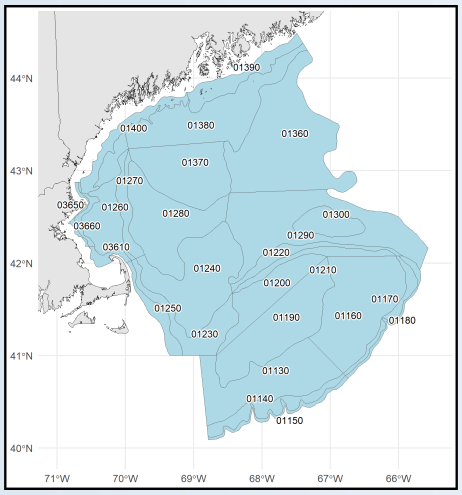


American Plaice (*Hippoglossoides platessoides*) Snapshot Ecosystem & Socioeconomic Profile

Fall 2026



Background

This snapshot ESP provides an update to ecosystem indicators identified in the 2022 American Plaice Research Track Assessment [1], [2], [3]. This previous work found that the recruitment of plaice is related to sea surface temperature, the Atlantic Multidecadal Oscillation (AMO), and the North Atlantic Oscillation (NAO). AMO was also correlated with plaice condition. Bottom temperature anomalies, the Gulf Stream Index, and spawning stock biomass (SSB) were associated with plaice distribution. The goal of this report is to update the indicator datasets and provide context around what recent indicator data may mean for the American plaice stock, as well as highlighting recent socioeconomic information. Socioeconomic indicator time series begin in 1996 - the time series was selected to balance concerns over early data quality against the need for a long enough time horizon to reliably identify trends.

Fishery History

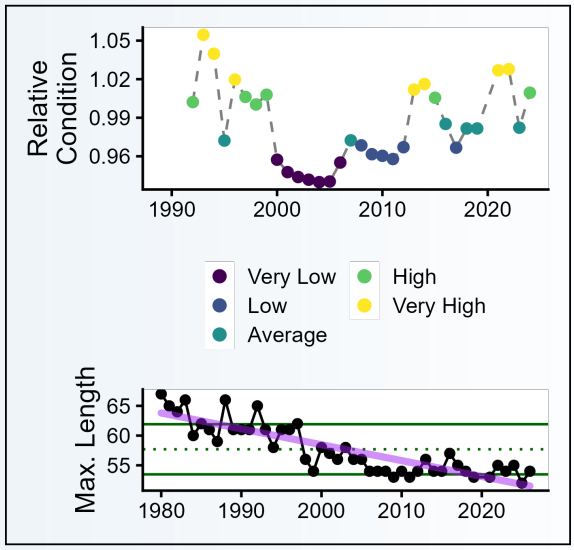
The New England Fishery Management Council (NEFMC) put American plaice under a rebuilding plan in 2004 [4] after significant declines in landings and revenue. The stock has been considered rebuilt after the 2019 stock assessment [5]. While the number of commercial vessels landing plaice has continued to decline, revenue and landings have rebounded somewhat post-COVID19 [6] while spawning stock biomass has fluctuated [7].

Climate Vulnerability Assessment

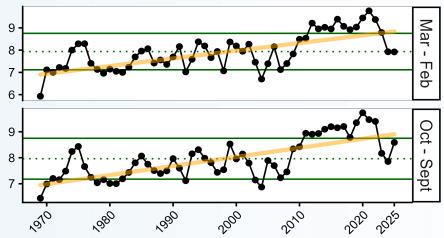
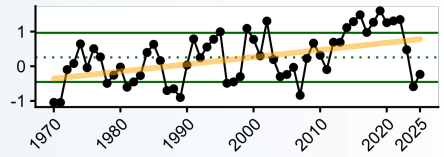
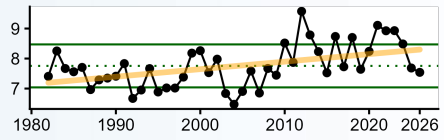
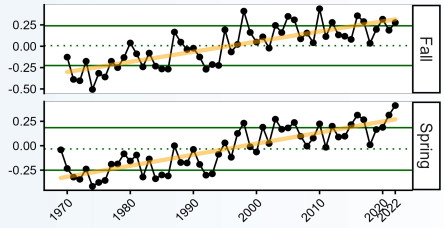
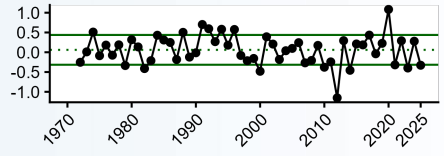
In the 2016 Climate Vulnerability Assessment [8], American plaice had an overall low vulnerability rank but high climate exposure from increasing surface temperatures and ocean acidification. There is evidence of American plaice shifting distribution into deeper waters [9], and further warming may decrease available habitat.

Fish Condition

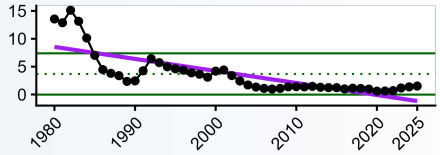
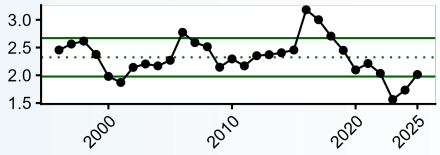
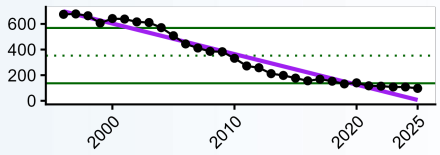
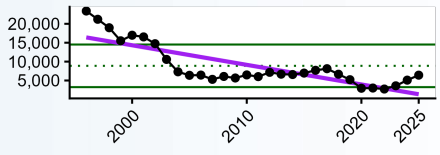
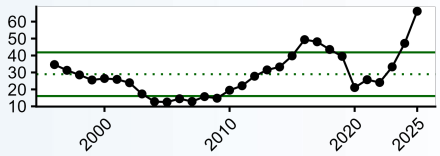
Relative condition is the ratio of observed weight to predicted weight based on length. Fish with a higher relative condition are heavier and fatter, and are expected to have faster growth, greater reproductive output, and higher chance of survival [10]. Condition of American plaice across the Northeast Shelf exhibited lows in the 2000s to 2010 but increased overall since 2010, with most recent years having average, high, or very high condition. Although fish condition has generally increased, the maximum fish length of plaice caught in the bottom trawl survey has declined, indicating fatter but shorter fish.



Ecosystem Indicators

Indicator Units	Recent Status	Implications	Time Series
Bottom temperature (°C)	Near the long term mean (2025)	Bottom temperature impacts spawning, fish condition, and distribution. Optimum spawning temperatures range between 3-6°C but plaice can tolerate -0.5 to 13°C. Annual bottom temperature was assessed over the year leading up to the spring and fall bottom trawl survey seasons. Recent annual mean bottom temperature is near the long-term mean. However, an overall warming trend in bottom temperatures may eventually result in changes in plaice distribution, spawning, and condition.	
Gulf Stream Index	Near the long term mean (2025)	The Gulf Stream affects plaice recruitment. The Gulf Stream Index was assessed over the year preceeding the fall bottom trawl survey. There is an overall long-term increasing trend in the position of the Gulf Stream, with the Gulf Stream trending further north, which may be contributing to warmer water temperatures in the Gulf of Maine and affecting plaice recruitment.	
Sea Surface Temperature (Mar-June, °C)	Near the long term mean (2026)	March-June sea surface temperature affects plaice recruitment. The thermal limit for survival and incubation of American plaice eggs is 14°C; sea surface temperatures have not reached this threshold value. Although recent cooler temperatures may be beneficial for plaice recruitment, the long-term increasing trend in sea surface temperatures may eventually result in negative impacts on recruitment.	
Atlantic Multidecadal Oscillation (AMO)	Above the long term mean (2022)	AMO values below 0 and above 0.25 are associated with lower recruitment, while values between approximately 0-0.25 are associated with higher recruitment ([2], fig. 2). The AMO was assessed over the six months preceeding the spring and fall bottom trawl surveys. Recent AMO values are positive, with some being above the transition point of ~0.25, so impacts on recruitment may be mixed. Data since 2022 is not yet available.	
North Atlantic Oscillation (NAO)	Near the long term mean (2025)	Strong positive phases of the NAO tend to be associated with above-normal temperatures in the eastern United States. A higher NAO index is related to a reduced reproductive rate (at a 1-2 year lag) and increases in mean spring latitude and depth of occurrence. Recent years have been near or below the mean.	

Socioeconomic Indicators

Indicator Units	Recent Status	Implications	Time Series
Commerical landings (thousands lbs)	Near the long term average (2025)	Commercial landings of American plaice exhibited a sharp decline from the 1980s to early 2000s with a long-term decreasing trend (purple line). Trends in landings follow the implementation of a rebuilding plan for the stock in 2004 and successful rebuild in 2019.	
Price per pound (2025 USD)	Below the long term average (2025)	Price per pound of American plaice peaked in the mid-2010s and hit a time-series low in 2023. Since then, price per pound has begun to rebound slightly towards the mean, increasing the total revenue of American plaice landings.	
Number of commercial vessels (# of federally-permitted vessels landing over 1lb of American plaice)	Below the long term average (2025)	The number of commercial vessels landing American plaice has declined steadily from highs in the late 1990s, with a long-term decreasing trend (purple line).	
Commercial revenue (thousands $, 2025 USD)	Near the long term average (2025)	Commercial revenue declined after 2000 with a long-term decreasing trend (purple line), reflecting the similar trend in landings. Average price per pound dropped 50% from 2016 to 2023, and is also a factor in declining revenues.	
Commercial revenue per active American plaice vessel (thousands $, 2025 USD)	Above the long term average (2025)	Revenue per vessel was at a low in the early 2000s and increased in the 2010s. However, revenue per vessel declined in 2020, with the COVID-19 pandemic as a likely contributor along with changes in quota. In recent years, revenue per vessel has risen above the long-term mean, consistent with the slight increase in total revenues (shown above) which is spread across a smaller number of active vessels.	

* The y-axis units are included in the "Indicator" column of the table. In all figures, the dashed line represents the time series mean, and the solid green lines indicate ± 1 standard deviation. Commercial data were derived from the commercial dealer database hosted at the Greater Atlantic Regional Office. All dollar values have been adjusted to 2025 real dollars using the Gross Domestic Implicit Price Deflator.

We welcome your observations! Please contact northeast.ecosystem.highlights@noaa.gov with any on-the-water insights or changes observed in the American plaice fishery and nefsc.esp.leads@noaa.gov with questions or comments on the information presented in this report.

The code used to create this report can be viewed online: github.com/NEFSC/READ-EDAB-plaiceESP2026

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