

a) Northern shrimp in Denmark Strait and off East Greenland

Advice September 2023 for 2024

Recommendation

Catches up to 2 500t are projected to result in a very low probability (less than 10%) of the stock going below B_{lim} .

Management objectives

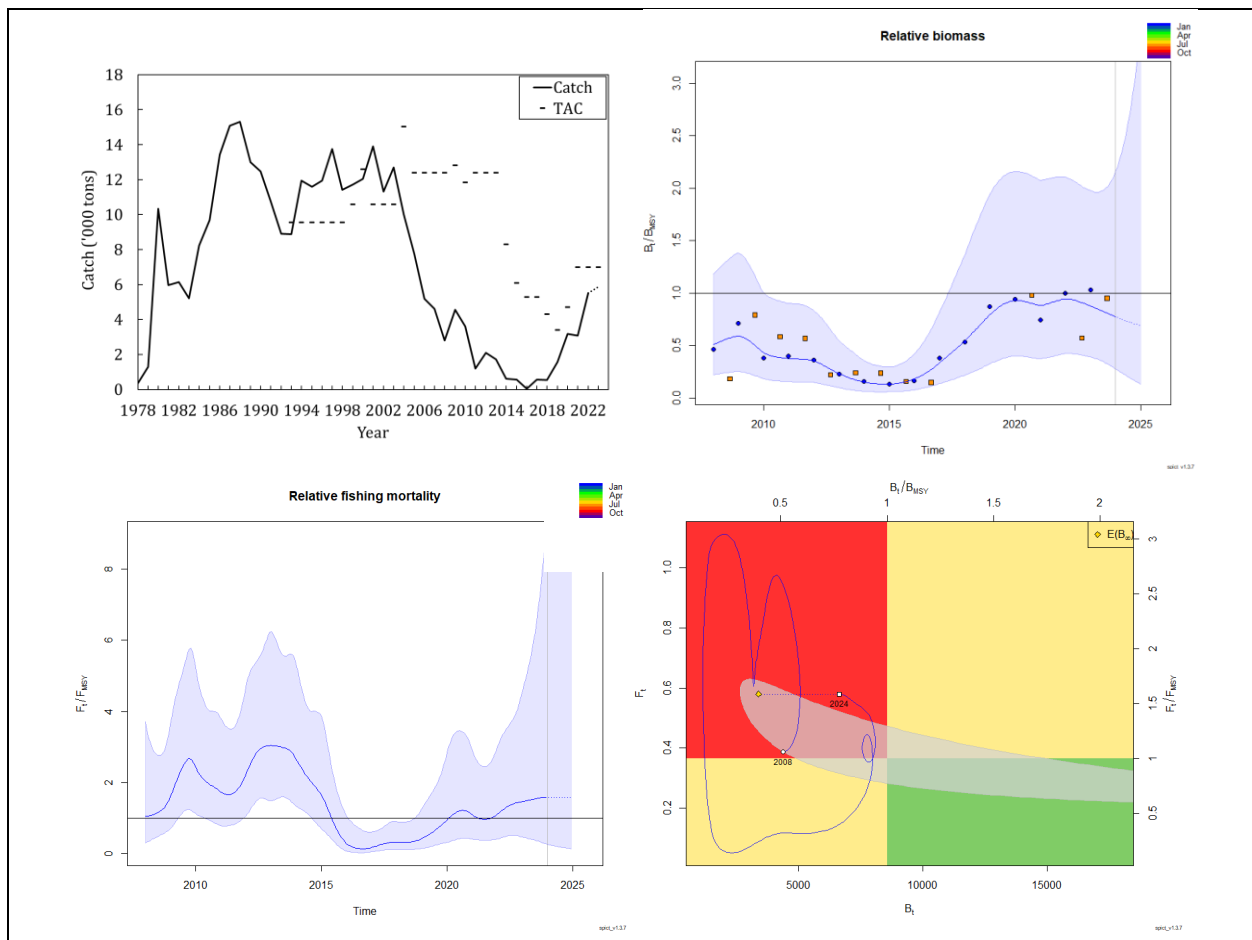
No explicit management plan or management objectives have been defined by the Government of Greenland. Advice was drafted to be consistent with the NAFO precautionary approach (FC Doc 04-12).

Management unit

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

Stock status

Median biomass is below B_{msy} ($B/B_{msy} = 0.78$) and the probability of being below B_{lim} is less than 5%. Fishing mortality is above F_{msy} ($F/F_{msy} = 1.59$). No estimates of recruitment are available.



Reference points

B_{lim} is defined as 30% of B_{msy} . The relative reference points B_{msy} and F_{msy} are estimated within the SPiCT model. The current relative B/B_{msy} is 0.78 and the relative F/F_{msy} is 1.59. The probability of being below B_{lim} is currently very low (less than 5%)

Projections

Relative reference points are estimated for six catch options for 2024.

Catch (t)	B/B_{msy}	F/F_{msy}	Prob $B > B_{msy}$	Prob $B < B_{lim}$	Prob $F > F_{msy}$
1 500	0.96	0.56	0.47	0.02	0.32
2 000	0.90	0.77	0.43	0.03	0.42
2 500	0.83	0.99	0.39	0.06	0.50
3 000	0.77	1.24	0.36	0.10	0.57
3 500	0.71	1.51	0.33	0.15	0.63
4 000	0.64	1.81	0.31	0.20	0.68

Assessment

The Surplus Production in Continuous Time (SPiCT) model was used for the assessment of this stock.

The next assessment is scheduled for 2024.

Human impact

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

Biological and Environmental Interactions

There is no integrated summary information available on the structure, status and trends of the marine ecosystem for the area inhabited by this stock. Cod is an important predator on shrimp. The cod stock has fluctuated in East Greenland waters since 2014. The impact on the shrimp biomass is unknown.

Ecosystem sustainability of catches

Shrimp is included in the benthivore guild. There are currently no EPU defined nor TCI information for the distribution area of this stock.

Fishery

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

Recent catches and TAC ('000 t) were as follows:

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Enacted TAC	8.3	6.1	5.3	5.3	4.3	3.4	4.8	7.0	6.9	6.9
SC Recommended TAC	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	2.0
NIPAG catch	0.6	0.6	0.0	0.6	0.5	1.6	3.2	3.1	5.6	5.9 ¹

¹ To June 30

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 Docs. 23/049, 23/050, 23/051, 21/044, FC Doc. 04-18