

**b) Northern shrimp in Division 3M**

Advice October 2017 for 2018-19

**Recommendation**

No directed fishery for 2018 and 2019 as the stock is below  $B_{lim}$ .

**Management objectives**

No explicit management plan or management objectives defined by Fisheries Commission. General convention objectives (GC Doc. 08-03) are applied. Advice is based on qualitative evaluation of biomass indices in relation to historic levels, and provided in the context of the precautionary approach framework (FC Doc. 04/18).

Convention objectives	Status	Comment/consideration
Restore to or maintain at $B_{msy}$	●	Stock below $B_{lim}$
Eliminate overfishing	●	No directed fishery
Apply Precautionary Approach	●	$B_{lim}$ defined. No fishing mortality reference point defined
Minimise harmful impacts on living marine resources and ecosystems	●	VME closures in effect, no directed fishery, sorting grids mandatory
Preserve marine biodiversity	○	Cannot be evaluated

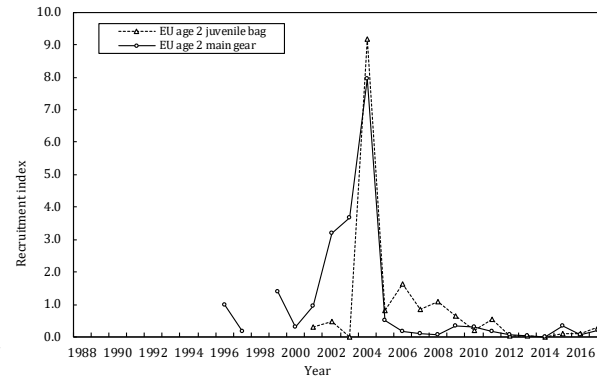
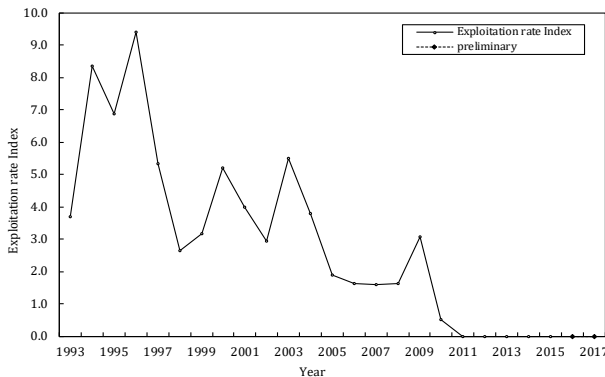
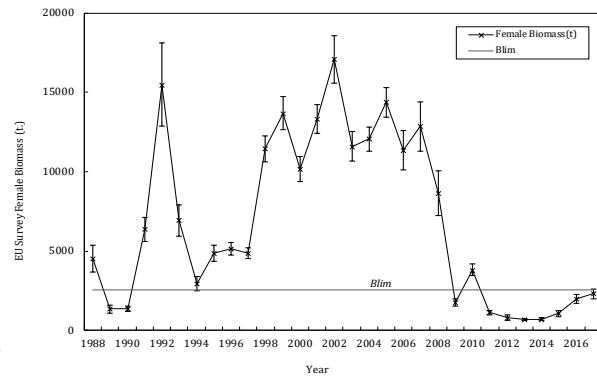
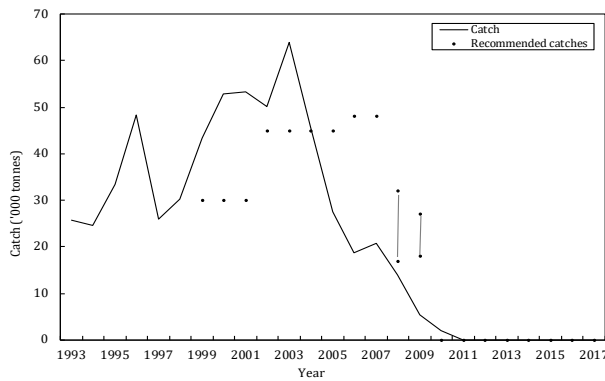
- OK
- Intermediate
- Not accomplished
- Unknown

**Management unit**

The northern shrimp stock on Flemish Cap is considered to be a separate population.

**Stock status**

Following several years of low recruitment, the spawning stock has declined, and has remained below  $B_{lim}$  since 2011. Due to continued poor recruitment there are concerns that the stock will remain at low levels.



### Reference points

Scientific Council considers that a female survey biomass index of 15% of its maximum observed level provides a proxy for  $B_{lim}$  (SCS Doc. 04/12).

### Projections

Quantitative assessment of risk at various catch options is not possible for this stock at this time.

### Assessment

No analytical assessment is available. Evaluation of stock status is based upon fishery and research survey data.

This stock is now assessed biennially. The next full assessment is currently scheduled for 2018.

### Human impact

Low fishery related mortality due to moratorium and low bycatch in other fisheries. Other sources (e.g. pollution, shipping, oil-industry) are considered minor.

### Biological and Environmental Interactions

The drastic decline of shrimp biomass since 2007 coincided with the increase of the cod stock in Div. 3M. It is uncertain whether this represents a causal relationship and/or the result of an environmental factor.

Results of modelling suggest that, in unexploited conditions, cod and redfish would be expected to be a highly dominant component of the system, and high shrimp stock sizes like the ones observed in the 1998 – 2007 period would not be a stable feature in the Flemish Cap.

### Fishery

This fishery is effort-regulated. The effort allocations were reduced by 50% in 2010 and a moratorium was imposed in 2011. Catches are expected to be close to zero in 2017.

Recent catches and agreed effort were as follows:

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
NIPAG	13000	5000	2 000	0	0	0	0	0	0	0 <sup>1</sup>
STATLANT 21	13431	5374	1976	0	0	0	0	0	0	
Effort (Agreed Days)	10555	10555	5227	0	0	0	0	0	0	

<sup>1</sup> To September 2017

### Effects of the fishery on the ecosystem

The fishery was closed to directed fishing beginning in 2011.

### Special comments

None

### Source of Information

SCR Doc. 17/063, 17/064, SCS Doc. 17/17