b) Northern shrimp in Denmark Strait and off East Greenland

Advice November 2020 for 2021

Recommendation

The available information indicates the stock has increased in recent years. Scientific Council advises that fishing mortality should not increase in 2021. On this basis, the catch in 2021 should not exceed 3000 t, corresponding to the projected catch in 2020.

Management objectives

No explicit management plan or management objectives have been defined by the Government of Greenland. Advice was drafted to be consistent with the NAFO precautionary approach (FC Doc 04-12).

Objective	*Status*	*Comment/consideration*
Apply Precautionary Approach		B_{lim} is defined. No fishing mortality reference is defined.

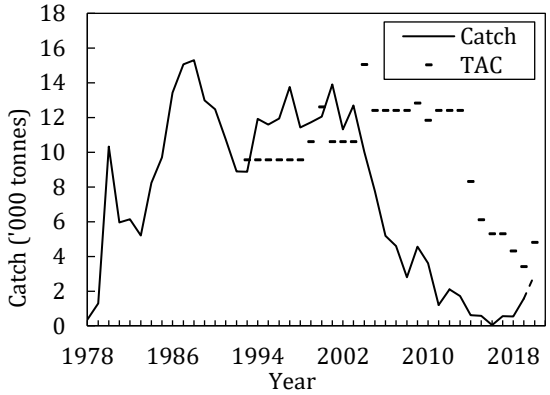
 Intermediate

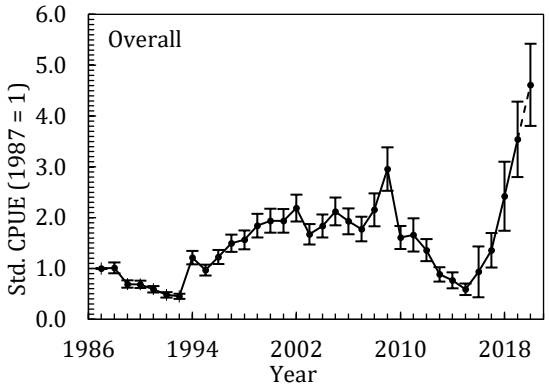
Management unit

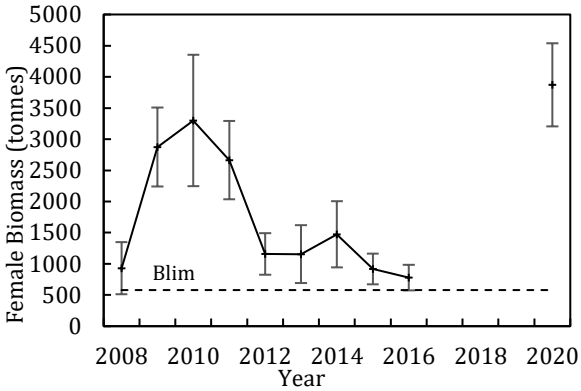
The shrimp stock is distributed off East Greenland in ICES Div. 14b and 5a and is assessed as a single population.

Stock status

The stock in 2020 is at a high level. The survey biomass in 2020 is the highest observed since the beginning of the survey, in 2008. The commercial CPUE in 2020 is also the highest since the beginning of the time series, in 1986. There is no recruitment index available for this stock, few juvenile shrimps are caught in the survey area.







Reference points

Scientific Council considers that 15% of the maximum survey female biomass provides a proxy for B_{lim}. The record high survey biomass found in 2020 results in B_{lim} = 580 t.

Projections

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

Assessment

A survey was conducted in 2020 after three years with no survey data. The survey biomass was the highest since the survey started in 2008. The standardized commercial CPUE has increased since 2015 and was at a historical high level in 2020. The survey biomass in 2020 is concentrated in a fairly small geographical area and the recent fishing effort concentrates in the same general area. Recent fishing effort has been relatively low, so this CPUE may not reflect stock status for the entire stock distribution area.

An analytical assessment model (surplus production model, SPiCT), using both the commercial and the survey CPUE, was investigated this year. Results can be found in the NIPAG report (SCS 20/021). The model results indicated a healthy stock status; however, the model needs to be further explored next year.

Human impact

Mainly fishery related mortality has been documented. Other sources (e.g. pollution, shipping, oil-industry) are considered minor.

Biological and Environmental Interactions

Cod is an important predator on shrimp. The cod stock has generally been decreasing in East Greenland waters since 2014.

Fishery

Shrimp is caught in a directed trawl fishery. The fishery is regulated by TAC and bycatch reduction measures include move-on rules and Nordmøre grates.

Recent catches and TAC (t) were as follows:

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Enacted TAC	12 400	12 400	12 400	8 300	6 100	5 300	5 300	4 300	3 384	4 750
SC Recommended TAC	12 400	12 400	12 400	2 000	2 000	2 000	2 000	2 000	2 000	2 000
NIPAG	1 199	2 109	1 717	622	576	49	561	547	1 580	2 839[1]

[1] To July 2020

Effects of the fishery on the ecosystem

Measures to reduce effects of the fishery on the ecosystem include move-on rules to protect sponges and corals.

Source of Information

SCR Doc. 20-059, 20-060, 20-061.