

Northern Shrimp in Division 3M

Advice September 2019 for 2020










Recommendation

Scientific Council notes the continuous increase of biomass over 5 years and that it now has a very low probability of being below B_{lim} .

Scientific council considers that there is sufficient evidence to allow a small amount of direct fishing on this stock. Considering the uncertainty about the future recruitments and the response of the resource to resumed exploitation, Scientific Council advises that the catch in 2020 should not exceed the 2009 level (5 448 tonnes).

Management objectives

No explicit management plan or management objectives have been defined by the Commission. Convention General Principles 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).

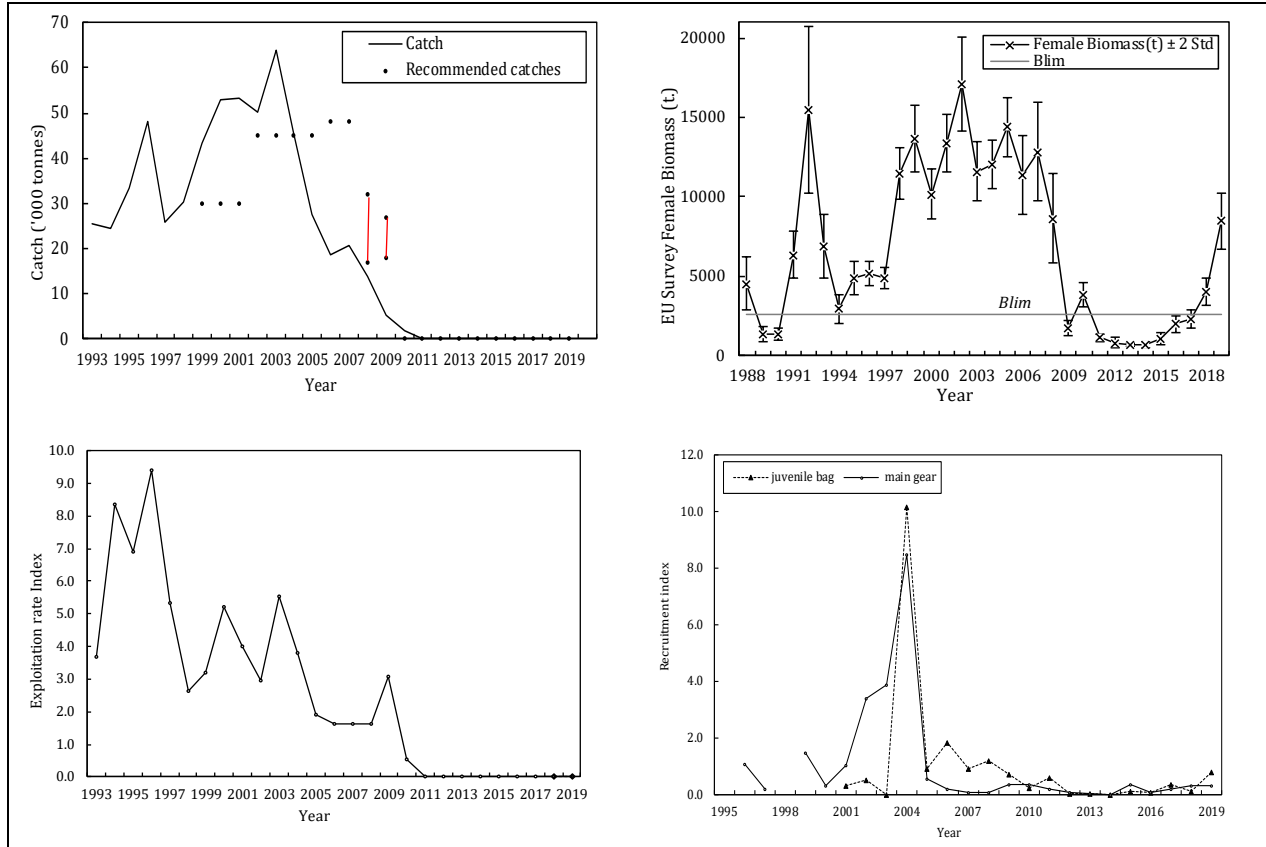
<i>Convention General Principles</i>	<i>Status</i>	<i>Comment/consideration</i>	
Restore to or maintain at B_{msy}		Stock well above B_{lim} . B_{msy} is unknown.	 OK
Eliminate overfishing		No directed fishery has occurred in recent years	 Intermediate
Apply Precautionary Approach		B_{lim} defined. No fishing mortality reference point defined	 Not accomplished
Minimise harmful impacts on living marine resources and ecosystems		VME closures in effect, no directed fishery in recent years, sorting grids mandatory	 Unknown
Preserve marine biodiversity		Cannot be evaluated	

Management unit

The Northern Shrimp stock on Flemish Cap is considered to be a separate population.

Stock status

The stock has shown signs of improvement since 2014, and in 2019, the indices indicate that the stock has a very low probability of being below B_{lim} . Although recruitment has been weak in the last decade, the recruitment index (age 2) has been increasing since the lowest observed in 2014.



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.

The next assessment will take place prior to the NAFO Annual Meeting in September 2020.

Human impact

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

Biological and Environmental Interactions

Multispecies models (Pérez-Rodríguez et al. 2016, Pérez-Rodríguez and D. González-Troncoso 2018), suggest that, predation by cod and redfish, together with fishing have been the main factors driving the shrimp stock to the collapse after 2007. In the most recent years, decreasing redfish and cod stocks have likely resulted in reduced predation mortality on shrimp, consistent with a period of increase in the shrimp stock.

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 2019. Recent catches (tonnes) and agreed effort were as follows:

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
NIPAG	2 000	0	0	0	0	0	0	0	0	0 ¹
STATLANT 21	1976	0	0	0	0	0	0	0	0	
Effort (Agreed Days)	5227	0	0	0	0	0	0	0	0	
SC Recommended Catches	ndf	ndf	ndf	ndf	ndf	ndf	ndf	ndf	ndf	ndf

¹ preliminary. ndf=no directed fishery

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. 19/041.