New England Fishery Management Council

2025 Risk Policy Matrix for the Atlantic Sea Scallop FMP

Stock: Atlantic Sea Scallops

Factor	Supporting Information
Stock Status and Uncertainty	
Biomass Stock Status	Stock is not overfished and not under a rebuilding plan
	Stock is not experiencing overfishing
	B_{2023} = 69,596 mt relative to B_{Target} = 93,282 mt (74.60% of B_{target})
Recruitment	Recruitment estimated at Age-1 (0-35mm) with no assumed stock-recruit relationship (not fully selected by survey gear), and sizes >35mm estimated.
	Mid-Atlantic recruitment peaked in 2014 and declined substanially from 2015-2023. Georges Bank Closed recruitment peaked in 2013 and had above average recruitment in 2015, 2016, 2018, and 2022, interspersed with average recruitment. Georges Bank Open had an incredibly large recruitment event in 2014, followed by average recruitment from 2015-2023.
Assessment Type and Uncertainty	**Catch-at-size Analysis (CASA) model.** Statistical Catch at Length model with 3 regions, Georges Bank Open, Georges Bank Closed, Mid-Atlantic, combined to assess the entire stock.
	Terminal year: 2023
	Data used in the 2025 assessment: Landings and discards, VIMS dredge survey, SMAST drop camera survey, Maine DMR dredge survey, CFF HabCam survey, NEFSC dredge survey, NEFSC HabCam survey
	No major retrospective patterns. Retrospective scores for the entire sea scallop stock were mild (Mohn's rho=0.17 for biomass and -0.09 for fishing mortality), whereas individual regions showed minor to moderate retrospective patterns.
	Sources of uncertainty in the 2025 assessment: Discard mortality, incidental mortality and stock-recruit relationship, natural mortality, sea scallop growth, maturity and fecundity, density dependence , shell height/meat weight relationship.
Climate and Ecosystem	
	High climate vulnerability: High climate exposure + high biological sensitivity + moderate species distribution change potential. Climate effects considered via time-varying natural mortality within the CASA model.
	Negative directional effect of climate change

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Climate Vulnerability	Food supply, consisting of mainly phytoplankton, but also detritus and microzooplankton, is an important driver of growth, reproductive output, and weight at size. Predation on post-settlement scallops by the sea star Astropecten americanus appears to reducing or excluding sea scallops from the deeper water of the Mid-Atlantic, and expanding northward and inshore, while the sea star Asterias vulgaris appears to be an important predator on adult scallops on Georges Bank. Cancer spp. crabs are important predators on juvenile sea scallops (< 90 mm), and may be agents of density dependence.
Fish Condition	Gray meats commonly observed on Georges Bank have been associated with infection by Apicomplexa protists, as well as a more general symptom of poor condition, and may contribute to increased natural mortality. In the Mid-Atlantic, infections by the larvae of the nematode Sulcascaris sulcata, spread via the gastrointestinal track of sea turtles, creates brown or orange lesions on the scallop meat. While lightly infected scallops do not appear to be negatively effected, heavy infections may increase mortality and while there is no public health risk, are difficult to market. Sea scallop blister disease, caused when the shell underneath the gonad is colonized by a fouling organism (e.g. Polydora spp. polychaete worms), which is then contained within deposited shell material, creating a blister. Shell blisters are associated with reduced growth, yield, fecundity, deteriorated physical condition, mortality, and can reduce meat quality and marketability. Shell blister disease is thought to be cold-limited, and has been observed to be more common throughout the Mid-Atlantic, and more recently on Georges Bank due to increasing bottom temperatures.
Economic and Community Importance	
Commercial Fishery Characterization	**Landings:** Sea scallop landings continually declined in FY2020 through FY2024 from their recent peaks in FY2018 and FY2019. Landings in FY2024 (20 mil. lb) were much lower than the FY2009-2023 average (47.25 mil. lbs), and the lowest during this period. Landings in FY2019 (59.67 mil. lb) were the highest in the period.
	Ex-vessel price/lb (2023$/lb): $17.41/lb in FY2021; $14.77/lb in FY2022; $12.76/lb in FY2023; $13.70/lb 5-year average
	Revenue: Revenue in FY2023 ($324 mil., in 2023 dollars) was substantially less than FY2022 ($434 mil.) primarily due to drop in scallop landings as well as prices. Average revenue from 2009-2023 was $612 million, and FY2021 revenue was the highest revenue year (i.e., $744 mil) in the period.
	Management uncertainty: DAS carry-over, estimates of catch from Open Areas that are regulated by DAS management, ability to fish unused Access Area allocation within the first 60 days of the following year and uncertain efficiency due to vessel upgrades and replacements. Management uncertainty is addressed by establishing ACTs which will have an F that has a 25% chance of exceeding ABC.

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Recreational Fishery Characterization	There is not a recreational fishery for this stock, and thus there is no recreational fishery trend data available for this stock.
Other Economic/Social Considerations	Economic factors that impact prices, revenues, profits and crew shares in the scallop fishery include the size composition of landings, demand for scallops in the domestic and export markets, import prices and net scallop landings. Price flexibility is considered low. Short-term fluctuations in landings due to area and season closures and effort reduction measures also affect prices, revenues, profits and crew shares. The price premiums for larger scallops (U10s and U12) increased in the recent years as the U.S. has become one of the major exporters of large scallops.
Additional Information	
Reference Points	**Overfished** = $B < B_{Threshold}$ ($1/2\ B_{MSY}$) **Overfishing** = $F < F_{Threshold}$ (F_{MSY})
OFLs	28970 mt for FY2025 (FW39)
AMs	**Proactive AMs** - Setting fishery targets below the catch limits. **Reactive AMs** - future reductions in allocations equivalent to any overage depending on the impact overage had on fishing mortality.
Harvest Control Rule	ABC = Catch associated with fishing mortality rate with a 25% probability of exceeding the OFL
ABCs	22,840 mt for FY2025 (including discards)
Signficant source of catch outside the directed federal fishery?	A 3-year average estimate of scallop catches from state waters is included as part of the OFL. 335 mt in 2023, 388 mt in 2022, 422 mt in 2021, 191 mt in 2020, 497 mt in 2019.