striped bass were fished at their F target. The ERP threshold was defined as the maximum F on Atlantic menhaden that would keep striped bass at its biomass threshold when striped bass was fished at its F target. For both reference points, all other species in the model were fished at their *status quo* (i.e., 2017) F rates. Striped bass was the focal predator species for this analysis because it was the most sensitive to Atlantic menhaden F in both the NWACS-MICE and the full NWACS models. Thus, levels of Atlantic menhaden F that sustain striped bass should also sustain piscivorous birds and less sensitive predators, in the absence of significant disruptions to the ecosystem (Southeast Data Assessment and Review [SEDAR], 2020b). With these ERP targets and thresholds, the Atlantic Menhaden Management Board reviewed projections from the single-species model, BAM, and set a quota for 2021 and 2022 of 194,400 mt, a 10% decrease in the quota from 2020.

FIGURE 4

James Boyle

From: Joanie Millward <virginiaospreyfoundation@gmail.com>
Sent: Monday, September 2, 2024 3:23 PM
To: James Boyle; FW.Marine@dec.ny.gov
Subject: [External] Ospreys in Colonial Beach, Virginia
Attachments: Town of Colonial Beach Nest Data 2023 and 2024.docx; 2013-2024 Mid Year Menhaden Harvest Analysis for Joanie Millward, Osprey 8.29.24.xlsx; Osprey Season Summary 2023-2024.xlsx; Riverkeepers temp data.xlsx; Data for Dr. Watts.docx

Dear Mr. Boyle,

My name is Joanie Millward and I am President of the Virginia Osprey Foundation based out of Colonial Beach, VA. I too, along with many others, are concerned about the decline in the osprey population in the Chesapeake Bay area and the possible connection with the lack of menhaden. In Colonial Beach, we have been monitoring nesting activity and nest failures and successes. I reached out to Marty Gary as he was the Executive Secretary of the PRFC located in Colonial Beach before taking on his new position in New York. I wanted to share our nesting data with him as compared to last year when he was in Colonial Beach. He suggested I share the same with you. The summary is actually optimistic as we have experienced more deaths since August 15th. In fact, the number of deaths was concerning enough that the Virginia Department of Wildlife Resources became involved. They are collecting our carcasses and have sent them off to the University of Georgia for necropsies. We are awaiting those results.

I ask that you take the time to look at the attached summary and would appreciate any thoughts you may have. Thank you for your time and I hope to hear from you.

Joanie Millward, President
(540) 220-6387

<https://www.virginiaospreyfoundation.org>



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This is a copy of the email I received for the preliminary necropsy report.

On Wed, Sep 4, 2024 at 10:20 AM Tracey, John (DWR)

<John.Tracey@dwr.virginia.gov> wrote:

Hey All,

The preliminary necropsy data from SCWDS would support such a theory. All 4 birds (including the outlier from Smith Mountain) were in poor body condition with very little in their GI tracts. HPAI and WNV testing was negative. They sent the livers out for heavy metal toxicology, but it'll be a while before we get that back. If they find anything else in the tissue when they do the histology, I'll let you know.

Thanks,

John

Osprey Breeding Failure in Colonial Beach

We have been monitoring approximately 58 nest sites in the town of Colonial Beach through the 2023 and 2024 breeding seasons.

In 2023, 55 hatchlings were observed that reached a size that would indicate almost full growth, the majority of these were observed to fledge. They were observed taking supplemental food from the male parent and also learning to hunt for themselves. 2 nests were seen with 3 such chicks, 17 with 2 chicks and 15 with one chick.

In 2024 there were only 44 hatchlings observed by mid-July. Of these, 16 were multiple chicks in nests. By mid-August there were no nests where multiple chicks could be seen. The fate of the others is largely unknown. They probably died in the nest. Approximately 23 chicks were essentially fully grown plus 8 other nestlings were still present.

As of 9/2/2024, 17 chicks are reported to have been transported to rehab, only one of which survived. 4 dead chicks have been recovered near nests and three dead chicks have been observed in nests. All of these chicks were malnourished and dehydrated. It is not certain that even one Osprey fledged in condition to successfully migrate.

High Water Temperature

Colonial Beach experienced very high temperatures about the same time as the adult ospreys seemed to be unable to provision their young. One male, who had been seen to be an excellent provider during incubation, would depart for many hours and return without fish. Eventually, the female would leave to hunt, with mixed success. All three chicks in this nest eventually succumbed to starvation/dehydration.

Beginning in May 2023 we, under direction of the Potomac Riverkeepers, started collecting samples from three locations: Colonial Beach Pier, Colonial Beach Yacht Center and Monroe Bay Campground. Samples were typically collected on Wednesday Mornings between 9am and 10am. In addition to samples, data including water temperature and air temperature were recorded. While there is not a causal link established, it is possible that elevated temperatures could be contributing to the problem

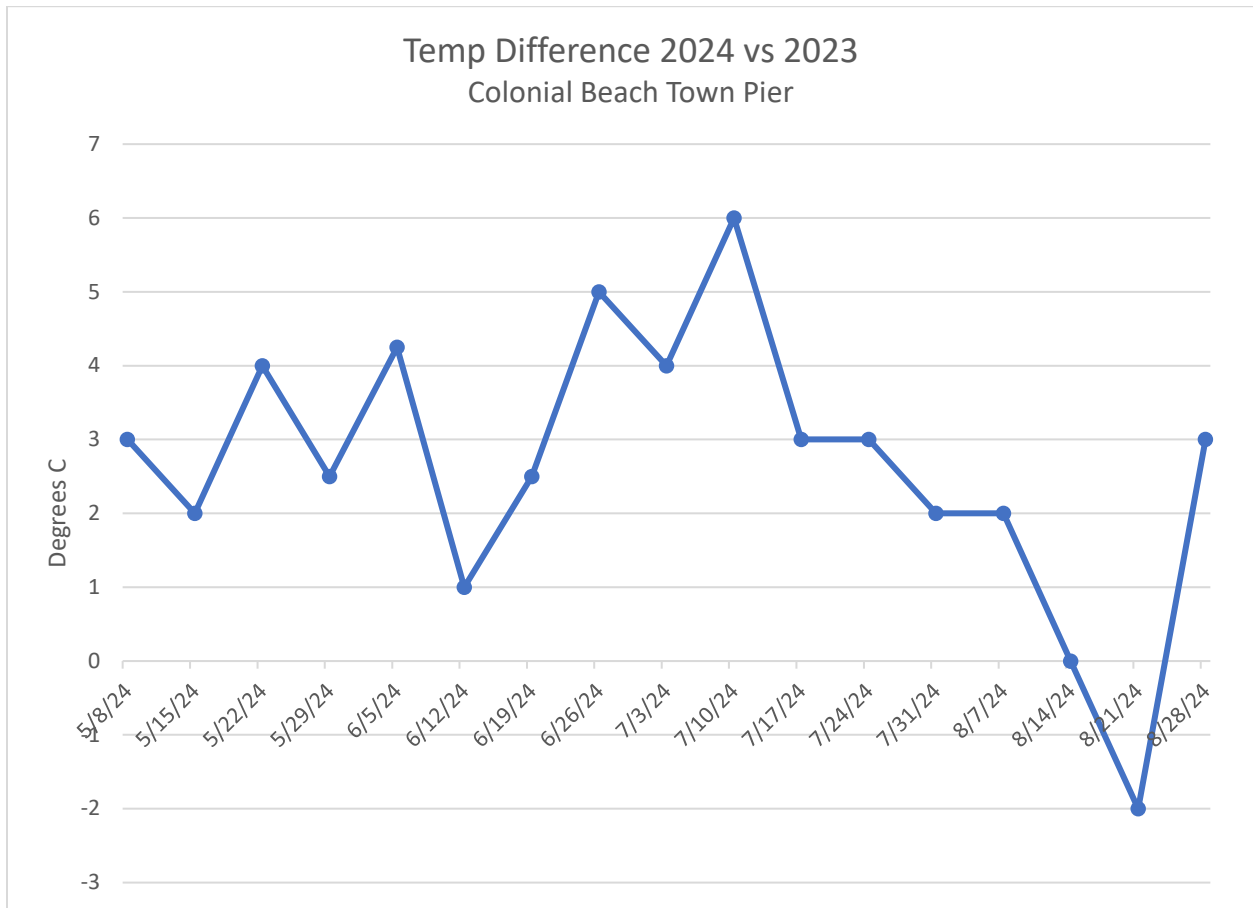
Unfortunately, our temperature data was only recorded on paper, so was not immediately available. The Riverkeepers data is stored at the Potomac River Fisheries Commission in Colonial Beach. My husband and I went to the PRFC and went through all of the data sheets to digitize the temperature data for the last two seasons. Data is included in the attached spreadsheet. The following charts show that the water temperature difference each week for the three testing locations generally falls between 2 and 7 degrees C throughout the breeding and fledging season. We do not know if that kind of temperature difference could be a contributing factor.

Lack of Menhaden

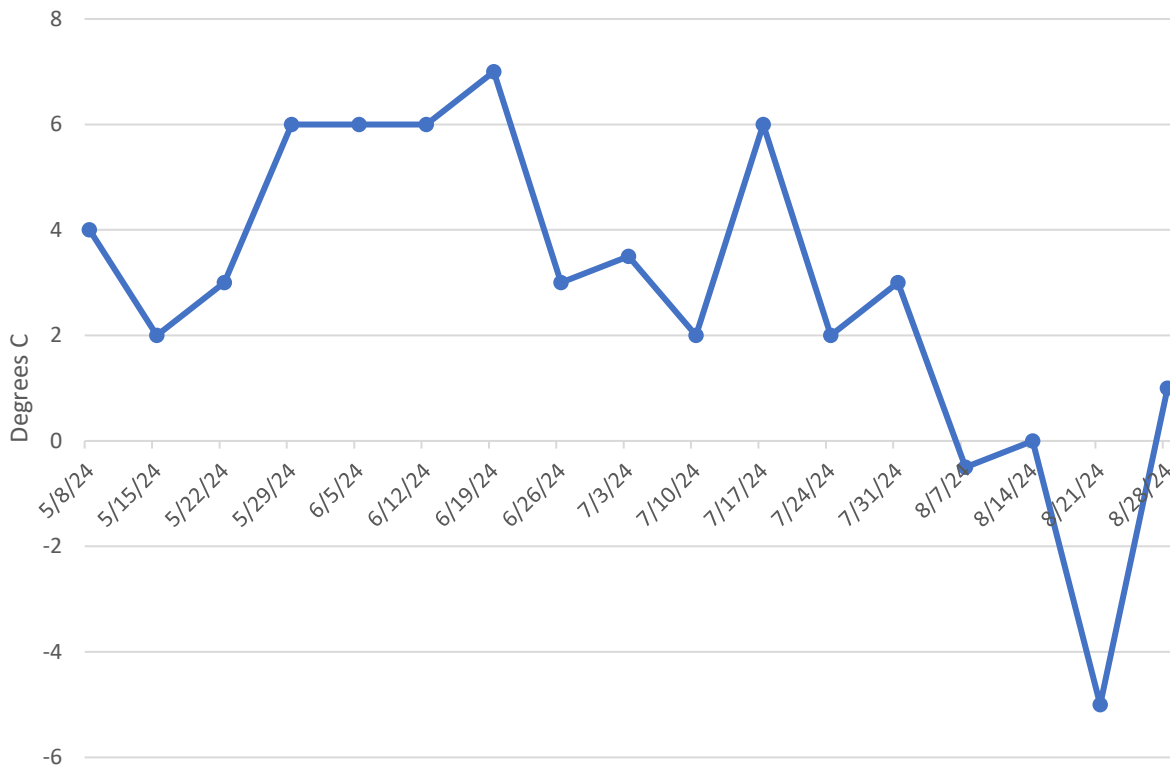
While at the PRFC we had a conversation with PRFC personnel regarding the situation of our local osprey population. The Assistant Secretary of the PRFC observed that the harvest of Menhaden in the Potomac this year is about 10% of the 10 year average! She stated that it seems that the menhaden did not come into the Potomac this year. All our local fisherman are seeing are "peanuts". Crabbers are having to buy bait elsewhere as there are essentially no Menhaden in the area. Total harvest of Menhaden in the

Potomac is estimated to be 250,000 pounds. The lowest annual harvest in the last ten years before this is over 2,000,000 pounds. Data for annual harvest and YTD harvest are attached.

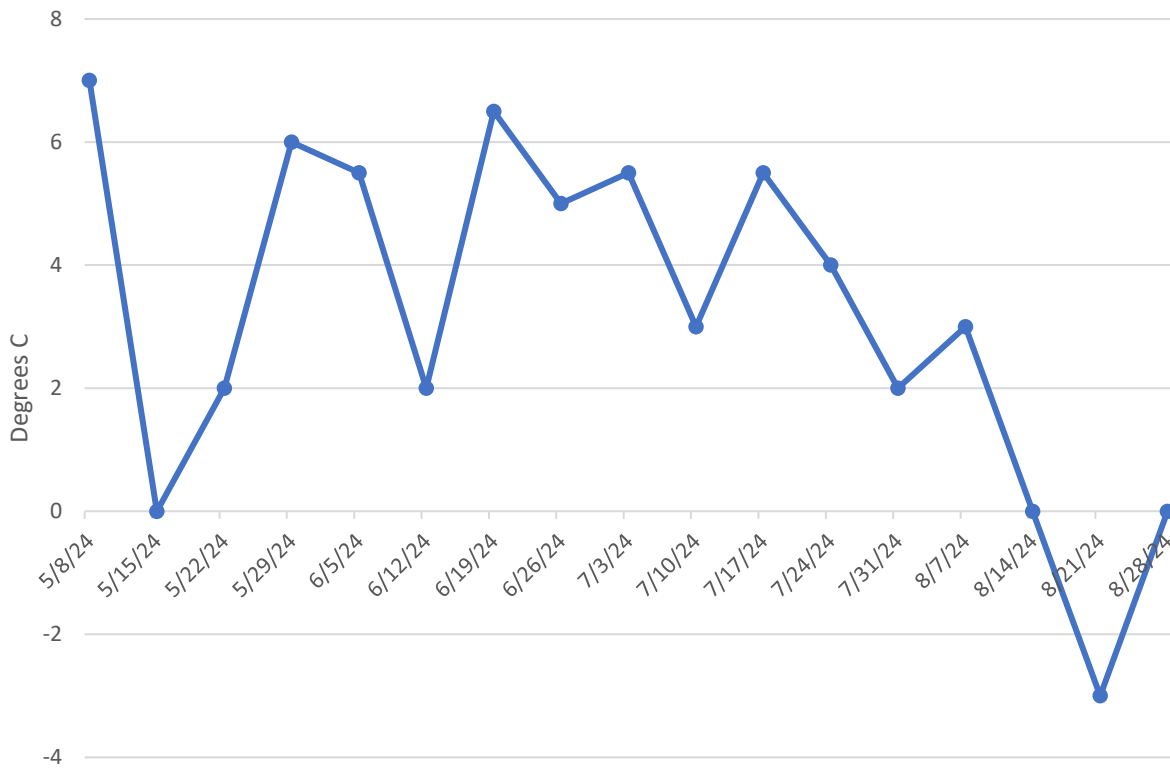
Anecdotally, we have heard that local watermen have given up harvesting menhaden for bait in the Potomac as “there are no fish”



Temp Difference 2024 vs 2923 Monroe Bay Campground



Temp Difference 2024 vs 2023 Colonial Beach Yacht Center



Town of Colonial Beach Nest Data 2023/2024 as of August 15, 2024

	2023	2024
NEST SITES MONITORED	58	58
NEWLY IDENTIFIED NESTS	4	2
OCCUPIED NESTS	49	47
NESTS WITH CHICKS	33	36
# OF CHICKS HATCHED	57	44
# OF CHICKS FLEDGED**	55	23
NESTS FLEDGING 3	2	0
NESTS FLEDGING 2	17	2
NESTS FLEDGING 1	15	19
STILL IN NEST		8

** Fledged or mature enough to fledge

The Free Lance-Star

Cyclones surge by 'Hawks

Clatterbaugh's two third-quarter TDs spark Eastern View. **SPORTS, PAGE B1**



Cool the burn

Find relief from acid reflux. **HEALTH, PAGE C1**



Sunday, September 22, 2024

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PHOTO BY ROBERT LENNOX, COURTESY OF THE VIRGINIA OSPREY FOUNDATION

In better times, an osprey mother, right, feeds a morsel of fish to one of two good-size chicks in a nest at Colonial Beach. Most of this year's osprey chicks died from starvation.

Colonial Beach's osprey season was 'a disaster'

Starvation, climate change likely causes

CATHY DYSON
The Free Lance-Star

Colonial Beach residents celebrated the number of osprey nests in the Potomac River town this spring and summer — as volunteers banded four times more chicks this year than 2023 — then their delight turned to despair.

From late July to early September, the majority of osprey chicks died. Their feathered carcasses were seen by drones that hovered over the nests, built on pilings and platforms in and around the town. Or the birds fluttered to the ground, too weak to fly. They were quickly shuttled to rehabilitators in the Tidewater area but couldn't be helped.

"It's a sad state, I have never

seen anything like this," said Joanie Millward, president of the Virginia Osprey Foundation based in Colonial Beach. "I can't say what happened, I'm not a scientist, I'm not a researcher, but what we do know is they starved to death."

What caused the starvation is the bigger question. Speculation ranges from the lack of menhaden — an oily fish full of nutrients found in Chesapeake Bay waters — to the impact of climate change. Warmer water may be causing fish to go deeper, making it harder for surface fishers like osprey to catch them with their talons.

But for Colonial Beach residents, who've watched nearby nests from back porches and docks, the events have been devastating. The osprey has become as iconic to the town as golf

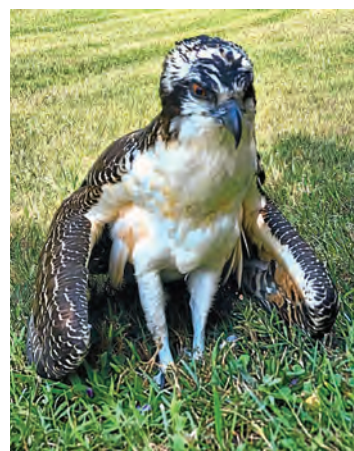
cars, and one display along the boardwalk combines both. Visitors can hop into the front seat of a golf cart that has the word LOVE spelled out in wooden letters behind them.

An image of an osprey sits in a platform nest atop the letter "L." Mary Wenz, who in recent years formed the Colonial Beach Wildlife Facebook group to rescue animals in distress, watched as osprey parents seemed to abandon the nests before teaching the young to fly or fish on their own.

She couldn't intervene, saying it's against the Migratory Bird Treaty Act to interfere with an active nest.

"We had to just watch," Wenz said. "We felt helpless, it was such an awful, awful summer. It was like which baby was going to

Please see **OSPREY**, Page A6



PROVIDED BY THE VIRGINIA OSPREY FOUNDATION

This osprey chick fluttered from its nest into a resident's yard and was so weak, it let Joanie Millward pick it up and move it into the shade. She and others tossed it a bait fish to eat, but the bird died within the hour.

Talk focuses on Va. successes in government

Chief transformation officer fields queries from Senate group

MICHAEL MARTZ
Richmond Times-Dispatch

Rob Ward's job is transformation of state government operations under one of Gov. Glenn Youngkin's signature initiatives, based on an executive order he signed in his first day in office.

Ward, who became chief transformation officer in April after serving as the governor's real estate adviser, recently pitched the office's accomplishments to a committee of mostly skeptical legislators.

Those accomplishments include vast improvements in customer wait times at the Department of Motor Vehicles, elimination of a massive backlog of unemployment claims at the Virginia Employment Commission and ongoing efforts to im-



YOUNGKIN ADMINISTRATION

Rob Ward pitched improved wait times at DMVs and the end of the VEC backlog.

prove care for Virginians with behavioral health disabilities and to ensure that previously incarcerated people return to society successfully.

"I feel like I've been given the keys to a high-performance vehicle," Ward said in an interview

with the Richmond Times-Dispatch.

But Sen. Creigh Deeds, D-Charlottesville, wanted to talk to the chief transformation officer about issues he hadn't discussed: the administration's handling of state-owned real estate in Richmond and the \$110 million revenue shortfall over two years at the Alcoholic Beverage Control Authority under a budget that Ward's predecessor had helped to fashion.

In both cases, Ward said he has nothing more to do with state real estate decisions or operations at the ABC, but that didn't satisfy Deeds.

"There are just a ton of questions," the senator said after Ward's presentation to the Senate Finance & Appropriations Committee on Tuesday.

Those questions, particularly from the Democrats who control the General Assembly, focus on whether the Republican governor has used the chief transfor-

mation officer and a host of private consultants to undermine the independence of ABC and undercut the general services agency that oversees real estate, construction and purchase of goods and services for state agencies.

"Every governor wants to come in and make their mark, but they only have four years," Deeds said Thursday. "Has the transformation officer produced the kind of long-haul savings for the commonwealth that are going to outlast those four years? I don't see that happening."

"I'm just frustrated by the whole thing," he added.

Deeds, who serves as chairman of the Virginia Behavioral Health Commission, gives Youngkin credit for his "Right Help Right Now" initiative to improve care for people with mental health disorders and developmental disabilities, which

Please see **TRANSFORMATION**, Page A6

America's politics in unknown territory

STEVE PEOPLES
Associated Press

FLINT, Mich. — The FBI is investigating suspicious packages sent to elections officials in more than a dozen states. State police have begun sweeps of schools in an Ohio community where conspiracy theories have fueled bomb threats. Violent rhetoric is rippling across social media.

And for the second time in nine weeks, a gunman apparently sought to assassinate Republican presidential nominee Donald Trump.

This year's campaign for the White House was always going to be fraught, the first presidential election to play out in the wake of an insurrection at the U.S. Capitol, an act of political violence steeped in the lie that the 2020 election was stolen.

But the series of unnerving developments has crystallized the volatility coursing through the country in the final weeks of the 2024 campaign. A political system long lauded for its resilience and durability is being tested, with law enforcement, political leaders and voters navigating complex and unfamiliar terrain.

In Flint, the Michigan city where a contaminated water crisis became a symbol of government ineptitude nearly a decade ago, some who gathered for a Trump event this week seemed almost resigned to a new and dangerous normal.

"I think it'll probably happen one more time," John Trahan, 62,

Please see **POLITICS**, Page A16

Secret Service's next challenge is UN meeting

Next week's assembly brings more than 140 world leaders to NYC

MICHAEL R. SISAK
Associated Press

UNITED NATIONS — Below United Nations headquarters, a state-of-the-art security post dubbed the "Brain Center" hums with activity on the eve of next week's high-level meeting of the U.N. General Assembly. The annual diplomatic pilgrimage is bringing more than 140 world leaders to New York City, including the leaders of Israel, the Palestinians and Ukraine.

Keeping them safe is the U.S. Secret Service's next big challenge.

The agency, under a cloud after a July assassination attempt on former President Donald Trump, is confident in its multi-layer, multi-agency plan to protect the U.N. General Assembly, which is deemed a Super Bowl-level National Special Security Event.

The plan — developed with New York City police and the U.N. Security and Safety Service, among other agencies — includes

Please see **SECURITY**, Page A16

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Inside
ADVICE D3 COMICS INSIDE HOROSCOPE D3
BOOKS C4 COMMUNITIES A10 OBITUARIES A5
CLASSIFIEDS D1 HEALTH C1 OPINION A14



Osprey

From A1

be the next one down.”

‘It’s been a disaster’

There are 58 monitored osprey nests within the 2.5 mile limits of the Town of Colonial Beach. Last year, the Virginia Osprey Foundation reported that 55 chicks fledged, meaning their wings were developed enough for flying but they were still dependent on their parents for care.

This year, of the 44 chicks volunteers spotted in nests, maybe six to eight made it out alive, Millward said. She doesn’t have a precise number because the nest height and location sometimes make it difficult to know exactly what happened.

Often, volunteers would see one or two chicks in the stick-filled nest one day, then several days later, no activity.

Predators may have gotten some; younger birds that died in the nest might have been carried away by their parents, Millward said. The bottom line is the skies that were filled with adults and successfully fledged offspring last year showed little evidence of the raptors late this summer.

“It’s been a disaster,” she said.

When there’s not enough for parents and offspring to eat, adult birds abandon the nests and feed themselves so the species can go on. It’s a harsh reminder of nature’s survival-of-the-fittest rule, Millward said.

Colonial Beach osprey chicks aren’t the only ones starving. The Center for Conservation Biology at William & Mary released a report on Sept. 13 that said osprey young aren’t surviving at rates to sustain the population. They’re dying from lack of food, particularly in areas of the bay where the birds rely on



LOU CORDERO PHOTOS FOR THE FREE LANCE-STAR

These osprey chicks were in a treetop platform in Colonial Beach. They weren’t banded in July because volunteers feared the birds were too agitated and would try to fly away. One of them later died and the fate of the second is unknown.

menhaden fish.

The study followed 571 osprey pairs at 12 study areas in Maryland and Virginia. The results prompted Chris Moore, executive director of the Chesapeake Bay Foundation, to call once more for a study on the industrial fishing of menhaden as the fish are a food source for striped bass, osprey and whales.

“This year’s osprey data adds to the growing concerns about the number of menhaden in the bay and the importance of a robust menhaden population for species that depend on them for food and Virginia’s economy,” Moore said.

Last month, the Atlantic States Marine Fisheries Commission voted to form a workgroup to consider additional restrictions on the menhaden harvest in light of the problems with osprey young. Virginia did not approve funding for a similar study earlier this year.

‘Emaciated’ chicks

Colonial Beach was not among the sites studied in the William & Mary report, but Millward sent the researcher, Dr. Bryan Watts, information about the town birds.

“Based on what the rehabbers have had to say, it does not sound like there is any doubt that the young starved,” Watts said in an email to The Free Lance-Star.

But because the center hasn’t done a diet study at Colonial Beach, he couldn’t say if the chicks starved from a lack of menhaden or another species or from poor fishing conditions. “I just don’t know,” he said.

The waters of the Potomac certainly were warmer during key times in osprey development, which might have caused surface fish to go deeper for cooler climes. Millward is also a volunteer with the Potomac Riverkeeper Network, and she said water samples showed



In July, when the Virginia Osprey Foundation banded 24 osprey chicks, “there was no indication that anything could be wrong,” said Foundation President Joanie Millward.

temperatures were 6.2 degrees to 8.1 degrees warmer from May to July than for the same period in 2023.

Virginia’s Department of Wildlife Resources did necropsies on three dead chicks from Colonial Beach and found no evidence of disease such as avian flu or

West Nile virus. “They were in poor body condition with very little in their GI tracts,” according to the DWR report.

Wenz and her volunteer rescuers saw the same.

“These babies were emaciated and we could tell that by feeling that their crop was not full,” she said. “Some had mites and ... they can be prevalent when the birds are under stress.”

Part of a pattern?

It’s difficult to determine if what happened with Colonial Beach osprey chicks this season is part of the ongoing pattern of decline in the Chesapeake Bay, which has been happening at least since the mid-2000s — or a one and done.

“It is not uncommon to have wide swings in osprey breeding performance one year to the next,” Watts said.

Predators play a part as do heat waves and hail storms, droughts and rainy seasons, but the year-to-year fluctu-

ations aren’t the concern, he said.

“Repeated poor production is a much greater reason for concern for the population,” he said.

Craig Koppie, a raptor biologist who’s retired from the U.S. Fish and Wildlife Service, said osprey declines, along with those of peregrine falcons, are being reported across the nation and world.

“It’s amazing how many of the populations that were so robust are decreasing, some are down 60%,” he said. “There’s literally something going on with raptors, not so much bald eagles yet, but I think it’s just a matter of time. It’s kind of scary.”

Millward would say the same about Colonial Beach osprey although she hopes adult birds will have the kind of successful breeding season next year that they’ve had in the past.

One thing is for sure, many eyes will be upon them. Even if similar issues are happening with ospreys around the Chesapeake Bay and beyond, they’re not likely to draw the kind of attention the birds received in Colonial Beach, said Ken Smith, a federally licensed raptor bander from Prince George’s County, Maryland.

Colonial Beach is “pretty unique,” both in the number of ospreys and the people watching and monitoring their nests.

“The community involvement with the osprey and conservation in that town is just wonderful,” he said. “At the same time, one of the reasons you’re hearing so much about (chicks) that died is because there are so many people involved and so many nests in a concentrated area, more people are able to see what’s going on.”

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Transformation

From A1

the chief transformation officer helped to develop and carry out.

“I’m very grateful for that work,” he said.

But Deeds led a push in the General Assembly this year to make the Department of General Services independent of the executive branch after the far-reaching agency came under administration pressure to reduce its procurement costs. Joe Damico, its longtime and well-regarded director, retired suddenly at age 60, immediately went to work for the city of Richmond and ultimately became chief administrative officer at the State Corporation Commission.

The assembly approved Deeds’ legislation to require independent governance of the department, but Youngkin vetoed it and blocked a provision to include the measure in the state budget.

\$106 million in savings

The transformation office was led initially by Eric Moeller, a former partner at McKinsey & Co. and The Boston Consulting Group. Those were two of the national firms that the administration hired to undertake several transformation projects, including an overhaul of procurement operations at the general services department and the Virginia Information Technology Agency. The state spent \$7.7 million for the procurement initiative, with \$3.7 million coming from the transformation office and \$4 million from VITA.

Youngkin, in a speech to the assembly money committees a year ago, promised that the procurement initiative would “save taxpayers \$200 million annually” by the end of the fiscal year on June 30.

Ward recently outlined savings of \$106 million, about 75% of it from in-



ALEXA WELCH EDLUND, RICHMOND TIMES-DISPATCH

People line up in Chesterfield County in 2021 to talk to someone from the Virginia Employment Commission about benefits. Eliminating a large backlog of unemployment claims at the VEC is one of the transformation office’s successes.

formation technology contracts that VITA had procured. Most of the savings came from renegotiating contracts that the governor’s office said were “poorly priced or structured” instead of allowing them to renew automatically. (Similarly, the administration said that it has solicited new bids for administering the health plans for state employees by exercising the first of five one-year options in the 10-year contract.)

Ward and the governor’s office, in response to questions from The Richmond Times-Dispatch, said that “while the full \$200 million in savings may not fully be realized at this moment, actions are underway” to eventually meet the annual goal. The initiative is beginning a second phase that will analyze about 5,000 contracts that do not involve IT or non-professional services at executive branch agencies.

“By no means are we done,” Ward said.

State office buildings

Legislators also questioned the chief transformation officer about the administration’s handling of real estate and state offices in downtown Richmond, an area in which he said he is no longer involved.

Democrats remain angry at Youngkin’s decision last year, in Deeds’ words, “to ignore” the legislature’s in-

struction in the state budget to build a new state office building at East Main and North 7th streets to house employees who eventually will be displaced by the sale or demolition of the Monroe Building.

Deeds, concerned about moving core state operations outside of Richmond, questioned Ward about a deal he reviewed for the administration last year to buy the former Owens & Minor headquarters and an adjacent 50 acres in Mechanicsville. The property will house portions of the Virginia Department of Transportation that will leave the Transportation Annex Building on East Broad Street.

“The economics of that transaction were extremely attractive,” Ward said.

Otherwise, he said he no longer is involved in real estate deals, but he defended the governor’s effort to rely on leased space, in downtown Richmond and elsewhere in the region, instead of investing in a new building. “I don’t think there’s a push to move operations out of the city,” he said.

Role at ABC

One of the most noticeable omissions from the presentation to Senate Finance, according to Democrats, was the leading role that Moeller and his office played at ABC. Former Del. Tim Hugo, R-Fairfax, whom Youngkin appointed chair-

man of the authority board early last year, sought the office’s assistance because of his concern about the declining profit margin that the state liquor monopoly was delivering for the state general fund budget.

Moeller and his staff pushed hard for ABC, a semi-independent authority, to lower its operating costs and raise its net profit transfer to the general fund. Ultimately, the board adopted a budget that relied on a 5% increase in sales revenues that Youngkin also used in each year of the five-year revenue forecast he submitted to the Governor’s Advisory Council on Revenue Estimates.

The revenue forecast puzzled leaders of the alcoholic beverage industry, who saw a downturn in liquor sales coming as consumers drank less, bought cheaper brands and smaller bottles.

“I’m trying to find out where the disconnect was,” said Dale Farino, a retired alcoholic beverage distribution executive during his first meeting as a member of the ABC board. Youngkin subsequently appointed Farino as CEO of the authority.

The administration says the chief transformation officer was not responsible for the revenue forecast that ABC used in the budget but had “focused solely on opportunities to reduce operational expenditures.” The governor’s office recently blamed “poor revenue forecasting” by the authority.

However, published minutes of ABC board meetings last year show that Moeller and his staff were closely involved in early budget discussions of how to boost profits for the state.

Youngkin lowered the expected profit transfer by \$100 million to fill the gap. The assembly included a \$44 million reduction for the first year of the two-year budget — leaving it to ABC to make up the difference in the second year — and adopted language that makes the authority independent

of the administration in the budget.

Victories at DMV and VEC

The biggest victories for the transformation office were initiatives that slashed customer wait times at DMV offices from 37 minutes to 10 minutes and helped the VEC dig out from more than 1.3 million work items, including a backlog of 700,000 items it inherited from former Gov. Ralph Northam after the COVID-19 pandemic threw hundreds of thousands of Virginians out of work.

“The work you all have done is truly transformative,” said Sen. Richard Stuart, R-King George, who praised the office for improvements at DMV that he said were “desperately needed.”

Ward said, “Cost savings is a small part of this. What we really see is the opportunity to impact the citizenry.”

Much of what the office does is analyze data, measure results and provide expertise to state agency initiatives. “We don’t own the projects,” he said. “We support the projects.”

The office has spent about

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Potomac River Fisheries Commission Harvest of Menhaden - Mid-Year Analysis

<u>Day Entered</u>	<u>Cumulative Harvest in Pounds</u>	<u>Total Annual Harvest in Pounds</u>
7/9/13	1,384,406	3,295,295
7/10/14	1,035,450	3,175,893
7/10/15	1,041,032	2,739,035
7/8/16	1,170,555	2,504,823
7/12/17	809,416	2,114,763
7/9/18	2,106,344	3,323,014
7/8/2019	724,525	2,341,823
7/10/2020	939,971	2,189,817
7/8/2021	788,571	2,536,318
7/8/2022	1,310,208	3,569,450
7/7/2023	842,315	2,051,020
7/9/2024	154,825	Preliminary* 254,180 as of 8/27/24

Averages

2013-2023	1,104,799
2020-2023	970,266

*Final data not released until March 2026