

NOAA FISHERIES



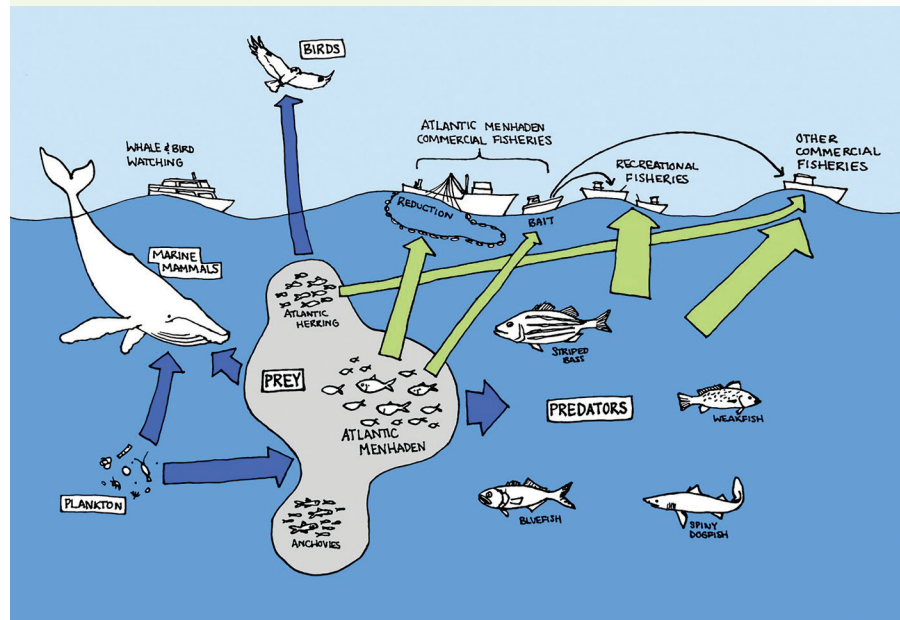
About

Atlantic menhaden serve as prey for a wide range of species, including commercially and recreationally important finfish. One of the most significant milestones in the EBM of Atlantic menhaden occurred in 2015. The Atlantic States Marine Fisheries Commission's Atlantic Menhaden Management Board identified fundamental ecosystem management objectives for the species.

To highlight the trade-offs between Atlantic menhaden fishing mortality and predator biomass and to set ecological reference points, the ASMFC Ecological Reference Point Working Group recommended use of the Northwest Atlantic Coastal Shelf Model of Intermediate Complexity for Ecosystems in conjunction with the single species assessment model, the Beaufort Assessment Model.

In 2020, ASFMC formally adopted this recommendation. This major step allowed the Atlantic Menhaden Management Board to account for menhaden's role as a crucial forage fish when setting the total allowable catch.

Atlantic Menhaden

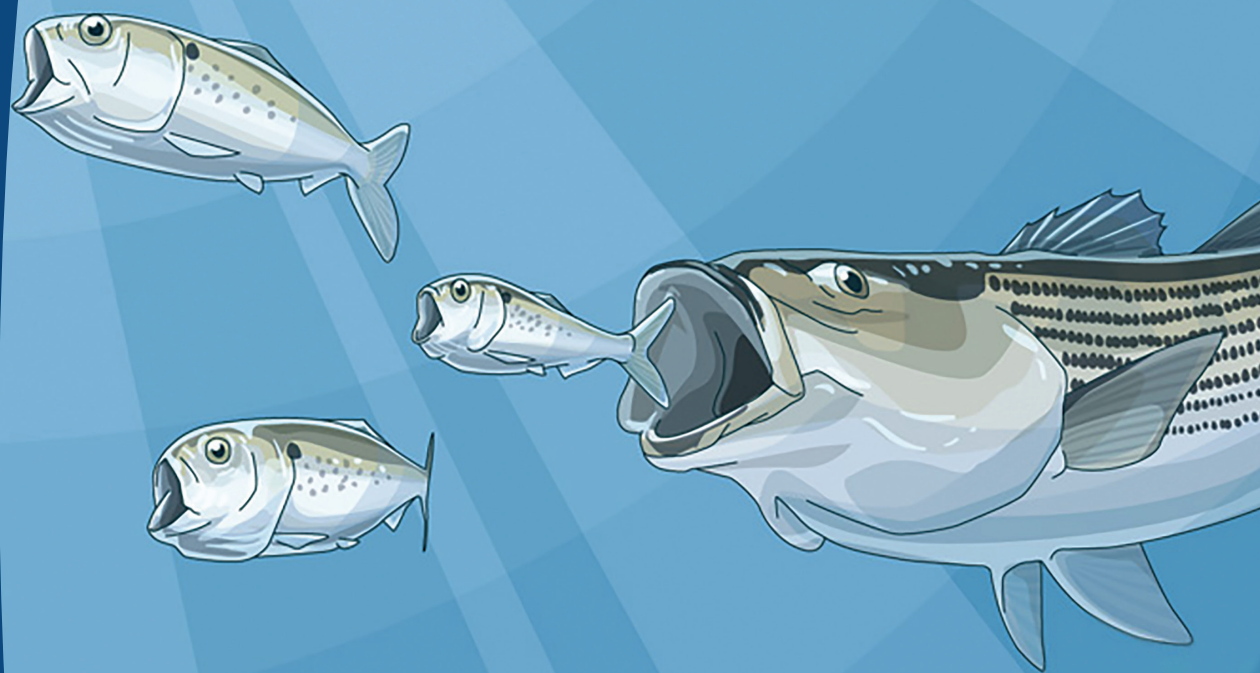


Atlantic menhaden are part of a complex ecosystem. Credit: Sarah Murray, ASMFC.

What Worked

- Identifying standardized objectives for multispecies management helped focus and inform model selection and setting of reference points.
- A transparent process of building and selecting the model to be used for management ensured stakeholders that scientists were working in an objective and impartial manner. It also helped a wide range of stakeholders buy into the process and ultimately support model outputs for ecological reference points.
- The ASMFC manages or jointly manages Atlantic menhaden and the key predator and prey species used in the ecosystem model (striped bass, bluefish, spiny dogfish, and weakfish).
- Having a large and visible constituent—recreational fisheries—highly invested in the maintenance of adequate forage base for stocks of striped bass, bluefish, weakfish, etc. helped encourage a multispecies management approach.

Continued on back.



Menhaden Illustration. Credit: Pew Charitable Trusts.

What Didn't Work

- Until objectives were clarified in 2015, debates on goals and objectives continued. They impeded progress on identifying appropriate tools, models, and data to use, and determining how these could be combined to address ecological reference points.
- Communication is the biggest challenge for the new ecological reference points and total allowable catch- setting approach—specifically, translating the results in a way that both managers and the public can easily understand.
- Managers are interested in spatial and temporal dynamics, which the models are not designed to address.

Benefits

- The ecological reference points allow managers to quantitatively and transparently account for menhaden's important ecological role in the marine environment when setting annual catch targets (i.e., total allowable catch for the species). This approach deals with trade-offs across fisheries, fishery management plans, fleets, and fishing sectors directly and transparently.
- The resulting catch targets balance menhaden harvest without jeopardizing the sustainability of socially, culturally, and economically important fisheries, and other animal species that depend on menhaden as prey.



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