



23. september 2024

J.nr. 20.00-11

Sammendrag af rådgivning for 2025 om fiskeri på rejebestandene ved Vest- og Østgrønland

Dette sammendrag beskriver kort ændringer i forhold til sidste års rådgivning og præsenterer de anbefalede fangstmængder fra NAFO. Anbefalingerne uddybes i Appendiks, hvor også den officielle rådgivning fra NAFO er præsenteret.

Den anbefalede fangst af rejer ved Vestgrønland i 2025 er på 80.000 tons, hvilket er en nedgang på 15.000 tons i forhold til 2024. Den anbefalede fangst af rejer ved Østgrønland i 2025 er på 1.000 tons, hvilket er en nedgang på 1.500 tons i forhold til 2024.

Rådgivning om rejer for 2025

Vestgrønland

80.000 tons.

Rådgivning for 2024: 95.000 tons.

Total fangst forventet i 2024: ca. 102.500 tons.

Østgrønland

1.000 tons.

Rådgivning for 2024: 2.500 tons.

Total fangst forventet i 2024: 6.100 tons.

Den officielle rådgivning, som Departementet for Fiskeri modtager en kopi af, vil være tilgængelig på NAFOs hjemmeside (www.nafo.int) senere på året. Dette gælder også de af Grønlands Naturinstitut udarbejdede baggrundsdokumenter til rådgivningen. Hvis der ønskes yderligere dokumentation, står Naturinstitutet naturligvis til rådighed.

Grønlands Naturinstitut vil snarest invitere repræsentanter fra forvaltningen og erhvervet til en grundig gennemgang af baggrunden for rådgivningen, herunder besvarelse af spørgsmål og udveksling af viden.

Med venlig hilsen

Helle Siegstad
Afdelingschef

Rejer i Vestgrønland

NAFO rådgiver, at fangsterne i 2025 ikke bør overstige 80.000 tons, hvilket er 15.000 mindre end rådgivningen for 2024.

Om rådgivningen

Det rådgivne fangstniveau for rejer ved *Vestgrønland* er fastsat med udgangspunkt i, at årets bestandsvurdering viser, at både *rejebestanden* og *fangstraterne* har været *faldende*, samtidig med at der over de seneste år har været *flere torsk*, som forventes at spise rejer. Dette medfører en risiko på 53 % for at overskride den optimale dødelighed i indeværende år.

Modellen, der beregner udviklingen i bestanden, anvender som i tidligere år rejefiskeriets *fangster* (Figur 1), *rejebiomassen* beregnet ud fra de biologiske undersøgelser, fiskeriets *fangstrater* og *biomassen af de torsk*, der spiser rejer. Der er beregnet en maksimal biomasse i 2004 og herefter et fald frem til 2014. Siden 2017 har biomassen har været stabil, men er faldet fra 2023. Beregninger viser at biomassen i slutningen af 2024 vil være tæt på det niveau (3% under den optimale biomasse), der sikre et optimalt, bæredygtigt udbytte af rejebestanden (Figur 2).

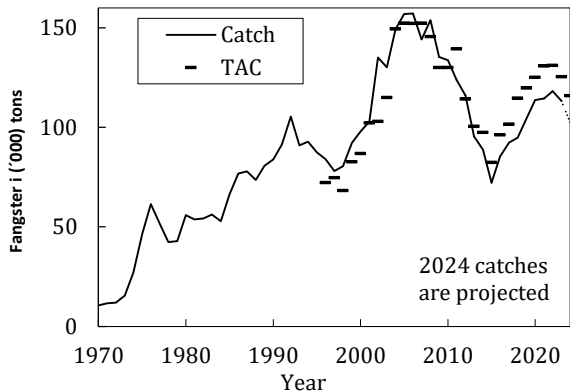
Antallet af 2-årige rejer, der forventes at komme ind i fiskeriet inden for de næste 3 år, ligger i 2024 under gennemsnittet for tidsserien (Figur 4).

Den totale dødelighed (Figur 3) falder i perioden efter 2014 kortvarigt, men stiger igen frem til 2024 til et niveau tæt på Z_{msy} .

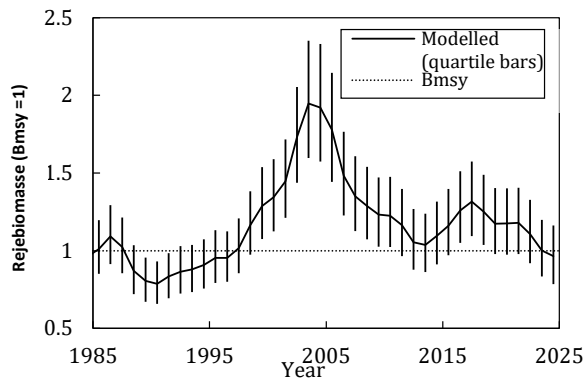
Tabel 1. Totale landinger (tons) af rejer i Vestgrønland og Canada fra 2015 til 2024

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
STACFIS	72 256	85 527	92 584	94 878	104 314	113 758	114 569	118 127	113 223	102 500 ¹

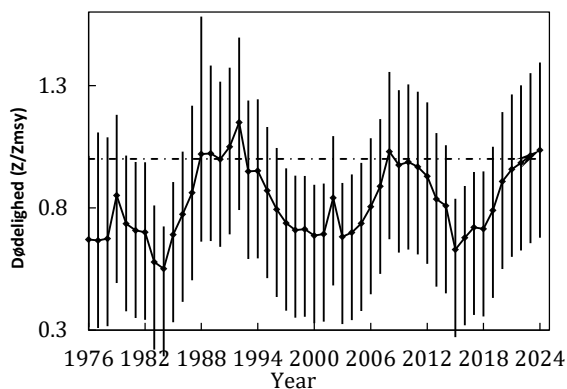
¹ forventet



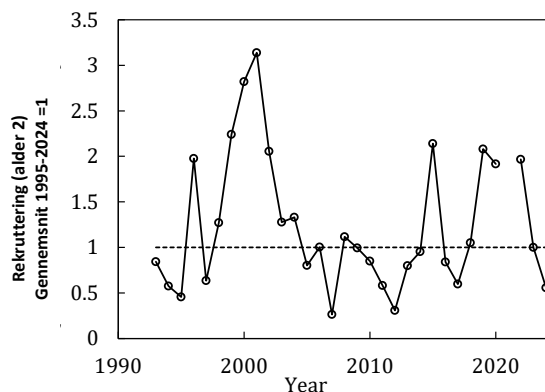
Figur 1. Samlede fangster (1970-2024)



Figur 2. Biomasse af rejer (fra model; 1976-2024)



Figur 3. Total dødelighed (fiskeri og torsk prædation) (1976-2024)



Figur 4. Rekruttering (alder 2; 1993-2024)

Appendiks

Det videnskabelige råd har med udgangspunkt i de af Naalakkersuisut fastsatte forvaltningskriterier for rejefiskeriet i Vestgrønland vurderet, at et fiskeri på 80.000 t i 2025 vil sikre en bæredygtig udnyttelse af bestanden. Det betyder, at risikoen for at overskride en dødelighed, hvor fiskeriet ikke længere er bæredygtigt, (Z_{msy}), holder sig inden for 35 %, og risikoen for, at biomassen kommer under det laveste niveau (B_{lim}), er lav.

Rejer i Østgrønland

NAFO rådgiver, at fangsterne i 2025 ikke bør overstige 1.000 tons, hvilket er 1.500 tons mindre end rådgivningen for 2024. Der er usikkerhed om udbredelse af bestanden, men tilgængelige data fra biologiske undersøgelser og fiskeri peger på, at bestanden er koncentreret i et begrænset område. NAFOs videnskabelige råd har siden 2022 accepteret anvendelse af SPiCT-modellen som værktøj til vurdering af rejebestanden i Østgrønland.

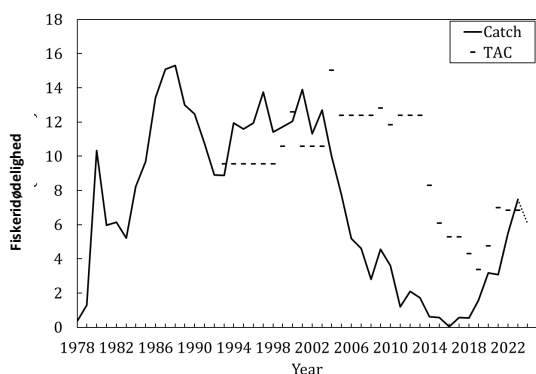
Om rådgivningen

Fangsterne har været stigende siden 2017 (Figur 5). I 2024 er rejebestanden beregnet til at ligge 42 % under optimal biomasse (Figur 6), og samtidig er fiskeridødeligheden over den optimale grænse (Figur 7). Resultater fra de biologiske undersøgelser i 2020 og 2022-2024 og data fra fiskeriet siden 2014, at bestanden er koncentreret i et begrænset geografisk område. Der er intet rekrutteringsindeks for bestanden, da kun meget få unge (juvenile) rejer fanges i området.

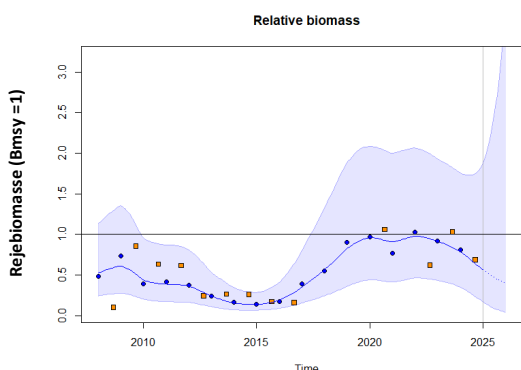
Tablet 2. Totale landinger (tons) af rejer i Østgrønland fra 2015 til 2024

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
STACFIS fangst	576	49	561	547	1 576	3 172	3 067	5 523	7 466	6 100 ¹

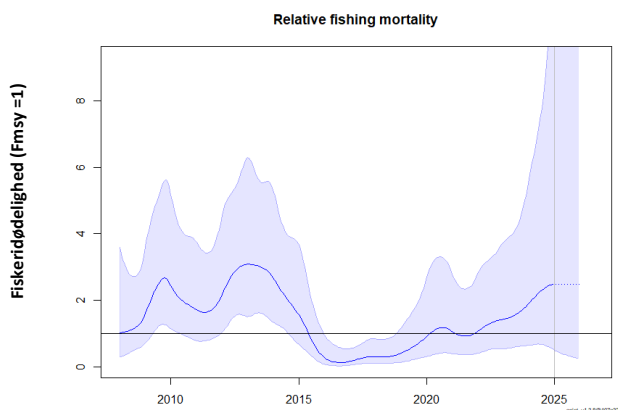
¹ forventet



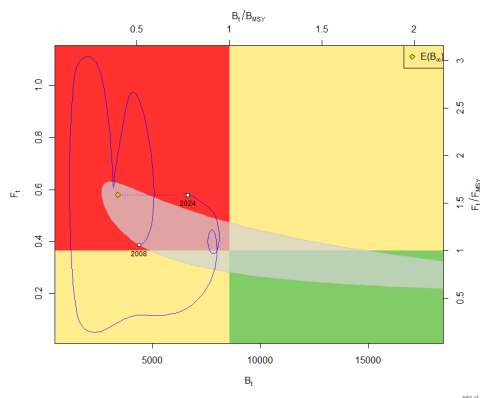
Figur 5. Samlede fangster (1978-2024)



Figur 6. Biomasse af rejer fra model (1987-2024)



Figur 7. Fiskeridødelighed fra model (1987-2024)



Figur 8. Bestandsstatus fra model (1987-2024)

Appendiks

NAFO's officielle rådgivning for: Northern shrimp in Subarea 1 and Div. 0A Advice September 2024 for 2025




Recommendation

In line with Greenland's stated management objective of maintaining a mortality risk of no more than 35% (subject to a risk of biomass being below B_{lim} of less than 1%), Scientific Council advises that catches in 2025 should not exceed 80 000 t.

With regard to the Canadian harvest strategy, Scientific Council notes that catches of 80 000 t in 2025 would result in a 33% risk of exceeding Z_{msy} in 2025, and a 32% and 31% risk of exceeding Z_{msy} in 2026 and 2027, respectively, assuming catches and the stock biomass at the same level as in 2025.

Management Objectives

A management plan and management objectives have been defined by the Government of Greenland in 2018. The objective is to maintain a mortality risk of no more than 35% (subject to a risk of biomass being below B_{lim} of less than 1%). Canada has a harvest strategy with the objective to maintain the stock in the Healthy Zone (>80% of B_{msy}); when the biomass is above 80% of B_{msy} , the risk of being above Z_{msy} should not exceed 35%, based on the 3-year projections. General principles from the *Convention on Cooperation in the Northwest Atlantic Fisheries* are applied.

Objective	Status	Comment/consideration
Maintain risk of being above Z_{msy} not exceeding 35%		The projected catches for 2024 equates to a risk of being above Z_{msy} by the end of 2024 of 53%. Scientific Council noted that the mortality is higher than the risk level of 35%.
Maintain the stock in the Healthy Zone (>80% of B_{msy})		The stock is close to B_{msy} in 2024
Maintain risk of biomass being below B_{lim} of less than 1%		The risk of biomass in 2024 being below B_{lim} is less than 1%



OK



Intermediate



Not accomplished

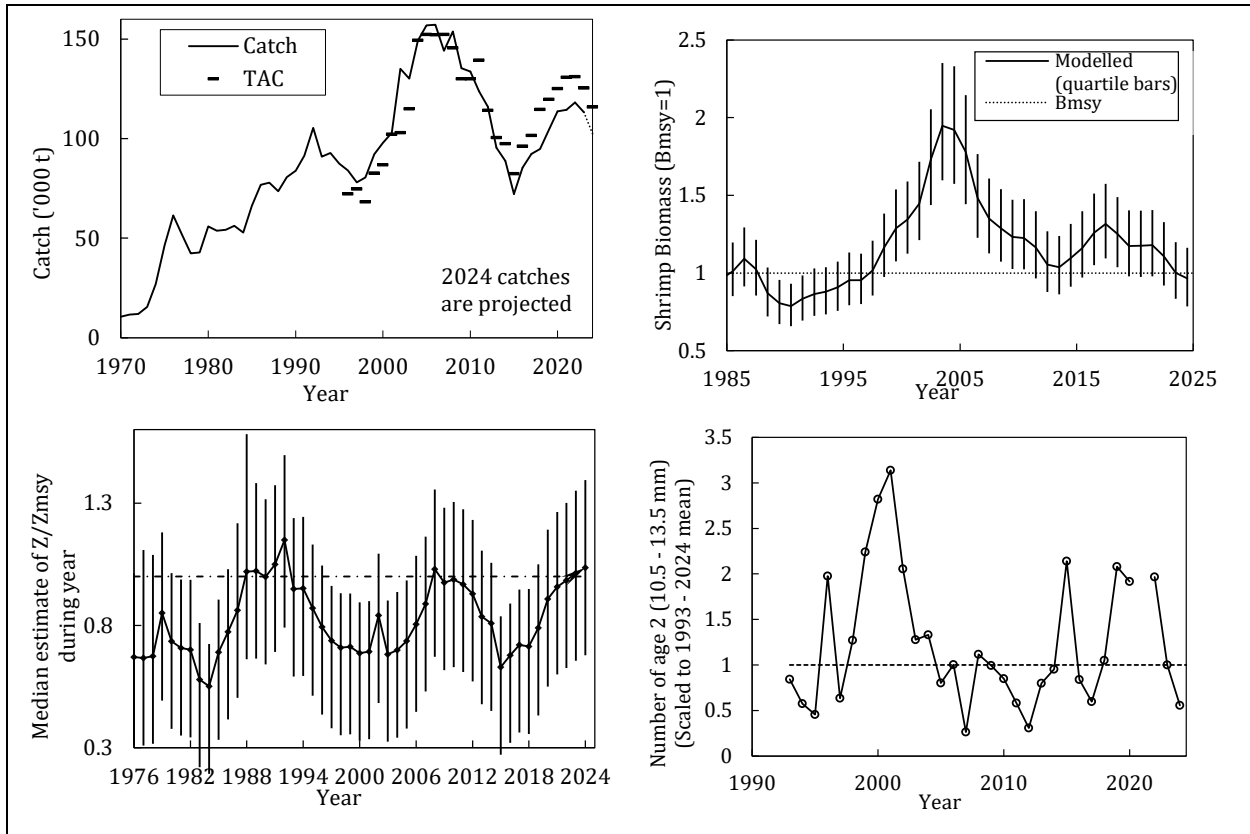
Management unit

The stock is distributed throughout Subarea 1, extends into Div. 0A east of 60°30'W, and is assessed as a single stock. In 2023, more than 99% of the landings were from Greenland.

Stock status

Biomass in 2024 is close to B_{msy} and the probability of being below B_{lim} is very low (<1%). The probability of mortality in 2024 being above Z_{msy} is 53%. Recruitment (number of age-2 shrimp) in 2024 was below the time-series average.

Appendiks



Reference points

B_{lim} has been established as 30% B_{msy} , and Z_{msy} has been set as the mortality reference point. B_{msy} and Z_{msy} are estimated directly from the assessment model.

Projections

Predicted probabilities of transgressing reference points in 2025 – 2027 under eight catch options and subject to predation by a cod stock with an effective biomass of 17 Kt.

17 000 t cod	Catch option ('000 tons)								
	Risk of:	65	70	75	80	85	90	95	100
falling below Bmsy end 2025 (%)	51	52	52	52	53	54	54	54	55
falling below Bmsy end 2026 (%)	47	48	49	50	52	53	53	53	54
falling below Bmsy end 2027 (%)	44	44	47	48	50	52	52	52	54
falling below Blim end 2025 (%)	0	0	0	0	0	0	0	0	0
falling below Blim end 2026 (%)	0	0	0	0	0	0	0	0	0
falling below Blim end 2027 (%)	0	0	0	0	0	0	1	1	1
exceeding Zmsy in 2025 (%)	18	23	28	33	38	42	47	50	50
exceeding Zmsy in 2026 (%)	18	22	27	32	37	42	46	50	50
exceeding Zmsy in 2027 (%)	17	21	26	31	36	41	46	50	50
falling below Bmsy 80% end 2025 (%)	25	25	26	26	27	28	29	29	29
falling below Bmsy 80% end 2026 (%)	23	24	26	27	27	28	30	30	30
falling below Bmsy 80% end 2027 (%)	23	23	25	27	27	29	31	31	31

Appendiks

Assessment

A Schaefer surplus-production model was used for the assessment of this stock.

The next assessment is scheduled for 2025.

Human impact

Mortality related to the fishery has been documented. Other human sources (*e.g.*, pollution, shipping, oil-industry) are 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.

Atlantic cod is an important predator on shrimp and this assessment incorporates this interaction. Other predation is likely but not explicitly considered. Shrimp might be important predators on, for example, fish eggs and larvae.

Ecosystem sustainability of catches

Shrimp is included in the benthivore guild. There are currently neither Ecosystem Production Units (EPUs) defined nor Total Catch Index (TCI) estimated for the distribution area of this stock.

Fishery

Shrimp are caught in a directed trawl fishery. The fishery is regulated by TAC.

Recent catches and TACs ('000 t) have been as follows:

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TAC										
SC Advised	60	90	90	105	105	110	115	115	110	95
Enacted GRL	71.1	82.8	87.9	99.9	103.4	108.3	113.7	113.8	109.1	101.7
Greenland set aside to Canada	1.9	2.2	1	1.3	1.6	1.6	1.2	1.2	0.9	0.8
Enacted CAN	8.5	10.6	12.7	14.9	14.9	15.2	15.9	16.2	15.6	13.5
Enacted total	81.5	95.6	101.7	116.1	119.9	125.1	130.8	131.3	125.6	116
Catches (STACFIS)										
SA 1	72.3	84.4	89.4	93.2	102	113.1	114.3	118.1	113	102.5 ¹
Division 0A	0	1.2	3.2	1.7	2.5	0.6	0.2	0	0	0 ¹
TOTAL	72.3	85.5	92.6	94.9	104.4	113.8	114.6	118.1	113.2	
STATLANT 21										
SA 1	71.8	82.9	88.9	90.5	98.2	110.1	107.4	117.8	110.2	
Division 0A	1.4	2.8	1.4	1.3	0.2	0.2	0	0	-	

¹ Projected total catch for the year.

Effects of the fishery on the ecosystem

Measures to reduce effects of the fishery on the ecosystem include area closures, moving rules and gear modifications to reduce damage to benthic communities and reduce bycatch.

Special comment

Scientific Council **recommends** that *the projection table should be given in projected catch increments of no less than 5 Kt due to uncertainty in calculating risk levels.*

Source of Information

SCS Doc 13/04, FC Docs 04-18, SCR Docs. 20/053, 20/057, 22/045, 24/052, 24/053, 24/054, 24/055.

Appendiks

NAFO's officielle rådgivning for: Northern shrimp in Denmark Strait and off East Greenland Advice September 2024 for 2025

Recommendation

Catches up to 1 000 t 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. General principles from the *Convention on Cooperation in the Northwest Atlantic Fisheries* are applied.

Objective	Status	Comment/consideration
Maintain B above B_{lim}	●	$B > B_{lim}$
Eliminate overfishing	●	F_{lim} undefined, F level is of concern

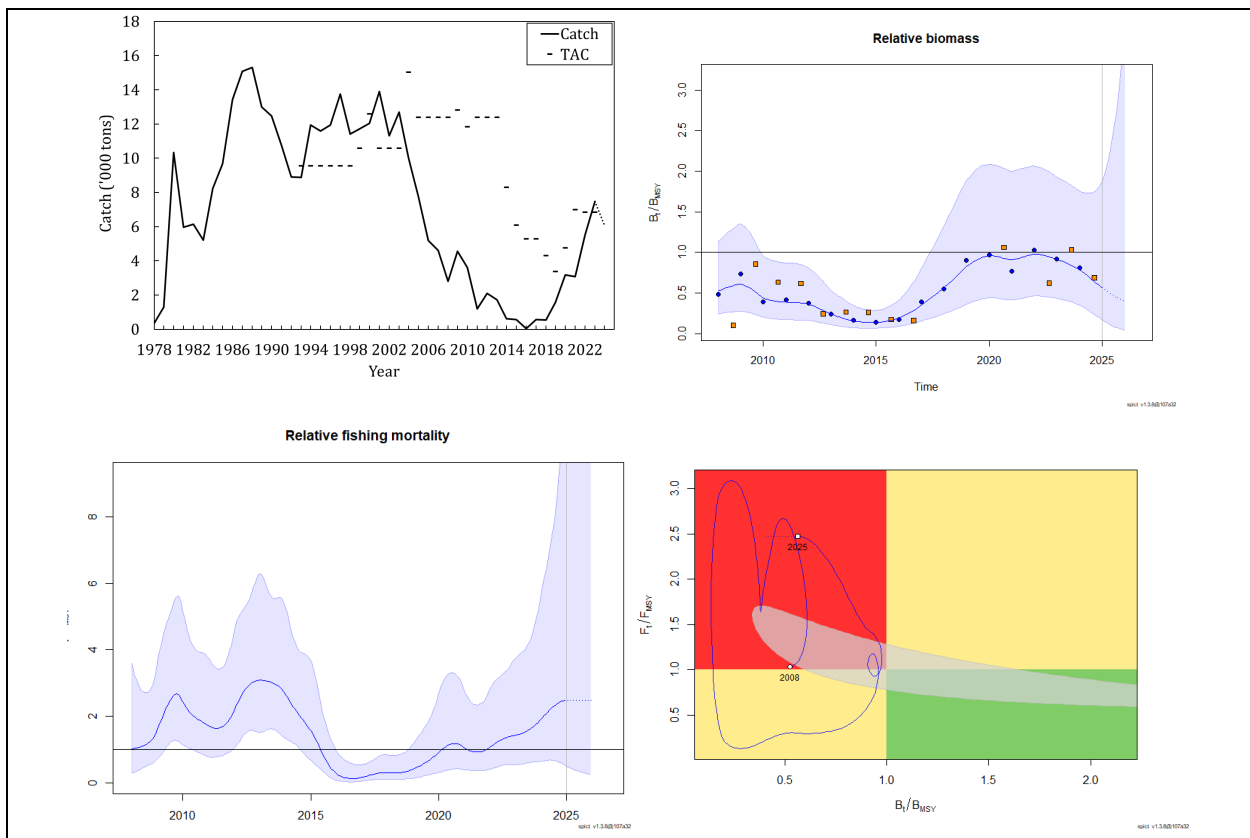
- OK
- Intermediate
- Not accomplished

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} ($B/B_{msy} = 0.58$) and the probability of being below B_{lim} is 15%. Fishing mortality is above F_{msy} ($F/F_{msy} = 2.47$). 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.

Appendiks

Projections

Relative reference points are estimated for six catch options for 2025.

Catch (t)	B/B_{msy}	F/F_{msy}	Prob $B < B_{msy}$	Prob $B < B_{lim}$	Prob $F > F_{msy}$	2026<2025
1000	0.77	0.48	0.66	0.06	0.26	0.02
1500	0.71	0.75	0.70	0.10	0.40	0.13
2000	0.64	1.05	0.72	0.16	0.52	0.32
2500	0.57	1.38	0.75	0.22	0.61	0.48
3000	0.51	1.76	0.77	0.29	0.69	0.59
3500	0.44	2.20	0.78	0.36	0.75	0.66

Catches above 3000 t would result in a 30% or greater probability of B falling below B_{lim} and would likely result in continued decline of the stock.

Assessment

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

The next assessment is scheduled for 2025.

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. Atlantic cod is an important predator on shrimp, while the predation impact is unknown.

Ecosystem sustainability of catches

Shrimp is included in the benthivore guild. There are currently neither Ecosystem Production Units (EPUs) defined nor Total Catch Index (TCI) estimated 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:

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Enacted TAC	6.1	5.3	5.3	4.3	3.4	4.8	7.0	6.9	6.9	7.9
SC advised TAC	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0	2.5
STACFIS Catch	0.6	0.0	0.6	0.5	1.6	3.2	3.1	5.5	7.5	6.1 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. 24/056, 24/057, 24/058, 21/044, FC Doc. 04-18