Greenland halibut (*Reinhardtius hippoglossoides*) in subareas 5, 6, 12, and 14 (Iceland and Faroes grounds, West of Scotland, North of Azores, East of Greenland)

ICES advice on fishing opportunities

ICES advises that when the maximum sustainable yield (MSY) approach is applied, catches in 2026 should be no more than 20 992 tonnes.

Non-fisheries conservation considerations

Conservation aspects and associated management measures may exist at a national or regional level but were not reviewed by ICES.

Stock development over time

Fishing pressure on the stock is above F_{MSY} and below F_{PA}; spawning-stock size is above MSY $B_{trigger}$, B_{PA}, and B_{lim}.

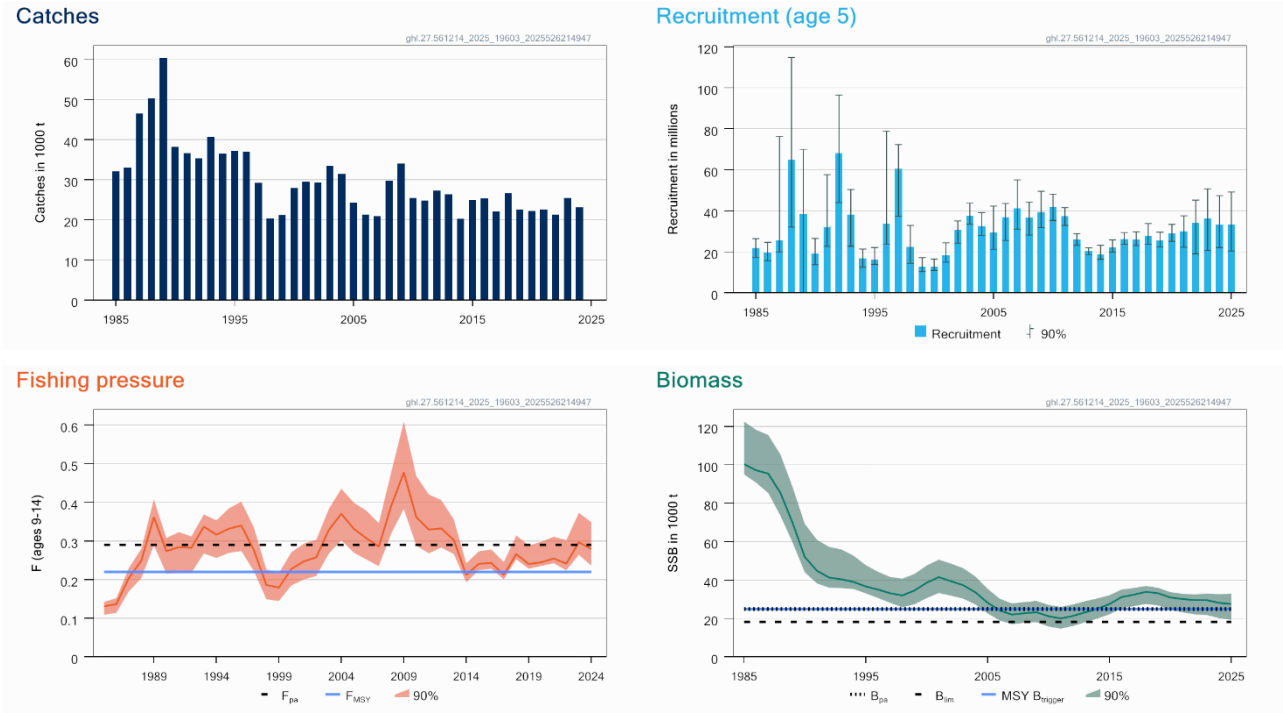

Figure 1 Greenland halibut in subareas 5, 6, 12, and 14. Summary of the stock assessment. Spawning-stock biomass (SSB) refers to the mature female part of the stock only.

Catch scenarios

Table 1 Greenland halibut in subareas 5, 6, 12, and 14. Values in the forecast and for the interim year.

Variable	Value	Notes
$F_{ages\ 9–14}$ (2025)	0.21	F based on catch in 2025
Spawning-stock biomass (SSB; 2026)	28 259	Short-term projections; tonnes
R_{age5} (2026)	32 038	From the assessment; thousands
Total catch (2025)	17 890	Catch corresponding to advice (2025); tonnes

Table 2 Greenland halibut in subareas 5, 6, 12, and 14. Annual catch scenarios (all weights are in tonnes).

Basis	Total catch (2026)	F (9–14) (2026)	Spawning-stock biomass (SSB; 2027)	% SSB change*	% advice change^
ICES advice basis					
Maximum sustainable yield (MSY) approach: F_{MSY}	20 992	0.22	31 039	9.8	17.3
Other scenarios					
$F_{2026} = 0$	0	0	35 493	26	−100
$F_{2026} = F_{2024}$	25 340	0.28	30 030	6.3	42

* SSB in 2027 relative to SSB in 2026.
^ Advised catches for 2026 relative to the advice value for 2025 (17 890 tonnes).

The advised catch for 2026 has increased because the spawning-stock biomass (SSB) has been revised upwards and is now above MSY $B_{trigger}$.

Basis of the advice

Table 3 Greenland halibut in subareas 5, 6, 12, and 14. The basis of the advice.

Advice basis	Maximum sustainable yield (MSY) approach
Management plan	ICES is aware of an agreed precautionary management plan, between Iceland and Greenland, for Greenland halibut in this area

Quality of the assessment

Connectivity to the adjacent Greenland halibut stocks (Northeast Arctic stocks in ICES subareas 1 and 2 and NAFO subareas 0 and 1) is known but still unquantified (Albert and Vollen, 2015; Westgaard *et al.*, 2017; Vihtakari *et al.*, 2022, Gislason *et al.*, 2023; Ubeda *et al.*, 2023). Therefore, the current assessment trend may be influenced by more than one population. This issue adds to the uncertainty in the assessment.

Lack of consistency in age readings between nations prevents the use of age information from all areas in the assessment.

In this year's assessment, SSB has been revised upwards and F downwards from previous years.

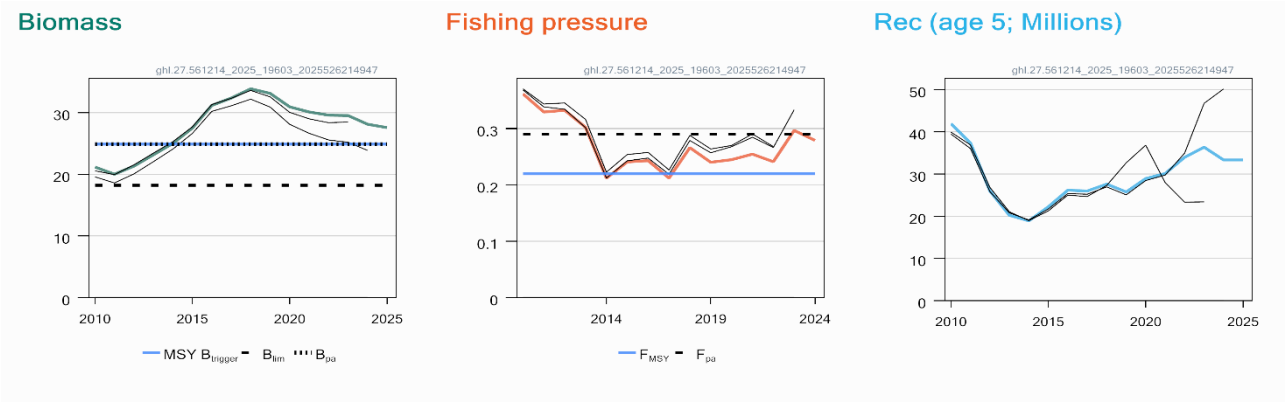

Figure 2 Historical assessment results. Final-year recruitment and biomass estimates are included. The assessment method was changed at a benchmark in 2023. Previously the assessment generated relative values only and therefore these results cannot be compared.

Issues relevant for the advice

Greenland halibut is a relatively slow-growing and late-maturing species. Increased recruitment since 2022 has been estimated based on survey observations, and this may increase the fishable biomass from 2026 onwards.

No formal agreement on the management of fisheries on Greenland halibut exists among the three principal coastal states of Greenland, Iceland, and the Faroe Islands. An agreement exists between Iceland and Greenland since 2021 on the management of the Greenland halibut fishery based on the ICES MSY approach.

This stock is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks (NEAFC, 2016). This implies that fisheries are primarily restricted to coastal state exclusive economic zones (EEZs); therefore, management measures are not taken by NEAFC unless complementary to coastal state conservation and management measures.

Reference points

Table 4 Greenland halibut in subareas 5, 6, 12, and 14. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
Maximum sustainable yield (MSY) approach	MSY $B_{trigger}$	24 895	B_{PA}; tonnes	ICES (2024)
	F_{MSY}	0.22	Fishing mortality that leads to MSY; estimated using stochastic simulations	ICES (2024)
Precautionary approach	B_{lim}	18 213	B_{loss} (SSB in 2010); tonnes	ICES (2024)
	B_{PA}	24 895	$B_{lim} \times e^{1.645\sigma}$, $\sigma = 0.19$; tonnes.	ICES (2024)
	F_{PA}	0.29	F_{P05}, maximum F at which the probability of spawing-stock biomass (SSB) falling below B_{lim} is < 5%	ICES (2024)

Basis of the assessment

Table 5 Greenland halibut in subareas 5, 6, 12, and 14. Basis of the assessment and advice.

ICES stock data category	1 (ICES, 2023a)
Assessment type	Analytical assessment (Gadget) that uses catches in the model and in the forecast (ICES, 2025)
Input data	Commercial catches (international landings); length composition by gear; one combined survey biomass index (Greenland Deepwater Survey [G5943]), 1998–2016, and the Icelandic bottom-trawl survey – autumn (IS-SMH [G4493]) since 1996); age and length distributions from the Icelandic bottom-trawl survey [G4493]. Natural mortality is set at 0.15. Maturity from Icelandic bottom-trawl survey – autumn (IS-SMH [G4493]. Stock weight from Icelandic bottom trawl survey – autumn. Catch weights from commercial sampling.
Discards	Discarding is considered negligible
Indicators	None
Other information	The stock was benchmarked in 2023 (ICES, 2023b). Reference points were updated in 2024 (ICES, 2024).
Working group	Northwestern Working Group (NWWG)

History of the advice, catch, and management

Table 6 Greenland halibut in subareas 5, 6, 12, and 14. ICES advice, Iceland and Greenland total allowable catches (TACs), and catch. Other TACs are set which may cover catches from this stock. All weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	TAC for Iceland Exclusive Economic Zone (EEZ)*	TAC for Greenland EEZ	ICES catch subareas 5, 6, 12, and 14
1987	No increase in F	28 000	30 000		46 514
1988	No increase in F	28 000	30 000		50 356
1989	TAC	33 000	30 000		60 484
1990	No advice	-	45 000		38 164
1991	TAC	40 000	30 000		36 597
1992	TAC	30 000	25 000		35 304
1993	No increase in effort	28 000	30 000		40 601

Year	ICES advice	Catch corresponding to advice	TAC for Iceland Exclusive Economic Zone (EEZ)*	TAC for Greenland EEZ	ICES catch subareas 5, 6, 12, and 14
1994	No increase in effort	34 000	30 000		37 196
1995	TAC	32 000	30 000		37 589
1996	TAC	21 000	20 000		37 334
1997	60% reduction in F from 1995	13 000	15 000		29 395
1998	70% reduction in F from 1996	11 000	10 000	8 100	2 0464
1999	65% reduction in F from 1997	11 000	10 000	8 000	21 186
2000	60% reduction in F from 1998	11 000	10 000	8 000	27 971
2001	Catch less than 1998–1999 catch	< 20 000	20 000	14 500	29 528
2002	F reduced below 0.67 × F_{MSY}	< 21 000	20 000	14 500	29 850
2003	F reduced below 0.67 × F_{MSY}	< 23 000	23 000	14 500	33 509
2004	F reduced below 0.67 × F_{MSY}	< 20 000	23 000	14 100	31 439
2005	Effort reduced to 1/3 of the 2003 level	< 15 000	15 000	12 000	24 308
2006	Effort reduced to 1/3 of the 2003 level	< 15 000	15 000	10 000	21 363
2007	Adaptive management plan, start at 15 000 tonnes	< 15 000	15 000	11 700	20 970
2008	Adaptive management plan, start at 15 000 tonnes	< 15 000	15 000	11 000	29 715
2009	Adaptive management plan, reduce to 5 000 tonnes	< 5 000	15 000	10 000	34 017
2010	Adaptive management plan, reduce to 5 000 tonnes	< 5 000	12 000	12 000	24 996
2011	Adaptive management plan, reduce F substantially below F_{MSY}	< 5 000	13 000	12 000	25 067
2012	No directed fishery, multiannual management plan to be developed and implemented	-	13 000	13 000	27 327
2013	F reduced to F_{MSY}	< 20 000	15 000	10 000	26 419
2014	F reduced to F_{MSY}	< 20 000	12 500	8 300	20 259
2015	F reduced to F_{MSY}	< 25 000	14 100	9 500	24 925
2016	Fishing at F_{MSY}	< 22 000	12 400	8 300	25 319
2017	Fishing at F_{MSY}	< 24 000	13 500	9 000	22 092
2018	Fishing at F_{MSY}	< 24 000	13 535	9 024	26 650
2019	Maximum sustainable yield (MSY) approach	< 24 150	13 621	9 080	22 606
2020	MSY approach	≤ 21 360	12 047	8 031	22 195
2021	MSY approach	≤ 23 530	13 271	8 847	23 402
2022	MSY approach	≤ 26 650	15 031	10 020	21 947
2023	MSY approach	≤ 26 710	15 064	10 043	25 425
2024	MSY approach	≤ 19 703	13 463	8 099	23 132
2025	MSY approach	≤ 17 890	13 096	6 727	
2026	MSY approach	≤ 20 992			

* For the fishing year starting 1 September of the preceding year.

History of the catch and landings

There are no landings reported from the NEAFC regulatory areas (RAs).

Table 7 Greenland halibut in subareas 5, 6, 12, and 14. Catch distribution by fleet in 2024 as estimated by ICES. All weights are in tonnes.

Catch (2024)	Landings		Discards
23 132	Bottom trawl 66%	Gillnet/longlines 34%	Considered negligible
	23 132		

Table 8 Greenland halibut in subareas 5, 6, 12, and 14. History of commercial catch; official values for each country participating in the fishery with ICES estimates of total catch. All weights are in tonnes. + indicates catches < 0.5 tonnes.

Country	1981	1982	1983	1984	1985	1986	1987	1988	1989
Denmark							6	+	
Faroe Islands	767	1 532	1 146	2 502	1 052	853	1 096	1 378	2 319
France	8	27	236	489	845	52	19	25	
Germany	3 007	2 581	1 142	936	863	858	565	637	493
Greenland		1	5	15	81	177	154	37	11
Iceland	15 457	28 300	28 360	30 080	29 231	31 044	44 780	49 040	58 330
Norway			2	2	3	1	2	1	3
Total	19 239	32 441	30 891	34 024	32 075	32 985	46 622	51 118	61 156
ICES estimate	19 239	32 441	30 891	34 024	32 079	33 011	46 514	50 356	60 484

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998
Denmark							1	+	+
Faroe Islands	1 803	1 566	2 128	4 405	6 241	3 763	6 148		3 817
France	21	6	3	2	37	140	29	11	8
Germany	336	303	382	415	648	811	3 368	3 342	3 056
Greenland	40	66	437	288	867	533	1 162	1 129	747
Iceland	36 557	34 883	31 955	33 987	27 778	27 383	22 055	18 569	10 728
Norway	50	34	221	846	1 173	1 810	2 164	1 939	1 367
Russia			5			10	424	37	52
Spain									89
UK	27	38	109	811	513	1 436	386	218	190
UK (Scotland)		+	19	26	84	232	25	26	43
Total	38 834	36 896	35 259	40 780	37 305	36 043	35 762	30 242	20 360
ICES estimate	38 164	36 597	35 304	40 601	37 196	37 589	37 334	29 395	20 464
Country	1999	2000	2001	2002	2003	2004	2005	2006	2007
Estonia				8			5	3	
Faroe Islands	3 884		121	334	458	338	1 150	855	1 141
France		2	32	290	177	157		62	17
Germany	3 082	3 265	2 800	2 050	2 948	5 169	5 150	4 299	4 930
Greenland	200	1 740	1 553	1 887	1 459		2 116		
Iceland	11 180	14 537	16 590	19 224	20 366	15 478	13 023	11 798	9 567
Ireland			56						
Lithuania					2	1		2	3
Norway	1 187	1 750	2 243	1 998	1 074	1 233	1 124	1 097	78
Poland			2	16	93	207			
Portugal			6	130				1094	
Russia	138	183	187	44		262		552	501
Spain		779	1 698	1 395	3 075	4 721	506	33	
UK (E&W)	261	370	227	71	40	49	10	1	
UK (Scotland)	69	121	130	181	367	367	391	1	
UK		166	252	255	841	1304	220	93	17
Total	20 001	22 913	25 897	27 609	30 900	29 286	23 695	19 890	16 410
ICES estimate	21 186	27 971	29 528	29 850	33 509	31 439	24 308	21 363	20 970
Country	2008	2009	2010	2011	2012	2013	2014	2015	2016
Estonia							429		
Faroe Islands	26	270	1 408	1 705	2 811	2 788	3 393	3 214	4 656
France	114			150	67	133		117	88
Germany	4 846	423	5 287	5 782	4 620	3 814	3 701	3 808	4 420
Greenland		2819		3 415	5 239	3 251	1 897	3 642	1 511
Iceland	11 671	15 765	13 293	13 192	13 749	14 859	9 861	12 400	12 652
Lithuania	566				99				
Norway	639	124	233	171	856	614	764	1 126	1 007
Poland	1 354	988	960		786				
Russia	799	762	1 070	1 095	1 168	1 369	587	600	600
Spain								110	2 105
UK	422	581	577	323	12	95		127	348
Total	20 411	22 247	22 901	25 693	29 407	26 923	20 743	25 145	27 388

ICES estimate	29 715	34 017	24 996	25 067	27 327	26 419	20 259	24 925	25 319
Country	2017	2018	2019	2020	2021	2022	2023	2024*	
Estonia								89	
Faroe Islands	3 999	2 949	1 973	1 888	2 070	1 607	2 506	2 030	
France	51	71	78	97	82	88	30	37	
Germany	2 994	4 463	4 483	4 769	4 354	4 441	4 097	3 743	
Greenland	2 692	2 970	2 999	1 992	2 834	2 893	3 226	2 045	
Iceland	11 926	15 214	12 390	12 535	12 837	11 141	14 185	13 930	
Norway	1 002	937	995	813	993	1 052	1 161	1 137	
Russia	599	400	398	399	390				
Spain	114	125	82	100				+	
UK	90	13	29	76	243	276	219	202	
Total	23 466	27 142	23 428	22 669	23 802	21 498	25 424	23 213	
ICES estimate	22 092	26 650	22 606	22 195	23 402	21 947	25 425	23 132	

* Provisional data.

Summary of the assessment

Table 9 Greenland halibut in subareas 5, 6, 12, and 14. Assessment summary. Recruitment is in thousands, weights are in tonnes. "High" and "Low" values correspond to 95% confidence intervals.

Year	Recruitment (age 5)			Stock size			Catches	Fishing pressure (ages 9–14)		
	Low	R	High	Low	SSB	High		Low	F	High
1985	17377	21914	26441	95052	100426	122608	32078	0.109	0.131	0.142
1986	15628	19651	24698	90720	97165	118294	33010	0.114	0.136	0.152
1987	19986	25574	76249	85295	95447	115583	46514	0.169	0.20	0.23
1988	32069	64856	114824	73483	85410	105490	50355	0.20	0.25	0.28
1989	27	38365	69999	59484	69744	88531	60483	0.29	0.36	0.41
1990	13768	19151	26512	43992	51999	69298	38164	0.22	0.27	0.31
1991	22670	31964	57622	38227	44807	60999	36596	0.22	0.28	0.32
1992	44016	68051	96461	36019	41310	57282	35303	0.22	0.28	0.31
1993	22687	38215	50381	35785	40410	55972	40710	0.27	0.34	0.37
1994	12462	16696	21357	35326	39020	52747	36541	0.26	0.32	0.35
1995	13875	16175	22126	33054	36688	47840	37153	0.27	0.33	0.39
1996	23687	33707	78888	30669	35063	44341	37082	0.27	0.34	0.40
1997	37279	60454	72328	28106	33144	41668	29257	0.22	0.28	0.34
1998	14414	22322	32873	25851	31980	40745	20435	0.149	0.186	0.23
1999	10366	12719	17157	27333	34553	43212	21158	0.144	0.179	0.22
2000	10937	12782	16470	30570	38609	47593	27964	0.185	0.23	0.27
2001	14963	18277	24395	33215	41530	50663	29527	0.20	0.25	0.29
2002	24213	30677	35075	31846	39369	48592	29390	0.21	0.26	0.30
2003	33503	37515	43732	30308	37325	46227	33505	0.27	0.33	0.38
2004	28020	32440	39166	27251	33614	41865	31436	0.30	0.37	0.44
2005	21145	29542	42342	22620	28215	35528	24304	0.27	0.33	0.40
2006	25551	36876	43610	18908	24153	30306	21354	0.25	0.31	0.38
2007	31081	41076	55091	16981	22006	27853	20966	0.24	0.29	0.35
2008	28169	36514	44218	17698	22706	28556	29715	0.32	0.39	0.48
2009	31775	39284	49595	18041	23244	29174	34017	0.38	0.48	0.61
2010	35324	41946	48121	15774	21177	27094	25417	0.29	0.36	0.47
2011	32880	37365	41558	14693	20019	26026	24880	0.27	0.33	0.42
2012	23174	25980	28823	16056	21328	27303	27322	0.28	0.33	0.41
2013	18608	20229	21961	17966	23157	29040	26419	0.27	0.30	0.36
2014	16341	18906	23234	19906	25016	30418	20261	0.193	0.21	0.24
2015	19859	22236	25842	22148	27488	32116	24925	0.22	0.24	0.27
2016	23652	26170	29375	25370	31173	35109	25320	0.23	0.24	0.28
2017	23109	25973	29729	26375	32363	35898	22092	0.20	0.21	0.25
2018	23643	27622	33820	27565	33864	36957	26650	0.25	0.27	0.32
2019	22440	25750	29564	26748	33113	35993	22595	0.23	0.24	0.29
2020	25092	28930	33399	24506	30933	33746	22195	0.24	0.25	0.30
2021	22250	30121	37563	23168	30103	32869	22635	0.24	0.26	0.31
2022	19014	33967	45257	22105	29581	32524	21326	0.22	0.24	0.30
2023	20583	36367	50745	21738	29523	32999	25425	0.26	0.30	0.37
2024	22142	33347	47433	20145	28118	32655	23132	0.24	0.28	0.35
2025	20391	33344	49204	19302	27569	32961				

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