

Congress of the United States

Washington, DC 20515

February 21, 2025

Sarah Ryker, Ph.D.
Acting Director
U. S. Geological Survey
U.S. Department of the Interior
12201 Sunrise Valley Drive
Reston, VA 20192

David Applegate, Ph.D.
Chief Scientist
U.S. Geological Survey
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Dear Acting Director Ryker and Dr. Applegate:

The House Committee on Natural Resources (Committee) is aware that the Atlantic States Marine Fisheries Commission, Menhaden Management Board, requested, and received a presentation from the United States Geological Survey (USGS) regarding the Chesapeake Bay osprey population during its annual summer meeting, on August 6, 2024. The presentation, “*Osprey in the Chesapeake – Life History, Reproduction, Population, Diet and Stressors*,”¹ was presented by USGS scientists David Ziolkowski, Jr. and Barnett Rattner with the USGS Eastern Ecological Science Center.

During the presentation, USGS staff noted that osprey population data comes from two primary sources: the North American Breeding Bird Survey and the eBird database. The presentation provided the latest data regarding osprey abundance, spatial and temporal distribution, dietary demands, and timing of fledge in the Chesapeake Bay region, as well as ongoing research and information gaps. Since 1966 and the banning of DDT in 1972, there has been significant population growth of osprey and other piscivorous birds.² The USGS indicated that osprey abundance has increased by 299% throughout North America, 587% on the Atlantic coast, and 1,801% in the Chesapeake Bay region.³

While the recovery and current abundance of the osprey and other piscivorous birds have been a great success story, eBird data estimates show declines in osprey nesting success in some areas around the Chesapeake Bay, particularly the lower Bay.⁴ Likewise, data provided in the USGS presentation indicated that osprey abundance indices in other Atlantic and Pacific coast states show similar plateauing and short-term declines since 2012. Other charts from the eBird database also show general declining trends of osprey along the mid- and South Atlantic coast over a ten-to-twelve-year period.⁵ We understand that in their presentation, USGS noted that various factors impact osprey reproduction and abundance, including food availability, habitat loss, disease, algal blooms, inexperienced breeders, environmental contaminants, and water depth and clarity.

Some of the data cited in the USGS presentation is attributed to Dr. Brian Watts of the Center for Conservation Biology at The College of William & Mary, who has authored or co-authored recent studies that

¹ United States Geological Survey. Presentation to the Atlantic States Marine Fisheries Commission. August 6, 2024.

https://republicans-naturalresources.house.gov/UploadedFiles/AtlanticMenhadenBoardPresentations_Aug2024.pdf

² Page 5 at *Id.*

³ Page 5-6 at *Id.*

⁴ *Id.*

⁵ Page 12 at *Id.*

have noted low reproduction rates in Chesapeake Bay osprey sub-populations, specifically Mobjack Bay. Dr. Watts also issued a press release highlighting raw data suggesting that low reproduction rates encompass a larger region of the Chesapeake Bay. In two studies^{6,7} Dr. Watts explicitly blamed this outcome on a lack of menhaden due to the more than 150-year-old reduction fishery. Unlike the USGS, he has not explored alternative explanations for this trend, which appears to extend beyond the Chesapeake Bay.

To assist the Committee in better understanding osprey abundance in the United States, particularly the Atlantic and Chesapeake Bay regions, the Committee requests a briefing from Tom O’Connell, Center Director, USGS Eastern Ecological Science Center, David Ziolkowski, Jr., and Barnett Rattner. The Committee also requests responses to the following questions:

1. Table 1 from Watts (2024),⁸ reproduced below, demonstrates a decline in provisioning in terms of total fish per ten hours of foraging between the 1970s and 2020s, as well as illustrating the proportion of menhaden as a percentage of total diet increased between the 2006-07 study and the 2021 study. Could the decrease in nest deliveries of all prey fish suggest broader factors relating to the environment are impacting the availability of all types of fish or, alternatively, impacting male ospreys’ ability to forage effectively? Can such causal factors be ruled out by Watts’ research?

TABLE 1 Mean ($\pm$ standard error) estimates of osprey reproductive rate, clutch size, brood size, nests monitored (N) and one-way ANOVA results from the lower Chesapeake Bay.

Parameter	1974-75	1985	2006-07	2021	F-statistic	p value
Nests (N)	75	68	132	68		
Clutch size	2.7 $\pm$ 0.08	3.0 $\pm$ 0.09	3.0 $\pm$ 0.27	2.7 $\pm$ 0.09	2.2	0.084
Reproductive Rate	1.7 $\pm$ 0.10	1.4 $\pm$ 0.11	0.8 $\pm$ 0.08	0.3 $\pm$ 0.11	34.9	<0.001
Brood Size	2.0 $\pm$ 0.10	1.8 $\pm$ 0.10	1.5 $\pm$ 0.09	1.2 $\pm$ 0.17	10.0	<0.001

Estimated reproductive rate required for a stable population within the Chesapeake Bay is 1.15.

2. Given the 1,800+% increase in the osprey population of the Chesapeake Bay region since the 1960s⁹, could density dependent impacts within the resource, either on their wintering grounds or during their migration North to build nests, cause the adults to be in less optimum biological condition to build nests, lay eggs, and forage successfully?
3. Has the average weight of ospreys arriving at their nesting sites declined from previous years, perhaps indicating some impacts either on the wintering grounds or during migrations? Have there been any studies on the conditions for returning osprey?
4. Has avian flu been detected in osprey populations? Has there been any research to identify whether various diseases are impacting osprey populations?

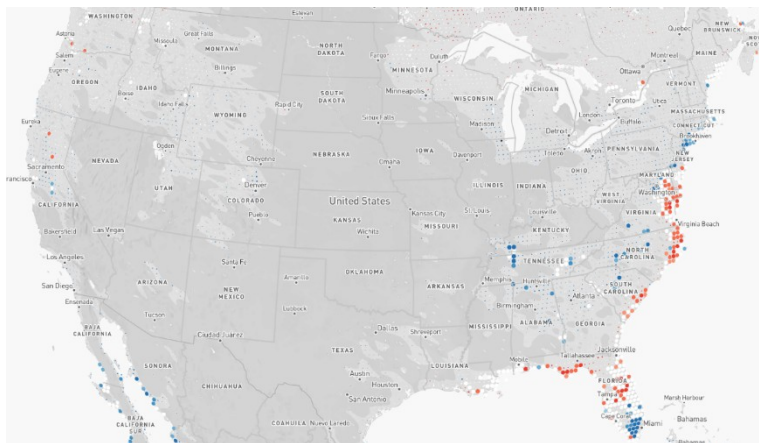
⁶ Academia MH and Watts BD (2023) Food supplementation increases reproductive performance of ospreys in the lower Chesapeake Bay. *Front. Mar. Sci.* 10:1172787. doi: 10.3389/fmars.2023.1172787. Published April 20, 2023. <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2023.1172787/full>

⁷ Watts BD, Stinson CH, McLean PK, Glass KA, Academia MH and Byrd MA (2024) Demographic response of osprey within the lower Chesapeake Bay to fluctuations in menhaden stock. *Front. Mar. Sci.* 10:1284462. doi: 10.3389/fmars.2023.1284462. Published January 8, 2024. <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2023.1284462/full>

⁸ *Id.*

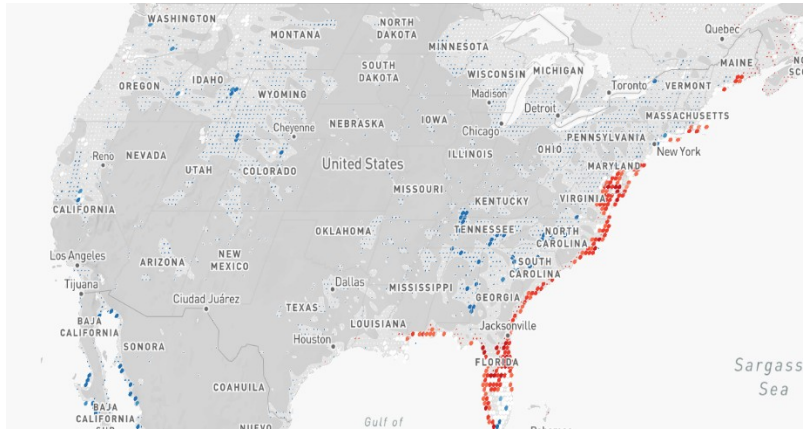
⁹ Page 5. United States Geological Survey. Presentation to the Atlantic States Marine Fisheries Commission. August 6, 2024. https://asmfc.org/files/2024SummerMeeting/AtlanticMenhadenBoardPresentations_Aug2024.pdf

5. Are populations of other nearshore piscivorous birds—like brown pelicans, cormorants, bald eagles, gannets, or others—experiencing the same population trend as ospreys? That is, a dramatic increase since the ban on DDT, followed by an apparent leveling off? Could competition for prey and other resources by piscivorous birds adversely impact osprey provisioning success?
6. There are reports that bald eagles are particularly aggressive competitors of osprey. Can you explain the relationship between eagles and osprey and the trends in bald eagle populations in the Chesapeake Bay region?
7. Could the osprey population reasonably be expected to grow indefinitely once DDT was banned, without regard to environmental limiting factors such as habitat constraints, competition with other species for food and other resources, or other density-dependent factors in its summer or winter habitat?
8. Noting that USGS has indicated striped bass are an important food source for osprey in parts of the Chesapeake Bay, could the many factors that impact the status of this stock—which the Atlantic States Marine Fisheries Commission has noted¹⁰—be impacting osprey’s breeding success?
9. Has Chesapeake Bay water transparency decreased to the point, even just sporadically after severe rainfalls, that forage success by ospreys that rely on sight feeding could become impaired?
10. The two trend maps from Cornell University’s eBird data portal (below) show the near-term coastal decline in osprey is widespread along the coast, suggesting this phenomenon is not localized. Is it more likely that there are common factors (*e.g.*, climate change, carrying capacity, competition, disease, adverse conditions in winter feeding grounds, etc.) that are contributing to this near-term decline or that regional subpopulations are being impacted by unique localized conditions, each with independent adverse effects?



Source: eBird data from 2012–2022. <https://science.ebird.org/en/status-and-trends/species/osprey/trends-map>

¹⁰ Atlantic States Marine Fisheries Commission. Atlantic Striped Bass. <https://asmfc.org/species/atlantic-striped-bass/>



Source: eBird data from 2007-2021. <https://science.ebird.org/en/status-and-trends/species/osprey/trends-map>

We appreciate your attention to this matter. Please contact the Majority staff of the Water, Wildlife and Fisheries Subcommittee at 202-225-8331 or Kirby Struhar with the Committee staff at Kirby.Struhar@mail.house.gov to schedule the briefing or with any additional questions. Thank you for your cooperation.

Sincerely,

Robert J. Wittman
Vice Chair
Committee on Natural Resources

Harriet M. Hageman
Chair
Subcommittee on Water, Wildlife
and Fisheries