

**White Hake in Divisions 3NO and Subdiv. 3Ps**

**Advice June 2017 for 2018-19**

**Recommendation for 2018-2019**

Given the absence of strong recruitment, catches of white hake in 3NO should not increase.

**Management objectives**

No explicit management plan or management objectives defined by Fisheries Commission. General convention objectives (NAFO/GC Doc 08/3) are applied. Advice is based on survey indices and catch trends in relation to estimates of recruitment.

Convention objectives	Status	Comment/consideration
Restore to or maintain at $B_{msy}$	○	$B_{msy}$ unknown, stock at low level
Eliminate overfishing	○	$F_{msy}$ unknown, fishing mortality is low
Apply Precautionary Approach	●	Stock in safe zone of PA Framework
Minimise harmful impacts on living marine resources and ecosystems	●	No specific measures, general VME closures in effect.
Preserve marine biodiversity	○	Cannot be evaluated

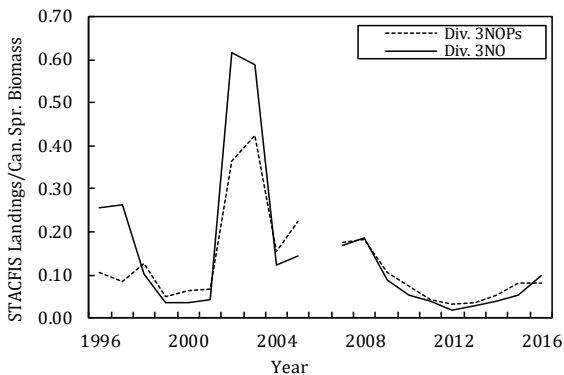
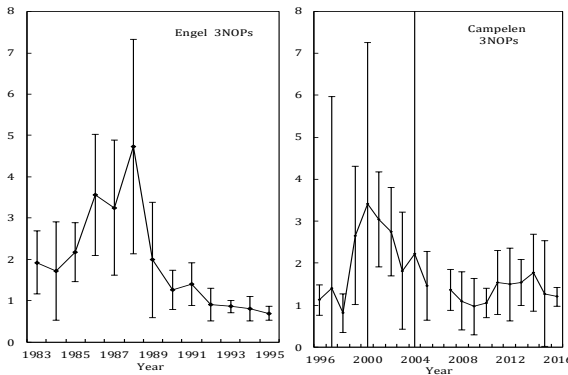
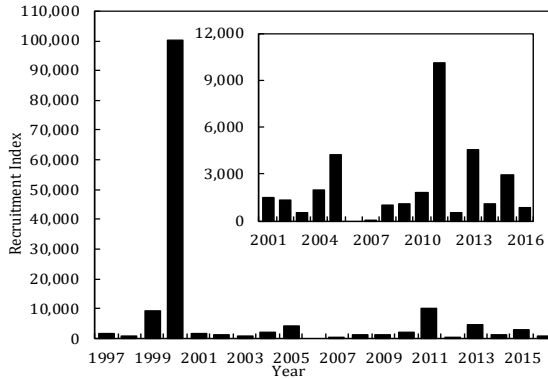
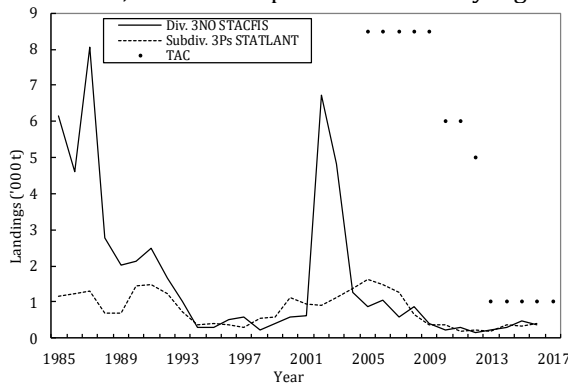
- OK
- Intermediate
- Not accomplished
- Unknown

**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**

The stock biomass is at a low level. No large recruitments have been observed since 2000. Recruitment was higher in 2011, but not comparable to the very high recruitment observed in 2000. Fishing mortality is low.



**Reference points**

Not defined



## Assessment

Based upon a qualitative evaluation of stock biomass trends and recruitment indices. The assessment is considered data limited and as such associated with a relatively high uncertainty. Input data are research survey indices and fishery data (STACFIS 2015).

The next full assessment of this stock will be in 2019.

### *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 is 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.

## Fishery

White hake are 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 is regulated by quota.

Recent catch estimates and TACs (tonnes) are:

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Div. 3NO:										
TAC	8.5	8.5	6	6	5	1	1	1	1	1 <sup>1</sup>
STATLANT 21	0.9	0.5	0.3	0.2	0.1	0.2	0.3	0.4	0.4	
STACFIS	0.9	0.4	0.2	0.2	0.1	0.2	0.3	0.5	0.4	
Subdiv. 3Ps:										
STATLANT 21	0.7	0.4	0.4	0.2	0.2	0.2	0.4	0.3	0.4	

<sup>1</sup>May change in-season. See NAFO FC Doc. 17/01.

### **Effects of the fishery on the ecosystem**

No specific information is available. General impacts of fishing gears on the ecosystem should be considered.

### **Special comments**

No special comments.

### **Sources of Information**

SCR Doc. 17/13, 19, 33; SCS Doc. 17/04, 05, 11.