

Assessment Model, Terminal Year	Description of Assessment Model	Overfishing?/Overfished?	In Rebuilding Program?	OFL	ABC/ABC CR	ACL	ACT
ASAP, 2021	Statistical Age-Structured Model	No/No	Yes 2004-2023	1,438 mt in FY2022	456 mt in FY2022	441 mt in FY2022	N/A for groundfish
Despite low levels of catches, the stock is still considered in poor condition, with productivity (low recruitment) influenced by environmental conditions. Challenges include bycatch in non-groundfish commercial fisheries				MSY/OY	AMs	Discards	State Waters
				MSY = 1,025	lb-lb for commercial groundfish fishery	118.3 mt in FY2020	0.6 mt in FY2020
<b>Availability of Biological and Assessment Data</b>		Updated data since last assessment: survey (2020 NEFSC fall survey and 2021 NEFSC spring survey) and fisheries (commercial and recreational catches) data					
<b>Recent Performance Against Harvest Control Rule</b>		Percent of total ACL caught: 56.9% in FY2018, 42.2% in FY2019, 33.4% in FY2020.					
<b>Current Management Program</b>		The Total ACL is divided between several sub-ACLs and sub-components. The commercial sub-ACL is further divided between the sector sub-ACL and the common pool sub-ACL. The majority of commercial permits participate in 1 of 17 sectors, fishing under quotas. The common pool operates under days-at-sea, with trip limits and trimester TACs controlling catch (though SNE/MA winter flounder is not allocated by trimesters). State waters and the other sub-component round out the final components of the total ACL. Landings and discards from all fisheries count against the applicable sub-ACL or sub-component, which are monitored throughout the year. If an overage occurs, an accountability measure is triggered for a subsequent fishing year.					
<b>Variability in Catch/Revenues?</b>		Commercial Groundfish Revenue for SNE/MA winter flounder (2020\$): \$1.5 million in FY2018, \$0.8 million in FY2019, \$0.4 million in FY2020; \$3.2 million 5-year average SNE/MA winter flounder ex-vessel price/lb (2020\$/lb): \$2.86/lb in FY2018, \$2.71/lb in FY2019, \$2.00/lb in FY2020; \$2.99/lb 5-year average Total groundfish landings: 44.28 million pounds in FY2018, 42.66 million pounds in FY2019, 50.66 million pounds in FY2020 SNE/MA winter flounder catch (landings + discards): 398.0 mt in FY2018, 295.4 mt in FY2019, 233.4 mt in FY2020					
<b>Data - Vessels, Permits, Dealers, Processors, Employment</b>		FY 2020: 876 commercial groundfish permitted vessels, of those 590 vessels which received revenue from any species on a declared groundfish trip and 197 vessels with revenue from groundfish. 99 dealers reported buying groundfish.					
<b>% Food, % Recreational</b>		95% of the total ACL is allocated to the commercial groundfish fishery. There is no recreational sub-ACL.					
<b>Fishing Communities</b>		The top 5 ports based on the Groundfish-Specific Commercial Engagement Indicator (2004-2020) are Gloucester, MA; New Bedford, MA; Boston, MA; Narragansett, RI; and Portland, ME. Recreational - When expanding out to the top 20 communities in recreational engagement in the Northeast (all recreational fishing) Recreational Engagement Indicators (2009-2018), New England communities include: Narragansett/Point Judith, RI, Newburyport, MA and Barnstable, MA. Other ports of interest with relatively high engagement (i.e., ranking somewhere outside the top 20) in the last five years include Gloucester, MA, Waterford, CT, East Lyme/Niantic, CT, and Old Saybrook, CT.					
<b>Other Economic/Social Factors</b>		Recent increases in bycatch of SNE/MA winter flounder in squid fisheries.					
<b>Major Sources of Scientific Uncertainty</b>		From the 2022 Management Track Assessment: 1) natural mortality, which is not well studied, and affects the scale of the biomass and fishing mortality estimates in the assessment; 2) length distribution of the recreational discards; and 3) recruitment, as the population projections are sensitive to the recruitment model chosen, as well as the temporal period selected from which recruitment estimates are drawn. In addition, recruitment and natural mortality are likely both dependent on environmental conditions, which cannot be explored within the framework of the ASAP model.					
<b>Major Sources of Management Uncertainty</b>		The default management uncertainty buffer of 5 % is applied to the commercial fishery. Despite low levels of catches, the stock is still considered in poor condition, with productivity influenced by environmental conditions.					
<b>How is the probability of overfishing addressed?</b>		In the previous assessment the SSC applied 75%Fmsy and held OFL constant for 3 years; ABC held constant for 3 years as three-year average catch					
<b>What is the consequence of overfishing?</b>		Reduction in biomass, yield, and net economic benefits over long-term.					
<b>How are expected net benefits to the Nation currently measured/evaluated?</b>		Yield (mt and \$)					
<b>Interactions with Other Fisheries/Stocks, Bycatch Issues</b>		No sub-ACLs. Other federal fishery components with SNE/MA winter flounder catches over 5% of total catches in recent years are the scallop fishery and squid fishery.					
<b>Ecosystem Considerations: Trophic Interactions</b>		Winter flounder are opportunistic/omnivorous predators. Polychaetes and crustaceans make up the bulk of their diet.					
<b>Ecosystem Considerations: Habitat</b>		Winter flounder are not known to rely on complex structures for shelter. The species moves inshore to spawn in late winter/early spring.					
<b>Ecosystem Considerations: Climate</b>		Winter flounder are considered highly vulnerable to climate change (high climate exposure risk and high biological sensitivity). Extensive work has been carried out to evaluate the effects of climate change on recruitment for SNE/MA winter flounder. The environmental index (time-series of mean winter estuary temperatures) applied in the alternative assessment models (an environmental ASAP model (Bell et al 2018) and the transition of this environmental model into the state space Woods Hole Assessment Model (WHAM) was used as support in the 2022 assessment for choosing a more representative time period of recruitment for the projections, until these alternative models can be considered for management in the next research track assessment (2026).					

**Other Important Considerations/Notes**

While the updated 2022 assessment resulted in a significant change in stock status to not overfished and to a rebuilt status, this change is directly due to changing the recruitment stanza going into the projections. Previous assessments have used the entire time-series of recruitment, with historical recruitments that are well beyond the current productivity of the stock. The truncated recruitment stanza (last 20 years) led to a much reduced biomass target and as a result the overfished status of the stock has changed. While the stock status has changed, the perception of the stock has not, and recent model estimates and fishery independent survey indices all reveal a poor stock condition for SNE/MA winter flounder. ASFMC management see: <http://www.asmfmc.org/species/winter-flounder> "In 2021, the Winter Flounder Management Board reviewed 2021-2023 specifications. For the GOM stock, the 2021-2023 ACL was set at 1.06 million pounds, an increase from the 2020 ACL of 952,397 pounds. In addition, the state waters sub-component nearly increased by 40% from 306,443 pounds in 2020 to 427,697 pounds for 2021-2023. For the SNE/MA stock, the 2021-2023 ACL was set at 972,239 pounds, a significant decrease from the 2020 ACL of 1.54 million pounds. The state waters sub-component also decreased from 79,366 pounds in 2020 to 46,297 pounds in 2021-2023. The Board did not alter management measures for winter flounder in response to these specifications."