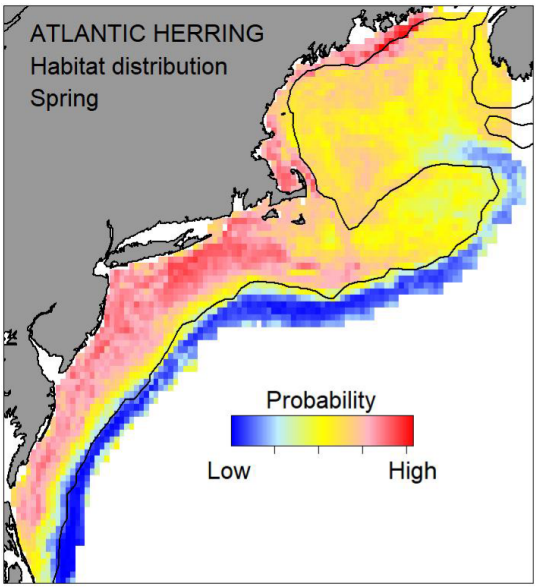
Atlantic herring (*Clupea harengus*) Ecosystem & Socioeconomic Profile Report Card

Summer 2025

This is a short-form update to the full Ecosystem and Socioeconomic Profile [1] highlighting the recent status of environmental and ecological factors. Atlantic herring is an important and valuable New England stock fished primarily by commercial vessels for use as bait (for lobster). The stock is currently overfished but not subject to overfishing.



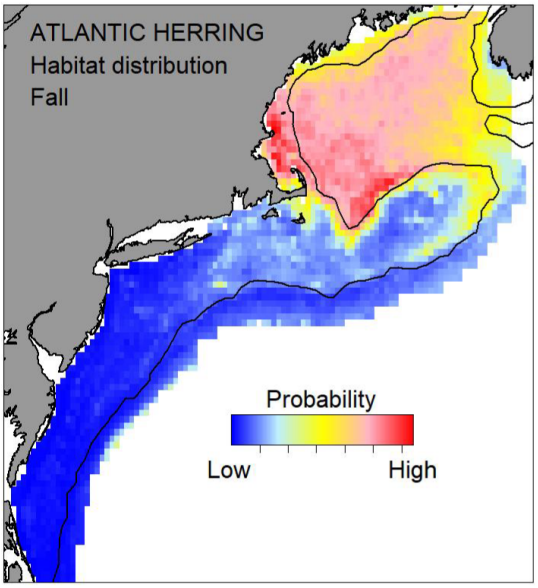


Figure source: https://www.fisheries.noaa.gov/new-england-mid-atlantic/ecosystems/fisheries-habitat-northeast-us-shelf-ecosystem

Recent highlights

2025 Research Track Stock Assessment

- Explored a recruitment index from seabird diet data [2]
- Developed indicators of predation by haddock [3], food availability [4], and temperatures experienced by larvae [5] to test as ecosystem covariates for recruitment but none significantly improved the model

Fishing community observations

- Market processes: increased reliance on menhaden due to declining and inconsistent herring catch, reduced quotas, higher fuel prices, river herring bycatch
- Ecological concerns: warming, changing zooplankton and forage base, haddock predation, altered predator-prey interactions

Commercial Fishery

- Reduced participation, particularly of larger vessels
- Broader market impacts include switch to alternative sources like frozen herring and menhaden

Management

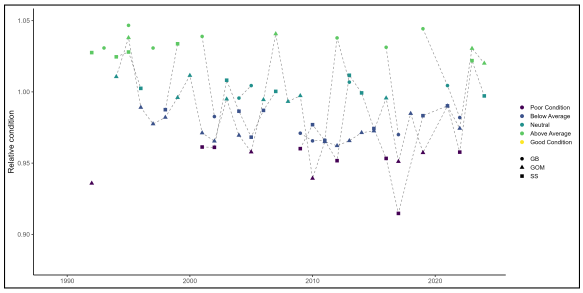
- Still in a period of substantially reduced catch limits
- Frequently changing ABC and sub-ACLs across the 4 management areas
- Several extensions and revisions to the target rebuilding date, currently 2031

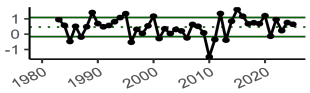
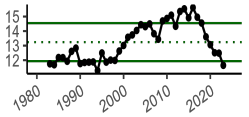
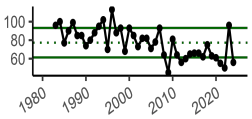
Ecosystem

- Age 3+ adults migrate to the Gulf of Maine for summer/fall spawning.
- Haddock predation on eggs is decreasing
- Development depends on appropriately sized zooplankton prey at the right time in lifecycle; zooplankton communities are changing
- Warming increases herring larval encounters with stressful or lethal surface temperature

NEW ENGLAND RISK POLICY SUMMARY (PLACEHOLDER)

- High risk elements:
  - –Blah
  - –Blah blah
- Fishery Risk:
  - –Oh no
  - –yay
- Ecosystem Risk:
  - –More text here



Indicator Units	Status In 2025	Implications	Time Series
Winter NAO (Index)	WinterNAO anomalies have been positive in 2024 and 2025	Positive NAO associated with warmer saltier water entering the Gulf of Maine [cite] and lagged impacts to zooplankton	
Haddock Predation (Index)	Declining predation on herring eggs	Lower egg predation favors strong year classes	
Optimal larval temperature duration (# of days)	Short duration of optimal larval temperature in fall 2024	Implications: Unsuitable conditions for larvae does not favor strong recruitment in 2025	
Add indicator and units here	Add status in terminal year here (short phrase)	Add implications here (3-5 sentences)	
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Please contact nefsc.esp.leads@noaa.gov with any questions or comments.