White Hake in Divisions 3NO and Subdiv. 3Ps Advice June 2023 for 2024 and beyond

Recommendation for 2024 and beyond
Stock status is unknown. Catches of white hake in 3NO should not increase above recent levels (the average of the most recent five years is around 400 tonnes).

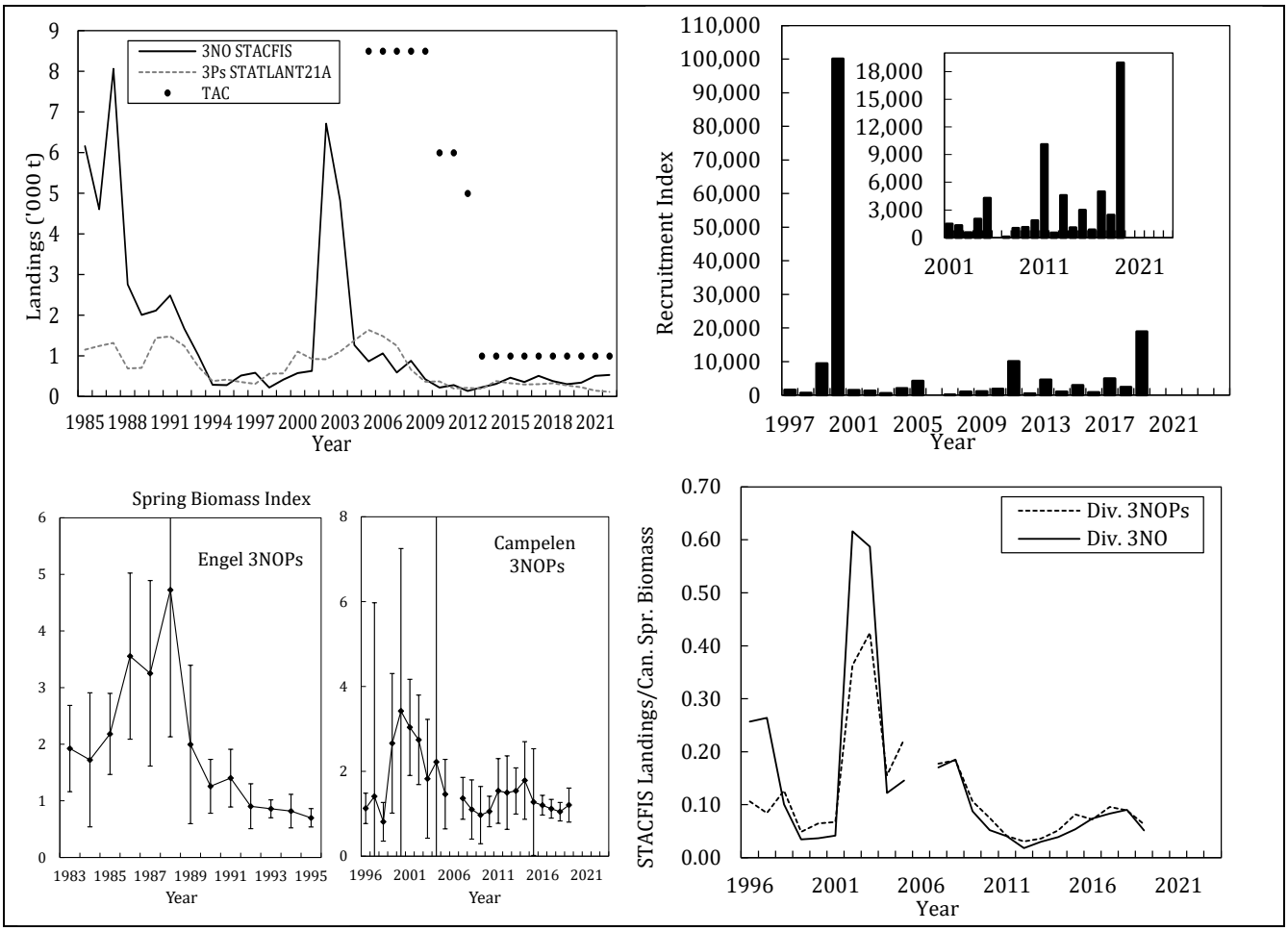
Management objectives
No explicit management plan or management objectives defined by the Commission. General Convention Principles are applied.

Convention Principle	Status	Comment
Restore to or maintain at Bmsy	⚪	Bmsy and Blim undefined, stock status unknown
Eliminate Overfishing (Stock)	⚪	F and Flim undefined, status unknown
Eliminate Overfishing (Ecosystem)	🟢	Total EPU catches < 2TCI
Apply Precautionary Approach	🔴	No reference points defined
Minimize harmful impacts on living marine resources and ecosystems	🟡	Directed fishery, VME closures in effect, Effectiveness of bycatch regulations uncertain
Preserve marine biodiversity	⚪	Cannot be evaluated

🟢 OK
🟡 Intermediate
🔴 Not accomplished
⚪ Unknown

Management unit
The management unit is confined to NAFO Div. 3NO, which is a portion of the stock that is distributed in NAFO Div. 3NO and Subdivision 3Ps.

Stock status
Stock status is unknown. No information is available on recruitment and relative fishing mortality since 2019.



Reference Points
No reference points have been defined.

Assessment
The assessment is based upon a qualitative evaluation of stock biomass trends and recruitment indices. The last available survey that covered the complete stock area was in autumn 2020 and the last primary survey index was 2019. New vessels are being used to conduct the Canadian surveys and information from 2022 onwards is being examined for comparability to the previous survey indices used in this assessment.

The next full assessment of this stock was planned to be in 2025. However, until such time data is available to allow a full assessment, this stock will be monitored in the future by interim monitoring reports.

Human impact

Mainly fishery related mortality has been documented. Mortality from other human sources (e.g. pollution, shipping, oil-industry) are undocumented.

Biology and Environmental interactions

On the Grand Bank, white hake are near the northern limit of their range, concentrating along the southwest slope of the Grand Bank at temperatures above 5°C. The major spawning area is located on the shelf-edge on the Grand Bank. Weaker ocean currents on the continental slope during the spawning period are hypothesized to reduce potential losses of eggs and larvae due to entrainment in the Labrador Current and increase recruitment potential.

White hake feed mostly on crustaceans and fish. Larger individuals are reported to be cannibalistic and to feed upon eggs and juveniles. In nearshore areas, white hake are also thought to predate on smaller juvenile cod. Predators of white hake include Atlantic cod, other fish species, Atlantic puffins, Arctic terns, other seabirds and seals.

This stock straddles the 3Ps and 3LNO Ecosystem Production Units (EPU), which have been experiencing low productivity conditions in recent years, including biomass declines across multiple trophic levels and stocks in 3LNO since 2014.

Ecosystem sustainability of catches

White hake is included in the piscivore guild. Other NAFO managed stocks in this guild and relevant EPUs include 3O and 3LN redfish, 2+3KLMNOPs Greenland halibut, and 3NO cod. There is no TCI information for the Southern Newfoundland (3Ps) EPU. In the Grand Bank (3LNO) EPU the Catch/TCI is below the 2TCI ecosystem reference point (3LNO Piscivore $Catch_{2022}$/TCI=1.54) indicating an intermediate risk of ecosystem overfishing.

Fishery

White hake is caught in directed gillnet, trawl and long-line fisheries. In directed white hake fisheries, Atlantic cod, black dogfish, monkfish and other species are landed as bycatch. In turn, white hake are also caught as bycatch in gillnet, trawl and long-line fisheries directing for other species. The fishery in NAFO division 3NO, and subdivision 3Ps, are regulated by quotas.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Div. 3NO:										
TAC	1	1	1	1	1	1	1	1[1]	1[1]	1[1]
STATLANT-21	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.5	NA*	
STACFIS	0.3	0.5	0.4	0.5	0.4	0.3	0.3	0.5	0.5	
Subdiv. 3Ps:										
TAC					0.5	0.5	0.5	0.5	0.5	0.5
STATLANT-21	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.1	0.1	

[1]May change in-season. See NAFO FC Doc. 19/01

* STATLANT 21a data for divisions 3NO in 2022 were not yet available at the time of writing

Sources of information

SCR Doc. 23/36; SCS Doc. 23/06, 23/09, 23/12, 23/13