

## Tusk (*Brosme brosme*) in subareas 4 and 7–9, and in divisions 3.a, 5.b, 6.a, and 12.b (Northeast Atlantic)

### ICES advice on fishing opportunities

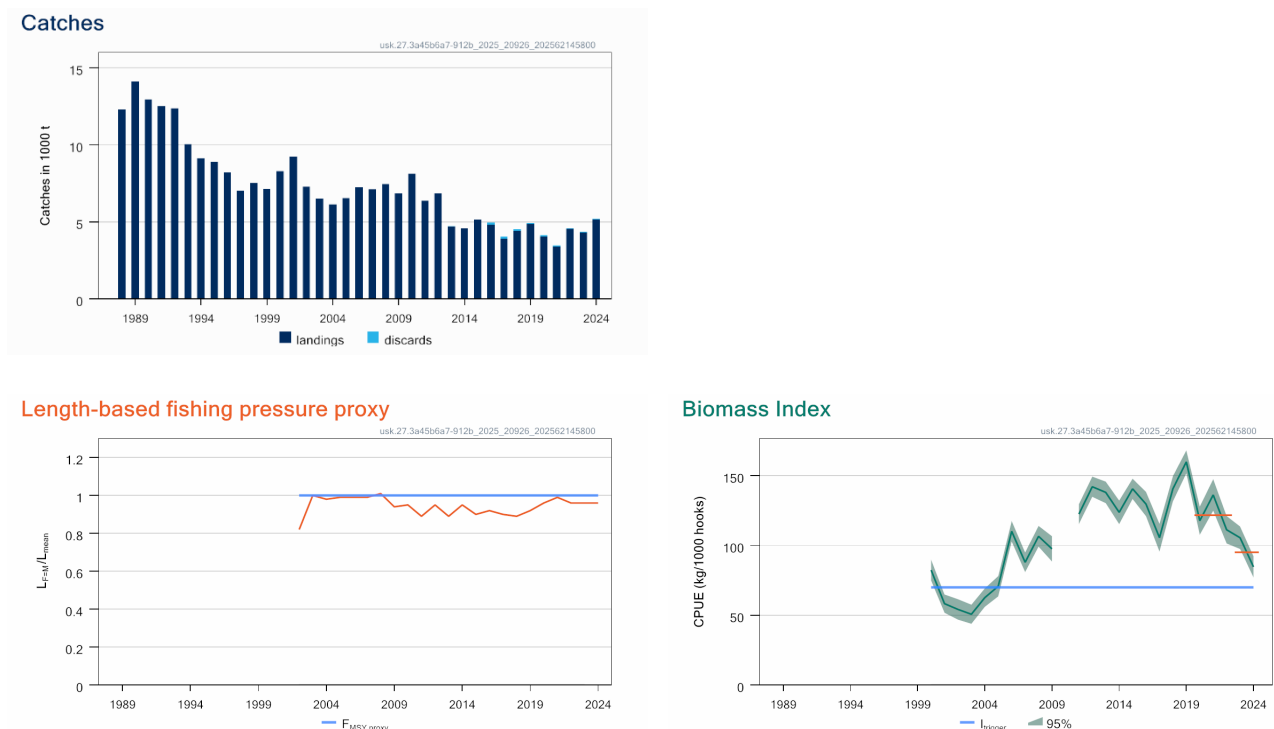
ICES advises that when the maximum sustainable yield (MSY) approach is applied, catches should be no more than 5 336 tonnes in each of the years 2026 and 2027.

### Non-fisheries conservation considerations

ICES has not identified any conservation aspects other than those related to the commercial fisheries.

### Stock development over time

Fishing pressure on the stock is below the  $F_{MSY}$  proxy, and the stock-size index is above  $I_{trigger}$ .



**Figure 1** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. Summary of the stock assessment. Landings and discards in thousand tonnes; discard data are only available from 2013 onwards. The proxy fishing pressure  $L_F = M/L_{mean}$  (inverse of the indicator ratio,  $f$ ) from the length-based indicator (LBI) method is used for the evaluation of the exploitation status. Standardized biomass index (CPUE; mean and 95% confidence interval) from the Norwegian longline reference fleet targeting Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b (kg per 1 000 hooks). The horizontal orange lines indicate the average of the biomass index for 2023 to 2024 and for 2020, 2021, and 2022.

### Catch scenarios

ICES framework for category 3 stocks was applied (rfb rule, method 2.1, ICES, 2025a). The standardized CPUE series from the Norwegian longline reference fleet targeting tusk operating in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b was

used as an indicator of stock development. The advice is based on the recent advised catches for 2025 multiplied by the ratio of the mean of the last two index values (index A) and the mean of the three preceding values (index B), a ratio of observed mean length in the catch relative to the target mean length, a biomass safeguard, and a precautionary multiplier. The stability clause was not applied, since the change from the previous advice was between +20% and –30%. The discard rate is calculated based on data for the period 2020–2024 was 1.28% and therefore not used in the assessment.

**Table 1** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. The basis for the catch scenarios\*.

Previous catch advice for $A_y$ (2025)	6 924 tonnes
Stock biomass trend	
Index A (2023, 2024)	95 kg/ 1 000 hooks
Index B (2020, 2021, 2022)	122 kg/ 1 000 hooks
r: index ratio (A/B)	0.78
Fishing pressure	
Mean catch length ( $L_{\text{mean}} = L_{2024}$ )	55.5 cm
Maximum sustainable yield (MSY) proxy length ( $L_F = M$ )	53.2 cm
Fishing pressure proxy ( $L_F = M_{2024}/L_{\text{mean}}$ )	0.96
f: multiplier for relative mean length in catches ( $L_{\text{mean}}/L_F = M$ )	1.04
Biomass safeguard	
Last index value ( $I_{2024}$ )	85 kg/ 1 000 hooks
Index trigger value ( $I_{\text{trigger}} = I_{\text{loss}} \times 1.4$ )	71 kg/1 000 hooks
b: multiplier for index relative to trigger $\min(I_{2024}/I_{\text{trigger}}, 1)$	1
Precautionary multiplier to maintain biomass above $B_{\text{lim}}$ with 95% probability	
m: multiplier (generic multiplier based on life history)	0.95
RFB calculation **	5 336 tonnes
Stability clause (+20%/–30% compared to $A_y$ , only applied if $b \geq 1$ )	Not applied
Discard rate	Considered negligible
Catch advice for each of the years 2026 and 2027**	5 336 tonnes
Projected landings corresponding to advice	ICES cannot estimate projected landings
% advice change^	–23 %

\* The figures in the table are rounded. Calculations were done with unrounded inputs, and computed values may not match exactly when calculated using the rounded figures in the table.

\*\* Formula  $[A_{y+1} = A_y \times r \times f \times b \times m]$ .

^ Advice value for 2024 and 2025 relative to the advice value for 2023 (6 924 tonnes).

The advice has decreased by 23% mainly because of a decrease in the biomass index.

## Basis of the advice

**Table 2** Tusk in subareas 4 and 7–9. and in divisions 3.a 5.b. 6.a. and 12.b. The basis of the advice.

Advice basis	Maximum sustainable yield (MSY) approach
Management plan	ICES is not aware of any agreed precautionary management plan for tusk in this area

## Quality of the assessment

The standardized CPUE series from the Norwegian longline fishery is considered robust, with consistent trends among the main areas of the fishery on this stock (Subarea 4 and divisions 5.b and 6.a).

## Issues relevant for the advice

This stock is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks. 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 (NEAFC, 2016).

## Reference points

**Table 3** Tusk in subareas 1 and 2. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
Maximum sustainable yield (MSY) approach	MSY Btrigger proxy	Not defined		
	F <sub>MSY proxy</sub>	$L_{\text{mean}}/L_{F=M} = 1^*$	Relative value from length-based indicator (LBI) analysis, assuming $M/K = 1.5$ . $L_{F=M}$ is based on $L_c$ (length at 50% of modal abundance).	ICES (2022)
Precautionary approach	B <sub>lim</sub>	Not defined		
	B <sub>PA</sub>	Not defined		
	F <sub>PA</sub>	Not relevant		
Management plan	SSB <sub>mgt</sub>	Not applicable		
	F <sub>mgt</sub>	Not applicable		

\* No reference points are defined for this stock in terms of absolute values. The LBI-estimated values of the ratio  $L_{\text{mean}}/L_{F=M}$  are used to estimate exploitation status relative to the proxy MSY reference point.

## Basis of the assessment

**Table 4** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a and 12.b. Basis of the assessment and advice.

ICES stock data category	3 ( <a href="#">ICES, 2023</a> )
Assessment type	Trends from a biomass index and length-based indicator (ICES, 2025b)
Input data	Total international commercial catches. Standardized CPUE data from the Norwegian longline reference fleet targeting tusk Subarea 4 and in divisions 5.b and 6.a (2000–2024) Growth parameters: $k = 0.17 \text{ years}^{-1}$ , $L_{\text{inf}} = 77.9 \text{ cm}$ . Length frequencies from Norwegian (2002–2024) and Faroese longliners (2021–2024; ICES, 2025b).
Discards and bycatch	Discards are estimated at 1.28% of the catch over the period 2020–2024. These discards are considered to be negligible.
Indicators	Length-based indicator
Other information	Faroese survey indices and CPUE
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources ( <a href="#">WGDEEP</a> )

## History of the advice, catch, and management

**Table 5** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. ICES advice, total allowable catches (TACs), and official landings. All weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	TAC EU Subarea 3	TAC EU Subarea 4 (EU waters)	TAC EU Subarea 4 (Norwegian waters)	TAC EU + Norway subareas 5, 6, and 7	TAC Norway divisions 2.a and 5.b; subareas 4, 6, and 7	ICES landings
2003	Reduce effort by 30%*	-	40	370	710	-	6 510	6 500
2004	Biennial*	-	40	370	710	-	6 140	6 125
2005	Effort should be reduced by 30% of 1998 effort*	-	40	317	604	-	6 700	6 553
2006	Biennial*	-	40	317	604	-	7 260	7 249
2007	Constrain catches to 5 000 t**	5 000	28	231	170	435	3 350	7 119
2008	Biennial**	5 000	28	231	170	435	3 350	7 466
2009	Constrain catches to 5 000 t	5 000	28	231	170		3 350	6 849
2010	Biennial	5 000	24	196	170	283	2 923	8 132
2011	Less than 6 900 t. and a reduction from recent levels catches should be considered	6 900	24	196	170	283	2 938	6 365
2012	No new advice. same as 2011	6 900	24	196	170	294	2 923	6 848
2013	No more than a 20% increase in catches	8 500	24	235	170	353	2 923	4 673
2014	No new advice (same as 2013)	8 500	29	235	170	535	2 923	4 585
2015	No new advice (same as 2013)	8 500	29	235	170	937	2 923	5 155
2016	Precautionary	8 415	29	235	170	937	2 923	4 820
2017	Biennial	8 415	29	235	170	937	2 923	3 916
2018	Precautionary approach	≤ 8 984	31	251	170	1 207	2 923	4 411
2019	Precautionary (same catch value as in 2018)	≤ 8 984	31	251	170	1 207	2 923	4 863
2020	Precautionary approach	≤ 8 627	31	251	170	1 207	2 923	4 065
2021	Precautionary approach (same catch value as in 2020)	≤ 8 627	-	251	75	4 294	***	3 408
2022	Precautionary approach	≤ 7 821		228	50	4 294	30 000^	4 550
2023	Precautionary approach (same catch value as in 2022)	≤ 7 821		228	50	4 294	30 000^	4332
2024	Maximum sustainable yield (MSY) approach	≤ 6 924		208	50	6 940	30 000^	5 160
2025	MSY approach, same as 2024	≤ 6 924		208	50	6 930	400	
2026	MSY approach	≤ 5 336						
2027	MSY approach, same as 2026	≤ 5 336						

\* Advice for tusk in the Northeast Atlantic.

\*\* Advice for this stock included the Mid-Atlantic Ridge and Division 6.b (Rockall).

\*\*\* TACs were not agreed.

^ Norwegian vessels can fish up to 30 000 tonnes of demersal fish in the UK zone Subarea 4. In 2025, Norway agreed with UK a quota of 400 tonnes for Tusk.

## History of the catch and landings

**Table 6** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. Catch distribution by fleet in 2024 as estimated by ICES. All weights are in tonnes.

Air weights are in tonnes:					
Catch (2024)	Landings				Discards
5 186	Longline 87%	Trawl 10%	Gillnet 1%	Others 2%	26
	5 160				

**Table 7** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. History of official commercial landings by area. All weights are in tonnes.

Year	ICES area										All areas
	Div. 3	Div. 4.a	Div. 4.b	Subdiv. 5.b.1	Subdiv. 5.b.2	Div. 6.a	Div. 7.a	Div. 7.b–c	Div. 7.g–k	Div. 8.a	
1988	61	4 429		4 059	1 606	2 120		17	5	1	12 298
1989	93	6 418	4	3 722	1 400	2 297	2	108	86		14 130
1990	60	4 254	5	5 202	979	2 256	4	155	33		12 948
1991	84	4 537	2	5 170	1 096	1 543	2	52	14		12 500
1992	85	4 932	12	4 399	992	1 682	3	218	47		12 370
1993	79	5 141	14	2 862	577	1 223		120	32		10 048
1994	51	3 375	7	3 407	909	1 262		94	31		9 136
1995	42	3 348	15	3 347	631	1 435	1	48	37		8 904
1996	44	3 369	33	2 728	582	1 391		58	29		8 234
1997	31	2 272	38	2 742	577	1 261	1	75	19		7 016
1998	21	3 387	66	2 073	637	1 281	1	33	10	1	7 510
1999	29	2 435	34	3 517	447	539		147	8	0	7 156
2000	36	3 260	116	2 367	333	2 011		164	13		8 300
2001	57	3 095	56	3 526	469	1 767	1	263	14		9 248
2002	50	2 961	71	2 722	281	1 124		66	5		7 280
2003	51	1 997	8	2 733	559	1 128		21	3		6 500
2004	45	1 666	23	3 536	107	726		21	1		6 125
2005	44	1 826	7	3 272	360	1 019		23	2		6 553
2006	29	2 159	32	3 560	317	1 059		90	3		7 249
2007	21	2 180	15	3 468	344	1 077		13	1		7 119
2008	46	2 139	71	3 798	61	1 347		4	0		7 466
2009	19	2 268	17	3 135	164	1 242		4	0		6 849
2010	21	1 861	15	4 889	127	1 216		3	0	4	8 136
2011	17	1 623	96	3 287	0	1 337		5	0	0	6 365
2012	20	1 749	47	3 793	0	1 174		63	2		6 848
2013	22	1 510	31	1 500	12	1 594		4	0		4 673
2014	9	1 463	11	2 310	129	662		1			4 585
2015	9	1 530	18	2 081	324	1 193		0			5 155
2016	14	1 650	9	2 261	42	844		0			4 820
2017	10	1 206	18	2 035	135	511		1			3 916
2018	8	1 439	17	1 983	21	940		3			4 411
2019	8	1 247	34	1 960	684	927		3			4 863
2020	13	1 024	9	2 462	191	359		5	1	1	4 065
2021	14	450	11	2 001	542	382		7	1	0	3 408
2022	17	1 212	3	2 401	399	505		13	0	0	4 550
2023	8	1 191	3	1 996	485	645		4	0	0	4 332
2024	7	1 327	15	3 128	361	316		6	0	0	5 160

There are no reported catches in the NEAFC regulatory areas (RAs).

**Table 8** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. Catches inside and outside the NEAFC regulatory area (RAs) as estimated by ICES.

Year	Inside the NEAFC RAs (tonnes)	Outside the NEAFC RAs (tonnes)	Total catch (tonnes)	Proportion inside the NEAFC RAs (tonnes)
2022	0	4550	4550	0
2023	0	4332	4332	0
2024	0	5160	5160	0

### Summary of the assessment

**Table 9** Tusk in subareas 4 and 7–9 and in divisions 3.a, 5.b, 6.a, and 12.b. Assessment summary. The standardized biomass index from the Norwegian longline reference fleet (kg per 1 000 hooks; data not representative in 2010), landings, and discards. All weights are in tonnes. “High” and “Low” refer to the 95% confidence bounds.

Year	Biomass index			Fishing pressure proxy ( $L_F = M/L_{mean}$ )	ICES estimated landings	ICES estimated discards
	Low	Value	High			
1988					12298	
1989					14130	
1990					12948	
1991					12500	
1992					12370	
1993					10048	
1994					9136	
1995					8904	
1996					8234	
1997					7016	
1998					7510	
1999					7156	
2000	74.93	82.44	89.96		8300	
2001	51.77	58.34	64.92		9248	
2002	46.85	54.20	61.55	0.82	7280	
2003	43.84	50.74	57.64	1.00	6500	
2004	56.03	62.66	69.29	0.98	6125	
2005	63.51	70.84	78.17	0.99	6553	
2006	102.83	110.25	117.67	0.99	7249	
2007	80.91	87.98	95.05	0.99	7119	
2008	99.15	106.62	114.09	1.01	7466	
2009	88.49	97.59	106.69	0.94	6849	
2010				0.95	8136	
2011	115.35	122.51	129.66	0.89	6361	
2012	134.91	142.16	149.42	0.95	6848	
2013	130.34	138.09	145.85	0.89	4673	52
2014	115.32	123.80	132.27	0.95	4585	0
2015	133.32	140.63	147.94	0.90	5155	18
2016	120.93	129.70	138.47	0.92	4820	153
2017	95.60	105.59	115.58	0.90	3916	143
2018	131.60	140.71	149.82	0.89	4411	96
2019	151.69	159.99	168.28	0.92	4863	73
2020	107.62	117.78	127.94	0.96	4065	69
2021	124.95	136.30	147.65	0.99	3408	76
2022	101.43	111.30	121.17	0.96	4550	54
2023	97.48	105.58	113.67	0.96	4332	33
2024	77.04	84.68	92.32	0.96	5160	26

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### [Download the stock assessment data and figures](#)

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