



# THE CENTER FOR CONSERVATION BIOLOGY DOCUMENTS UNPRECEDENTED OSPREY NEST FAILURES WITHIN THE LOWER CHESAPEAKE BAY

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For release: July 14, 2023

Williamsburg, VA – In 2023, The Center for Conservation Biology has documented the highest rate of osprey nest failure ever recorded within the lower Chesapeake Bay. Only 17 of 167 nests monitored during the season produced any young. The nesting population produced only 21 young resulting in a reproductive rate of 0.13 young per pair. This rate is below that recorded during the height of the DDT era. In order for the population to sustain itself, pairs should produce 1.15 young per pair.



Osprey with menhaden. Due to its high energy density, menhaden is a critical prey item for osprey populations along the Atlantic Coast and within the Chesapeake Bay. Reductions in the availability of menhaden result in a decline in the prominence of menhaden in the diet and related diet quality. Prominence of menhaden in the diet is generally believed to be linked to productivity and population stability. Photo by Bryan Watts.

The poor reproductive performance documented during 2023 is a trend that has been observed for the past fifteen years. In Mobjack Bay, productivity peaked during the 1980s and has declined to the present day. Researchers within The Center believe that the ongoing decline in young production is driven by overharvest of Atlantic menhaden. Forage fish such as menhaden, anchovy, sardine, capelin and herring play significant roles in marine ecosystems throughout the world. These small schooling fish are responsible for transferring energy from plankton to higher-level predators such as osprey. When forage fish are overharvested the marine food web is broken and higher-level predators suffer.



Young osprey just hatched in Mobjack Bay. Just hatched young must have little resiliency to food stress and will starve if they are not fed. Currently, the primary cause of nest failure in Mobjack Bay is starvation generally within the first week after hatching. Photo by Bryan Watts.

Within Moback Bay young osprey are starving in nests because the decades-long overharvest of menhaden has caused local depletion. Within osprey pairs, males are responsible for hunting and providing fish to broods. Between 1985 and 2021, the rate of menhaden captures by male osprey declined from 2.4 fish per 10 hours to only 0.4 fish per 10 hours, a decline of more than 80 percent. Although osprey do feed on other fish species within the lower Chesapeake Bay none of these species offer comparable nutrient content. Atlantic menhaden is the keystone species that osprey depend on during the nesting season.

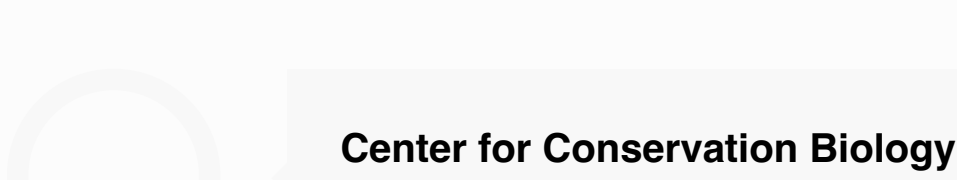
Michael Academia uses a mirror pole to check an osprey in Mobjack Bay. During the 2023 breeding season, CCB checked productivity for more than 250 nests to better understand the spatial pattern of failures. Photo by Bryan Watts.

An experimental study conducted by Center biologists during the 2021 nesting season supplemented diets of osprey broods by providing menhaden and demonstrated that reproductive rates could be driven back to sustainable levels. On a broad scale, recovery of reproductive rates will require the restoration of menhaden stocks. Menhaden harvest policy has become a political mind field with special interests on all sides. Osprey within the lower Bay are increasingly demonstrating that our choices about harvest policy are having consequences for the broader Chesapeake Bay ecosystem.

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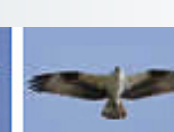
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