Greenland halibut in Subareas 0+1 (offshore)　　　　　　　　Advice June 2024 for 2025-2026

Recommendation for 2025 and 2026

In the projection period the probability of being below B_{lim} is very low (<1%), and the probability of exceeding F_{lim} is projected to be below 30% for any catch less than 90% of current TAC.

Scientific Council therefore recommends that catch should not exceed 90% of current TAC.

Management objectives

Canada and Denmark (on behalf of Greenland) requested that the Scientific Council provide an overall assessment of status and trends in the total stock area throughout its range. Stock status should be evaluated in the context of management requirements for long-term sustainability and the advice provided should be consistent with NAFO's Precautionary Approach Framework.

Convention Principle	Status	Comment
Restore to or maintain at Bmsy	🟢	B > Bmsy
Eliminate Overfishing (Stock)	🟢	F < Flim
Eliminate Overfishing (Ecosystem)	⚪	TCI undefined
Apply Precautionary Approach	🟢	Blim and Flim defined
Minimize harmful impacts on living marine resources and ecosystems	🟡	Directed fishery, VME closures in effect, Effectiveness of bycatch regulations uncertain
Preserve marine biodiversity	⚪	Cannot be evaluated

🟢 OK
🟡 Intermediate
🔴 Not accomplished
⚪ Unknown

Management unit
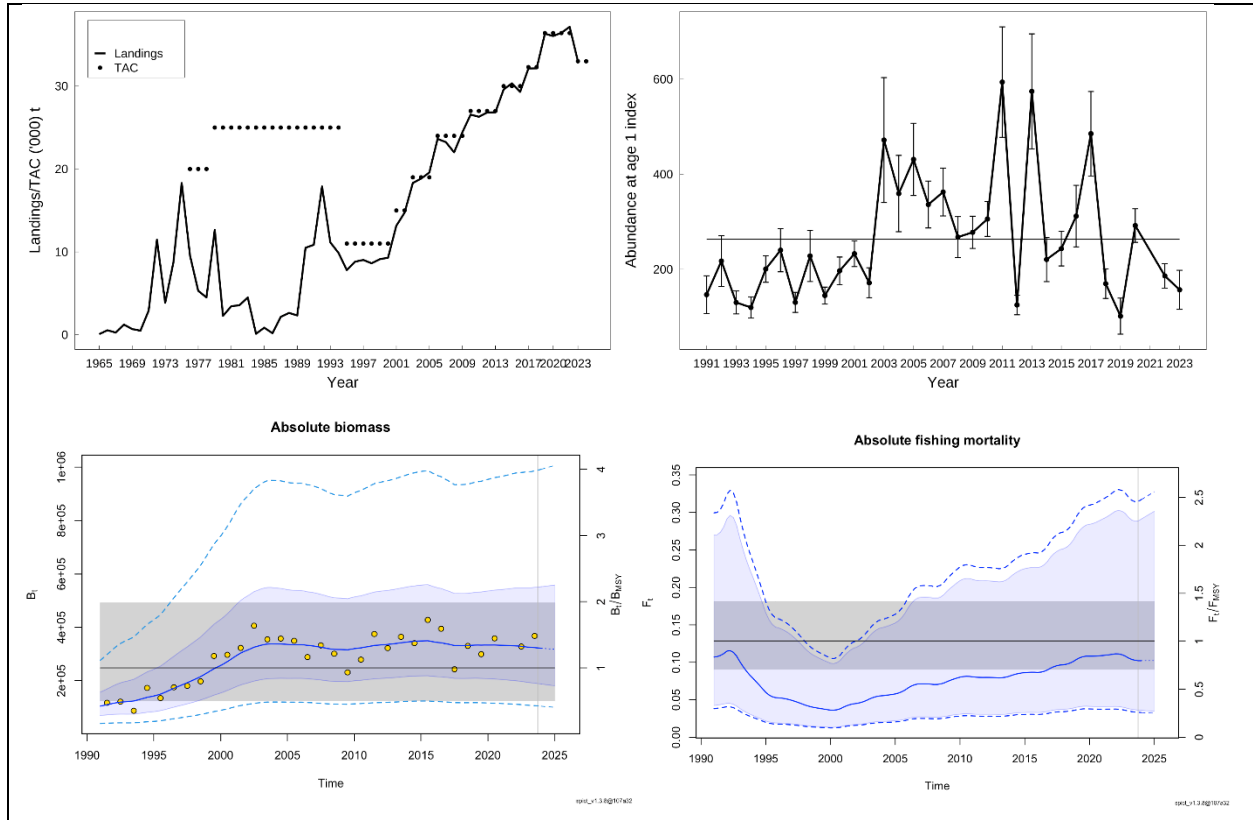
The Greenland halibut stock in Subareas 0+1 (offshore) is part of a larger population complex distributed throughout the Northwest Atlantic.

Stock status

Median biomass is above B_{msy} (B/B_{msy} = 1.3) and the probability of being below B_{lim} is less than 1%. Fishing mortality is below F_{msy} (F/F_{msy} = 0.78) and the probability of being above F_{lim} is 34%.

Reference points

B_{lim} is 30% B_{msy} and F_{lim} is F_{msy} (SCS 04/12).

Projections

Medium-term projections were carried forward to the year 2026 for catch scenarios with catch = TAC = 33 305t for 2024. Constant removals were applied from 2025-2026 at several levels of F (F=0, $F_{status\,quo}$, 75% F_{msy}, 85% F_{msy} and F_{msy}) or catch (TAC and 90% TAC). At the end of the projection period, the risk of biomass being below B_{lim} was less than 1% in all cases.

For the $F_{status\,quo}$ projections, the probability that $F > F_{lim} = F_{msy}$ in 2025-2026 was 34%, and with 2/3 F_{msy} the probability was 23%. At 75% F_{msy}, the probability that F > F_{lim} was 30%. Projected at the level of 85% F_{lim}, the probability that F > F_{lim} was 39% and for F_{msy} projections, this probability increased to 50%. For biomass projections, in all scenarios for 2025-2026 the probability of biomass being below B_{lim} was less than 1%. The probability that biomass in 2026 is less than biomass in 2024 is between 19 and 70% for all projections.

Projections with Catch 2024 = 33305 t		
Year	Yield ('000t)	Projected relative Biomass (B/Bmsy) median (80%CL)
F =0		
2024	33.3	1.3 (0.91-1.84)
2025	0	1.28 (0.89 - 1.85)
2026	0	1.4 (1.02-1.92)
Fstatusquo = 0.102		
2024	33.3	1.3 (0.91-1.84)
2025	32.33	1.28 (0.89-1.85)
2026	32.04	1.27 (0.87-1.86)
2/3Fmsy= 0.085		
2024	33.3	1.3 (0.91-1.84)
2025	27.23	1.28 (0.89- 1.85)
2026	27.39	1.28(0.91-1.88)
75%Fmsy = 0.096		
2024	33.3	1.3 (0.9-1.85)
2025	30.51	1.28 (0.89- 1.86)
2026	30.4	1.26 (0.89-1.87)
85%Fmsy = 0.109		
2024	33.3	1.3 (0.91-1.84)
2025	34.42	1.27 (0.89-1.85)
2026	33.91	1.26 (0.86-1.85)
Fmsy = 0.128		
2024	33.3	1.3 (0.91-1.84)
2025	40.21	1.28 (0.89-1.85)
2026	38.92	1.24 (0.83-1.84)
TAC = 33 305		
2024	33.3	1.3 (0.91-1.84)
2025	33.3	1.28 (0.89-1.85)
2026	33.3	1.27 (0.86-1.85)
90% TAC = 29 975		
2024	33.3	1.3 (0.91-1.84)
2025	29.97	1.28 (0.89-1.85)
2026	29.97	1.28 (0.88-1.86)

	yield ('000t)		P (F> Flim)			P(B<Blim)			P(B>Bmsy)			P(B2026 < B2024)
Catch2024= 333	2025	2026	2024	2025	2026	2024	2025	2026	2024	2025	2026	
F=0	0	0	34%	<1%	<1%	<1%	<1%	<1%	83%	81%	91%	19%
F statusquo	32.33	32.04	34%	34%	34%	<1%	<1%	<1%	83%	81%	79%	60%
2/3 Fmsy	27.23	27.39	34%	23%	23%	<1%	<1%	<1%	83%	81%	81%	53%
75 % Fmsy	30.51	30.4	34%	30%	30%	<1%	<1%	<1%	83%	81%	80%	58%
85% Fmsy	34.42	33.91	34%	38%	39%	<1%	<1%	<1%	83%	81%	78%	63%
Fmsy	40.21	38.92	34%	50%	50%	<1%	<1%	<1%	83%	81%	76%	70%
TAC	33.3	33.3	34%	36%	37%	<1%	<1%	<1%	83%	81%	79%	62%
90%TAC	29.97	29.97	34%	29%	29%	<1%	<1%	<1%	83%	81%	80%	57%

Assessment

A Stochastic Production model in Continuous Time (SPiCT) was used for the assessment of this stock. Input to this model include landings data and a standardized index of exploitable stock biomass from combined survey data.

The next assessment is expected to be in 2026.

Human impact

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

Biology and Environmental interactions

No specific studies were reviewed during this assessment.

Ecosystem sustainability of catches

The impact of bottom fishing activities on VMEs in Subarea 0 was assessed in 2016. Three areas have been designated as marine refuges, that exclude bottom contact fisheries: Disko Fan, Davis Strait and Hatton Basin. Areas in Subarea 1 have also been closed to bottom fishing to protect benthic habitats.

Greenland halibut is included in the piscivore guild. There is no EPUs nor TCIs defined for this region. The ecosystem sustainability of catches cannot be evaluated. Greenland shark is a bycatch species of concern in the Subareas 0+1 (offshore) fishery given its low reproductive rate, slow growth rate and limited ecological information.

Fishery

Catches were first reported in 1965. Catches increased from 1989 to 1992 due to a new trawl fishery in Division 0B with participation by Canada, Norway, Russia and Faeroe Islands and an expansion of the Division 1CD fishery with participation by Japan, Norway and Faeroe Islands. Catch declined from 1992 to 1995 primarily due to a reduction of effort by non-Canadian fleets in Division 0B. Since 1995 catches have been near the TAC and increasing in step with increases in the TAC, with catches reaching a high in 2022. Catches decreased to 32 990t following a decreasing TAC in 2023.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TAC	30	30	32.3	32.3	36.4	36.4	36.4	36.4	33.3	33.3
SA 0	15.4	14.1	15.9	16.0	18.3	17.9	19.1[2]	18.3	16.4	
SA 1	14.9	15.2	16.2	16.2	18.0	18.1	17.3	18.8	16.6	
Total STACFIS[1]	30.3	29.3	32.1	32.2	36.3	36.0	36.4	37.2	33.0	

[1] Based on STATLANT, with information from Canada and Greenland authorities to exclude inshore catches.

[2] STACFIS estimate using 1.48 conversion factor for J-cut, tailed product.

[3] Based on official catches from the Greenland Office of Fisheries Licences (GLFK) because STATLANT were not available.

Sources of information

SCR Docs. 24/013, 019, 020, 021, 022; SCS Doc. 24/14.