From:	Dale William Neal
To:	Comments; James Boyle; Joe Cimino; Bob Beal; John Clark; Katie Drew
Subject:	[External] Public Comment for Atlantic Menhaden Board Annual Meeting - Oct 22nd
Date:	Thursday, October 17, 2024 1:05:52 PM

Dear ASMFC Atlantic Menhaden Board members, Chairman Ciminio, Director Beal, Commissioner Clark, Commissioner Gary, Dr. Drew,

We know two things. The Chesapeake Bay ecosystem is troubled. There is not a single cause.

In the face of uncertainty sound judgement would tell you that we can not continue the status quo and expect a better outcome.

Yes there are multiple factors causing issues, but the one keystone that is in your power to try and restore is the abundance of menhaden.

The citizens of our region, those who depend on the bay for their livelihood, those who depend on it for sustenance, and those who merely enjoy its splendor, ask that you act in a precautionary manner. Act now, before the scales tip too far, not years from now.

Do what you have the power to do, for the benefit of everyone, creatures and humans alike.

Sincerely, Dale William Neal
Advocate for Atlantic and Gulf Menhaden
Richmond, VA

From:	Phil Zalesak
To:	James Boyle; Tina Berger
Cc:	David Reed; Philip Zalesak; Phil Zalesak; John Clark; Marty Gary; Bob Beal
Subject:	[External] PUBLIC COMMENTS OF PHIL ZALESAK BEFORE THE ASMFC ATLANTIC MENHADEN MANAGEMENT BOARD, 10/22/24
Date:	Friday, October 18, 2024 9:30:40 AM

Chairman Clark,

My name is Phil Zalesak. I am a member of Save Our Menhaden Coalition Take Action - SAVE OUR MENHADEN

This Board is in desperate need of your leadership.

Why? Consider the Commission's history and Commission's policies:

· Localized depletion of Atlantic menhaden in the Chesapeake Bay was identified in 2004 as part of Special Report 83, 20 years ago. DRAFT (asmfc.org)

· Localized depletion was explicitly defined in 2009 five years later, 16 years ago. Report on the evaluation (noaa.gov)

· There was no need for the Board and the Work Group to waste time redefining the problem.

Further, the Board and Commission process for accommodating Public Comment is irrational.

· A member of the Public could spend a weekend preparing comments pertinent to the meeting at hand but is unable to make comments due to Commission policy.

· This is truly illogical, and an insult to the taxpayers of this country.

Finally, I respectfully request that you do the following:

· Direct the Work Group to use the 2009 definition of localized depletion of Atlantic menhaden in the Chesapeake Bay as the basis for the problem statement.

· Define the problem statement as: "Localized depletion of Atlantic menhaden is occurring in the Chesapeake Bay"

· Limit the scope of their fishery investigation to Striped Bass, Bluefish, and Weakfish in accordance with ERP study.

· Limit the scope of the bird study to Osprey which nest in the main stem of the Chesapeake Bay.

2024-0916_menhaden_working_group_comments.pdf (saveourmenhaden.org)

· And request a final report by the Spring 2025 ASMFC meeting.

I thank you for your time.

Phil Zalesak

President

Southern Maryland Recreational Fishing Organization

Corporate Facebook Page: https://www.facebook.com/profile.php?id=61552422541232
Membership Facebook Page: https://www.facebook.com/groups/598428253621775

From: Tom Lilly
To: Tina Berger; James Boyle
Subject: Fw: [External] Fw: comments to menhaden board
Date: Thursday, October 17, 2024 10:24:43 AM
Attachments: Two on Page Landing data.pdf
Path Article two.pdf

Tina I have revised this comment . The first part is a four paragraph mail to John Clark (added) , James etc. The second part is a seven paragraph comment to the board. There are now only two scans. n.1 scan is the monthly bay landing charts from 2017-2023 and n.6 scan is the journal article " The Path to..." from Frontiers in Marine Science. Material to support the other notes is by request.

Could you please add this amended comment to the next round of comments due tomorrow that you are sending out to the board.?

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

> Confirming receipt.
>
> ---
>
> **From:** Tom Lilly <foragematters@aol.com>
> **Sent:** Tuesday, October 8, 2024 9:46 AM
> **To:** Tina Berger <TBerger@ASMFC.org>; Comments <comments@asmfc.org>
> **Subject:** [External] Fw: comments to menhaden board
>
> Tina please acknowledge one more time ...this is for the board and James Tom
>
> ## John Clark, James, Marty, Bob,Allison and the menhaden board.
>
> > 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.

The below mail is a comment for the menhaden board for its meeting Tuesday October 22nd

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 Mfgrs 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)

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frontiers in Marine Science

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

Kristen A. Anstead[1], Katie Drew[1], David Chagaris[2], Matt Cieri[3], Amy M. Schueller[4], Jason E. McNamee[5], Andre Buchheister[6], Geneviève Nesslage[7], Jim H. Uphoff Jr.[8], Michael J. Wilberg[7], Alexei Sharov[9], Micah J. Dean[10], Jeffrey Brust[11], Michael Celestino[11], Shanna Madsen[12], Sarah Murray[1], Max Appelman[1], Joseph C. Ballenger[13], Joana Brito[2,14], Ellen Cosby[15], Caitlin Craig[16], Corrin Flora[17], Kurt Gottschall[18], Robert J. Latour[19], Eddie Leonard[20], Ray Mroch[4], Josh Newhard[21], Derek Orner[22], Chris Swanson[23], Jeff Tinsman[24], Edward D. Houde[7], Thomas J. Miller[7] and Howard Townsend[25]*

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OPEN ACCESS

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Atlantic menhaden (*Brevoortia tyrannus*) support the largest fishery by volume on the United States East Coast, while also playing an important role as a forage species. Managers' and stakeholders' increasing concerns about the impact of Atlantic menhaden harvest on ecosystem processes led to an evolution in the assessment and management of this species from a purely single-species approach to an ecosystem approach. The first coastwide stock assessment of Atlantic menhaden for management used a single-species virtual population analysis (VPA). Subsequent assessments used a forward projecting statistical catch-at-age framework that incorporated estimates of predation mortality from a multispecies VPA while analytical efforts continued toward the development of ecosystem models and explicit ecological reference points (ERPs) for Atlantic menhaden. As an interim step while ecosystem models were being developed, a series of *ad hoc* measures to preserve Atlantic menhaden biomass for predators were used by managers. In August 2020, the Atlantic States Marine Fisheries Commission formally adopted an ecological modeling framework as a tool to set reference points and harvest limits for the Atlantic menhaden that considers their role as a forage fish. This is the first example of a quantitative ecosystem approach to setting reference

330

FRONTIERS PATH COVER plus 12

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.

The ERP WG explored a range of scenarios for the other focal species (i.e., not Atlantic menhaden or striped bass) and found that the NWACS-MICE model was sensitive to the population level of Atlantic herring, resulting in higher *F* reference points for Atlantic menhaden when Atlantic herring was at its biomass target and lower *F* reference points when Atlantic herring was below its biomass threshold as compared to the *status quo* scenario. Atlantic herring are an important prey item for striped bass in some seasons and regions. However, this sensitivity is likely due to the lack of seasonal and spatial dynamics in the NWACS-MICE model rather than reflecting true ecosystem dynamics. When a seasonal forcing function was added to the striped bass-Atlantic herring relationship, the sensitivity of the model was significantly reduced and the *F* target values were similar across multiple scenarios. The *status quo* 2017 scenario most closely approximated short-term conditions for the ecosystem; this assumption can be revisited after additional analysis to incorporate seasonal dynamics into the NWACS-MICE model as part of the next stock assessment, which is scheduled for 2025.

The ERP target and threshold *F* were lower than the single-species target and threshold *F*. The *F* value from the NWACS-MICE model was on a different scale than the *F* values from the single-species model due to differences in model structure. The single-species model is a statistical catch-at-age model that estimates an annual full *F*, the instantaneous fishing mortality rate that the fully selected age class experiences, while the NWACS-MICE model is an EwE model that uses an exploitation rate to drive the population based on the proportion of age-1+ biomass removed by the fishery each year. As a result, although both models report an *F*, estimates of *F* reference points from the NWACS-MICE model are not directly comparable to estimates of annual *F* from the single-species model. Therefore, the NWACS-MICE model *F* values were scaled to the single-species values for use in management. The NWACS-MICE model produced a tradeoff curve relating menhaden *F* to striped bass biomass, in an equilibrium context. From this relationship, Atlantic menhaden *F* multipliers were identified that would maintain striped bass at their biomass target or threshold, when striped bass were fished at their *F* target. The *F* multipliers that produced these conditions were then applied to the single-species model estimate of full *F* in the terminal year to produce the ERP target and threshold

From: Tom Lilly
To: Comments; James Boyle; Tina Berger
Subject: [External] Re: Atlantic Menhaden board meeting comments
Date: Friday, October 18, 2024 9:48:08 AM
Attachments: WashingtonPost22Sept2024.pdf

James and Tina....This comment was made to the work group back in September. It has quite a bit of information on osprey nesting in the Virginia eastern shore of Chesapeake Bay and includes Dr Watts press release on 9/13/24 with the data from the expanded study areas in Virginia and Maryland and Dr. Watts's conclusions. If Roberta Kellam's mail and Dr Watts's press release (attachment link at note 2) are not already in the board's materials for the Tuesday meeting could you please include them now as part of the record? If the link to Dr Watts press release does not operate please let me know so we can send it as a separate pdf....Thanks Please advise receipt Best Tom

----- Forwarded Message -----
From: Roberta K <sophieandfolly@yahoo.com>
To: "tberger@asmfc.org" <tberger@asmfc.org>
Cc: Tom Lilly <foragematters@aol.com>
Sent: Tuesday, September 24, 2024 at 10:24:05 PM EDT
Subject: Fwd: Atlantic Menhaden Work Group

Dear Ms. Berger, I am forwarding my comments to the Atlantic Menhaden Work Group to you for your assistance in ensuring that the comments and attachments are provided to the committee. Thank you so much. Sincerely, Roberta Kellam

Begin forwarded message:

From: Roberta K <sophieandfolly@yahoo.com>
Subject: Atlantic Menhaden Work Group
Date: September 24, 2024 at 10:12:07 PM EDT
To: comments@asmfc.org

To the ASMFC Atlantic Menhaden Work Group:

Thank you for your efforts to find a solution to the osprey chick/nestling starvation in the Chesapeake Bay. Osprey breeding success in the lower Chesapeake Bay requires plentiful fish availability along the shores and in the creeks (sub-estuaries) from late March through at least mid-July. As I noted in my September 6, 2024 comment to your Work Group, numerous Omega Protein boats cluster around the mouths of creeks on the Eastern Shore of Virginia and “fish out” entire schools of menhaden and all other fish in the vicinity (via by-catch and physical deterrence), significantly reducing the availability of fish that would normally move into the creeks. I am hopeful that your Work Group can develop a permitted fishing schedule that both avoids osprey breeding months and limits clustering operations within the Chesapeake Bay to accommodate critical times in the osprey life cycle.

It is disappointing that Omega Protein does not participate in good faith, arguing both that there is not enough science but then blocking the legislation in Virginia’s legislature to obtain the science. Worse yet, Omega Protein/Ocean Fleet spokesperson Ben Landry seems to have embarked on a misinformation campaign about the osprey breeding success outside of the Chesapeake Bay. A Washington Post article published on September 22, 2024, states that “Landry argued that ospreys are declining in many parts of the country for what scientists have said are a variety of factors, including climate change, runoff from development and competition from other species.” (See attached,

"Mystery of Disappearing Ospreys Might Have Controversial Explanation.") Landry's statement is patently false and unsupported by any studies, reports, data, or governmental authorities. Osprey (Pandion haliaetus) is a globally ubiquitous species which thrives in both fresh and saltwater environments where fish are plentiful, and they are not listed as federally threatened or endangered. Unfortunately, the reproductive crash in most of the Chesapeake Bay saline areas is dramatic and real, and I have seen it with my own eyes. But this is not really about the ospreys – it is about the failure of state and federal public trust fisheries management, unequivocally communicated *by the ospreys*.

I believe it would be helpful for the Menhaden Work Group to consider testimony from the leading expert on Chesapeake Bay ospreys, Professor Bryan Watts, PhD., from the College of William and Mary. Professor Watts has published numerous peer-reviewed articles on both ospreys and bald eagles in the Chesapeake Bay. I have copied the results of Dr. Watts's 2024 Osprey Breeding Study for the Chesapeake Bay below – first in chart form, and then in text. In addition, I am providing the details of breeding success in the creeks surveyed on the Eastern Shore of Virginia (Accomack and Northampton Counties, the "southern tip" of the Delmarva Peninsula) taken from Dr. Watt's study. It is clear that all osprey breeding north of Hungars Creek (i.e., Nassawadox, Occahannock, Pungoteague, Onancock Creeks) had massive reproductive failure, ranging from .28 young/pair to .71 young/pair. Hungars Creek was the outlier with 1.33 young/pair. The breeding failures in Nassawadox Creek were abundant and obvious, with 18 nesting pairs and only 5 young having fledged. I live in the Nassawadox Creek area and did observe the massive nest failure within Nassawadox Creek, with young chicks dying in the nests, and so did my neighbors. We also observed the clusters of Omega Protein/Ocean Fleet vessels near our shores. For those of us who live on the Eastern Shore of Virginia, the impacts to osprey from Omega Protein/Ocean Fleet's fishing practices are tragic, immediate, and undeniable.

If you have not yet obtained copies of the results of the 2024 Osprey Breeding Report from the College of William and Mary, Center for Conservation Biology, please find details below:

Table 1: Osprey breeding outcomes in the Chesapeake Bay (2024). Source – Center for Conservation Biology, William & Mary.

Site	Pairs	Reproductive Rate young/pr (SE)	Pairs Not Laying (%)	Successful Pairs (%)	Failed Pairs (%)	1-chick Broods (%)
Main Stem (>10 ppt)						
Choptank River	60	0.23 (0.07)	21.7	18.3	60.0	72.7
Patuxent River	49	0.51 (0.11)	22.4	34.7	42.9	58.8
Fleets Bay	38	0.08 (0.05)	57.9	7.9	34.2	100.0
Eastern Shore	57	0.75 (0.13)	14.0	40.4	45.6	44.0
Piankatank River	37	0.89 (0.16)	27.0	54.1	18.9	45.0
Mobjack Bay	75	0.40 (0.08)	30.7	29.3	40.0	68.2
York River	58	0.52 (0.12)	37.9	31.0	31.0	50.0
Poquoson River	47	0.43 (0.10)	27.7	31.9	40.4	66.6
Elizabeth River	36	0.69 (0.14)	27.8	47.2	25.0	52.9
Lynnhaven River	30	0.90 (0.19)	0.0	50.0	50.0	33.3
MAIN STEM TOTAL	**487**	**0.51 (0.04)**	**27.1**	**33.1**	**39.8**	**54.6**
Reference (<1 ppt)						
Rappahannock River	33	1.31 (0.19)	0.0	63.6	36.4	14.3
James River	51	1.39 (0.33)	5.9	66.7	27.5	20.6
REFERENCE TOTAL	**84**	**1.36 (0.12)**	**3.6**	**65.5**	**31.0**	**18.2**

The Eastern Shore Creek Data that is summarized in Table 1 above can be further

broken down by individual creek, listed from South to North:

Hungars Creek – 21 pairs, 28 fledged = 1.33 young/pair
Nassawaddox Creek – 18 pairs, 5 fledged = 0.28 young/pair
Occahannock Creek – 8 pairs, 4 fledged = 0.5 young/pair
Onancock Creek – 7 pairs, 5 young – 0.71 young/pair
Pungoteague Creek – 3 pairs, 1 young – 0.33 young/pair

I hope that this information helps your understanding of the likelihood that the Chesapeake Bay will lose most of the breeding population of osprey if you do not take management actions to conserve the menhaden population in the Chesapeake Bay. Thank you for your efforts.

Sincerely,
Roberta Kellam
Franktown, Virginia 23354

Attachments:

1. **Washington Post Article**
2. **Press Release from the Center for Conservation Biology at the College of William and Mary, 9/11/2024, https://ccbbirds.org/2024/09/11/chesapeake-bay-ospreys-continue-to-experience-poor-breeding-performance-due-to-starvation/(COPIED BELOW)**
3. **Map of Study Area for 2024 Osprey Breeding Survey**

News Advisory

FROM: Center for Conservation Biology, William & Mary

FOR IMMEDIATE RELEASE: 13 September, 2024

MEDIA CONTACTS: Dr. Bryan D. Watts, Director
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William & Mary
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(757) 221-2247

Chesapeake Bay ospreys continue to experience poor breeding performance due to starvation

BRIEF

(Williamsburg, VA)--- The Center for Conservation Biology has compiled 2024 breeding performance results for osprey in the Chesapeake Bay. The monitoring effort included 571 osprey pairs distributed among twelve study areas. Ten study areas were within the main stem of the Bay where salinity exceeded 10 parts per thousand (ppt) and two study areas (used as reference sites for comparison) were positioned on upper tributaries within tidal fresh reaches where salinity was less than 1 ppt. Osprey pairs nesting within waters above 10 ppt salinity are believed to be highly dependent on Atlantic menhaden to raise broods. Osprey pairs nesting within tidal fresh waters feed primarily on catfish and gizzard shad. Breeding pairs were monitored throughout the nesting season (March-August) to determine nesting success and productivity. 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. Compilation of camera data has

not been completed.

Mean breeding performance for osprey pairs nesting within the main stem of the Bay did not meet levels believed to be required for population maintenance (1.15 young/pair). Collectively, reproductive rate was 0.51 young/pair. However, breeding performance did vary between study areas with two areas falling in the range of “minor deficit” (0.8-0.9 young/pair), two sites falling in the range of “moderate deficit” (0.6-0.8 young/pair) and six sites falling in the range of “major deficit” (less than 0.6 young/pair). By comparison, reproductive rate within reference sites was 1.36 young/pair that is above the maintenance target.

Based upon direct observations during nest visits, the largest contributing factor to poor breeding performance was seemingly the loss of young due to starvation. Low food availability leads to a sequential loss of young and results in smaller brood size or nest failure. 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 = 163) 54.6% 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.

The osprey breeding performance in the main stem of the Bay that was documented in 2024 (and for the past several years) is not sustainable. In the absence of immigration from other parts of the Bay or outside of the Bay the population would be predicted to decline. To date we have not conducted surveys throughout the entire main stem to evaluate trends in the breeding population.

ADDITIONAL DETAILS
2024 Objectives

In recent years we have published papers on the historic decline of osprey breeding performance in Mobjack Bay (a subestuary of the lower Chesapeake) and the role of menhaden in driving the decline. One of the criticisms of this work is that “Mobjack Bay only reflects conditions within a small area of the larger Bay” and is not representative. The primary objective of fieldwork in 2024 was to expand the geographic scope of osprey monitoring to better understand their reproduction throughout the portion of the Bay where the species is believed to be menhaden-dependent. Additional objectives include 1) achieving a better understanding of the spatial variation in osprey reproductive performance, 2) quantify osprey diet throughout the main stem of the Bay and 3) work to develop a field metric that is a reliable indicator of food stress.

Study Areas

The main study area was delineated based on the 10 ppt contour throughout the Chesapeake Bay. Ten study areas were delineated throughout the main study area in early 2024 based on logistics and the known density of osprey to facilitate efficiency. Specific study areas include VA – Lynnhaven River, Elizabeth River, Poquoson River, York River, Mobjack Bay, Piankatank River, Fleets Bay and Eastern Shore bayside and MD – Patuxent River and Harris Creek at mouth of Choptank River (monitored by USGS). Reference study areas were selected within tidal fresh reaches of upper tributaries based on the same criteria. Reference study areas include the upper James River and upper Rappahannock River in Virginia.

Breeding Performance

Poor breeding performance was widespread throughout the main stem of the Bay and none of the study areas reached demographic targets. Although spatial variation in performance was evident throughout the season, most of the study areas were

considered in the range of “major reproductive deficit”. The overall reproductive rate for pairs in the main stem of the Bay was approximately 50% of that believed to be required for population maintenance. By comparison, reproductive rate for pairs breeding within reference sites was well above maintenance levels. Both clutch sizes and hatching rates were generally consistent between the main stem and reference areas and throughout the main stem sites.

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 February – early March). Most of these non-breeding pairs remained resident throughout the nesting season and defended territories but were never documented to lay eggs. This is the first time this behavior has been documented on a large scale within the Chesapeake. A likely explanation for the behavior is that females were not able to reach the adequate physiological body condition required to lay eggs.

Causes of Nesting Failures

Osprey pairs are subjected to a wide range of forces that may lead to nesting failure. These range from contaminants to weather events to nest competitors to predators and many others. Based on other observations and published studies, disease, competition for prey, depredation, and pollution do not currently appear to be significant causes of reproductive failure. Poor breeding performance throughout the main stem of the Bay in 2024 was driven by the loss of young after hatching. A clear indicator of food deficit (stress) within an osprey nest is the development of asymmetric broods where the young differ in size and developmental stage. Asymmetric broods develop when not enough food is delivered to provision all young equally and leads to the formation of a dominance hierarchy within the brood and monopolization of food by dominant young. The appearance of asymmetric broods is a precursor to brood reduction by the sequential loss of subordinate young to starvation.

One example of food stress and brood reduction leading to nest failure was captured on a nest camera within the Eastern Shore study area. The female laid and hatched three eggs. The signs of food stress appeared early in the brood dynamics. Over a period of three days the two smallest young died. The third nestling survived another four days but after 38 hours without food died during the night. The next morning the male delivered a fish and the female attempted to feed the dead young. The female continued to shade the young for the rest of the day. This is a typical starving sequence where an extended period without food pushes the young past the breaking point.

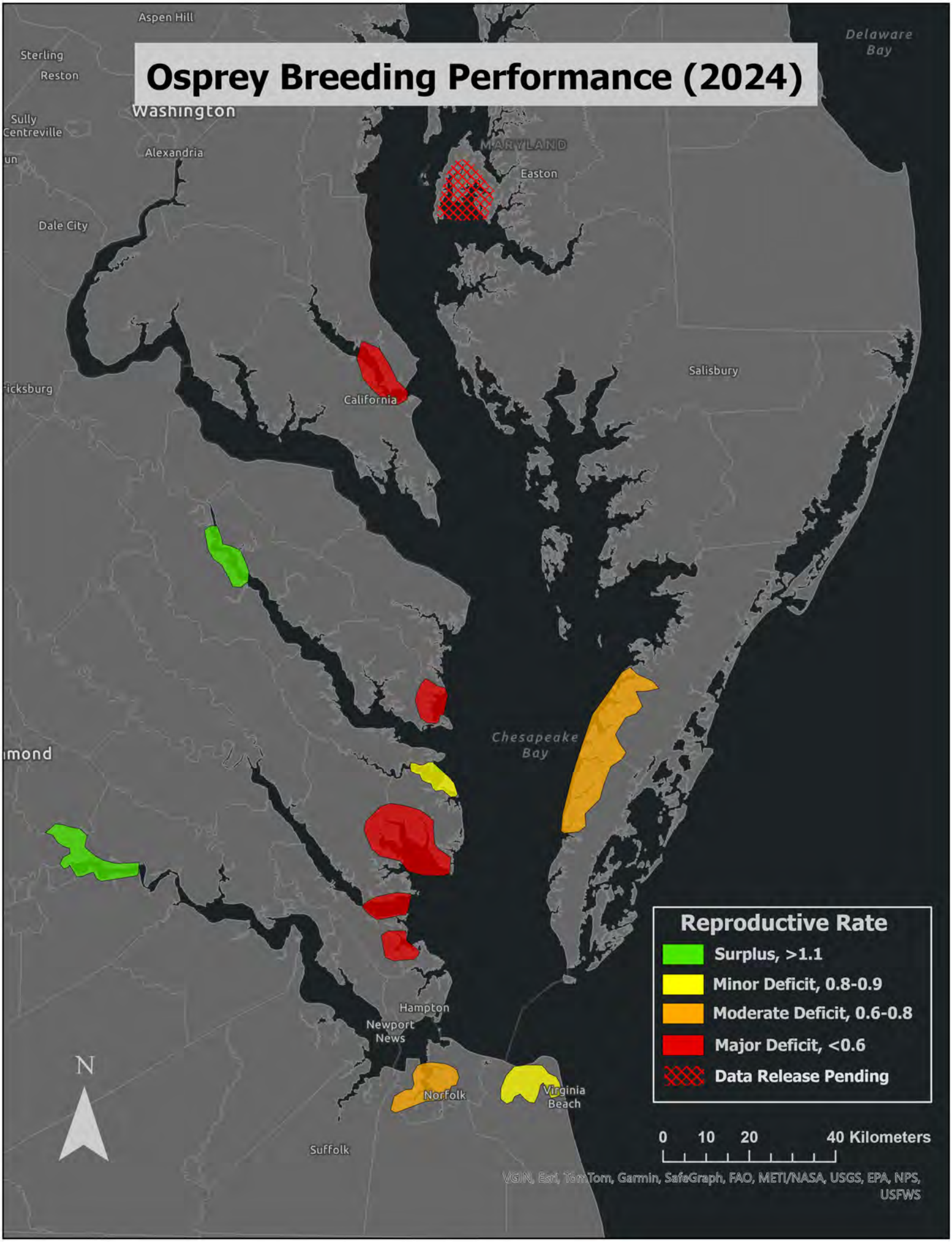
Asymmetric broods were common and widespread throughout the main stem of the Bay. On average, pairs in the main stem lost 1.1 young between hatching and fledging. Both the high failure rate of nests and the high frequency of one-young broods for successful nests were driven by brood reduction caused by food stress. In contrast, asymmetric broods were uncommon within reference sites; on average pairs lost only 0.3 young and success rate was relatively high.

Implications

Overall, poor reproduction in ospreys is not restricted to the historic study area of Mobjack Bay but is widespread throughout the main stem and likely involves thousands of nesting pairs. Whether or not we will see a broad-scale decline in the osprey breeding population ultimately depends on the relationship between areas (such as the main stem) that are in reproductive deficit and areas (such as the reference sites) that are producing a reproductive surplus. A determination of whether or not the Bay population as a whole is sustainable given the current prey situation is a topic of ongoing investigation.

Project Partners

Center for Conservation Biology, William & Mary
Virginia Aquarium
Maryland-National Capital Park
Elizabeth River Project


Osprey Breeding Performance (2024)
Aspen Hill
Sterling
Reston
Washington
Sully
Centreville
Alexandria
Dale City
MARYLAND
Easton
Delaware Bay
Salisbury
California
Chesapeake Bay
Hampton
Newport News
Norfolk
Virginia Beach
Suffolk
Reproductive Rate
Surplus, >1.1
Minor Deficit, 0.8-0.9
Moderate Deficit, 0.6-0.8
Major Deficit, <0.6
Data Release Pending
N
0 10 20 40 Kilometers
VGIN, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

Mystery of disappearing ospreys might have controversial explanation

A new study suggests osprey chicks are starving in parts of the Chesapeake Bay because of a lack of menhaden, a primary source of food but also a major industry.

8 min 219

By Gregory S. Schneider

September 22, 2024 at 6:00 a.m. EDT

When Casey Shaw and Bryan Watts motored their Boston Whaler into Craney Island Creek this summer looking for osprey nests, they hoped to find a pair of birds on every channel marker. Instead they found none.

"It was heartbreaking," said Shaw, who works for the conservation group Elizabeth River Project in Hampton Roads.

The mystery of vanishing ospreys — a bird of prey that feeds on fish and is not considered endangered — has puzzled homeowners, boaters and conservationists around the Chesapeake Bay the past few years. A new study claims to explain the decline, but the findings have aggravated a much bigger controversy.

Watts, director of the Center for Conservation Biology at William & Mary, wrote earlier this month that osprey chicks are starving to death in areas of the bay where their primary food source is a small, nutrient-rich fish called menhaden.

the most of the DMV

Environmentalists have seized on the report to support their fight against the menhaden-harvesting industry in Virginia, which is pitted in a long-running battle to hold off regulatory limits. Sport fishermen are allied with the environmentalists, arguing that industrial harvesting has depleted the menhaden supply and harmed other species of birds and fish that feed on it, such as striped bass.

"With the osprey findings — that's a big wake-up call," said Steve Atkinson of the Virginia Saltwater Sportfishing Association. "It clearly shows there's an ecosystem impact."

The company at the center of the battle is Omega Protein, which operates out of Reedville on Virginia's Northern Neck. It's a waterman town, named after a menhaden fisherman named Capt. Elijah Reed who came down from New England in the 1870s. Boats run in and out of Reedville bringing menhaden to a processing plant that grinds the fish into meal and oil — partly to feed farm-raised fish in Canada.

The overall operation employs about 260 people with a payroll of about $29 million, according to the company.

Other states on the Atlantic Seaboard — including Maryland, New York and New Jersey — have outlawed the kind of massive menhaden harvesting practiced in Virginia by Omega and its affiliate, Ocean Fleet Services.

But the company argues that it obeys federal limits on harvesting menhaden from the bay and up and down the Atlantic Coast. "We're seeing a lot of menhaden in the bay," said Ben Landry, a spokesman for Ocean Fleet. The company hauls a federally capped 51,000 metric tons of menhaden every year from the Chesapeake Bay, he said, and this year's harvest is so plentiful that the company will probably reach the cap sooner than usual.

Landry argued that ospreys are declining in many parts of the country for what scientists have said are a variety of factors, including climate change, runoff from development and competition from other species. Watts blaming the starvation problem on a lack of menhaden, Landry said, is not supported by science.

"To make the conclusion menhaden are depleted, you have to at least know what baseline you're working with. What is the abundance of menhaden in the bay? And that's something Dr. Watts has not had the ability to do," Landry said.

Advocates have been trying for years to get the state government to address that very issue of menhaden population count, but the politics of the matter are extremely complicated. It's more regional than partisan, with Hampton Roads lawmakers tending to favor sport fishing interests and rural lawmakers siding with the industry, a major employer in a needy part of the state.

The workforce at Omega is unionized and racially diverse, and the company itself gives generously to politicians on both sides of the aisle — $25,000 to Gov. Glenn Youngkin's (R) inaugural committee, for example, as well as $20,000 to the Virginia Legislative Black Caucus over the past four years, and five-figure amounts to leadership of both parties.

Last year, the General Assembly passed a bill requiring the Virginia Institute of Marine Science to work with stakeholders to outline a plan for what a study of the menhaden issue might look like. They did so, and recommended commissioning a $3 million study. But Youngkin did not include the money in his state budget.

So Del. Lee Ware (R-Powhatan) sponsored a bill in this year's legislative session to mandate the study. It failed to get out of committee.

"I really am frustrated," Ware said last week in an interview with The Washington Post. Understanding whether menhaden are being overfished "is very important for the ongoing health of the bay. It seems to me that's a critically important thing for us to resolve," he said.

On Sept. 17, Ware announced that he will refile the bill for next year's session.

Youngkin's office did not comment on why the governor did not fund the study in this year's budget, but a spokeswoman said he will "carefully review all legislation that is sent to him during the 2025 General Assembly."

The spokeswoman, Macaulay Porter, pointed out that the Virginia Marine Resources Commission — whose members are appointed by the governor — adopted a memorandum of understanding with the menhaden industry last year that calls for voluntary buffer zones to limit areas where menhaden can be fished.

"As a conservationist, the Governor has made the Chesapeake Bay one of his top priorities," Porter said in a written statement. Youngkin proclaimed last week as "Commercial Waterman Safety Week" on the heels of signing a bill earlier this year that toughens penalties for people who endanger commercial fishing boats. That bill, which passed the General Assembly nearly unanimously, was a response to several incidents where activists reportedly attempted to interfere with fishing operations.

Watts, the conservation scientist, said he fully expected industry supporters to challenge his findings. But he said the report was aimed at addressing the usual complaint that the declining osprey problem is anecdotal and not substantiated for the broader bay region.

He and colleagues had been studying the osprey population in one area of Virginia — Mobjack Bay — since about 2021, when questions about vanishing nests began piling up from people who live or travel on the waters. This year, Watts expanded his study area to a much wider section of the lower bay in Virginia. He and others — such as Shaw — monitored 571 nesting pairs in 12 study areas.

Ten of those areas were high-salinity waters, where the primary food source would be menhaden, he said. Two were areas farther inland with low salinity, where the ospreys have a more varied diet. In the menhaden-dependent areas, ospreys hatched fewer chicks, and far fewer of those survived. Overall, birds in those areas reproduced at less than half the rate necessary to maintain the population, the study found.

In the two inland areas, the osprey pairs reproduced at greater than the rate needed to sustain the population.

"So we have definitely shown that yearly reproductive rates are below maintenance levels in large portions of the bay and yes, it is because the young are starving in the nest," he said. "There does not appear to be enough fish to support the brood levels."

Watts has been studying ospreys since the 1970s. The Chesapeake Bay supports the world's largest breeding population of the birds, which migrate to South America for the winter. In the 1970s and '80s, widespread use of the pesticide DDT decimated the bay's osprey population down to about 1,400 pairs, Watts said.

Outlawing that chemical allowed a remarkable rebound. In recent years, Watts said, the population has been roughly 12,000 pairs.

The current decline is not sharp enough to suggest that the entire species is once again at risk, Watts said.

"I don't think that is the message that's coming out of the data," he said, adding that the "clear message" is actually not about the ospreys. It's about menhaden.

"The better way to read the information is not related to the viability of the osprey population as a whole but as an indicator that things are not where they need to be in terms of fish availability for the ecosystem," Watts said. "The fishery [industry] is saying there are plenty of menhaden; the osprey are saying something different."