Ling (*Molva molva*) in Division 5.b (Faroes grounds)

ICES stock advice

ICES advises that when the MSY approach and precautionary considerations are applied, there should be zero catch in 2025.

ICES 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 above F_{MSY} but below F_{pa} and F_{lim}; spawning-stock size is below B_{lim}.

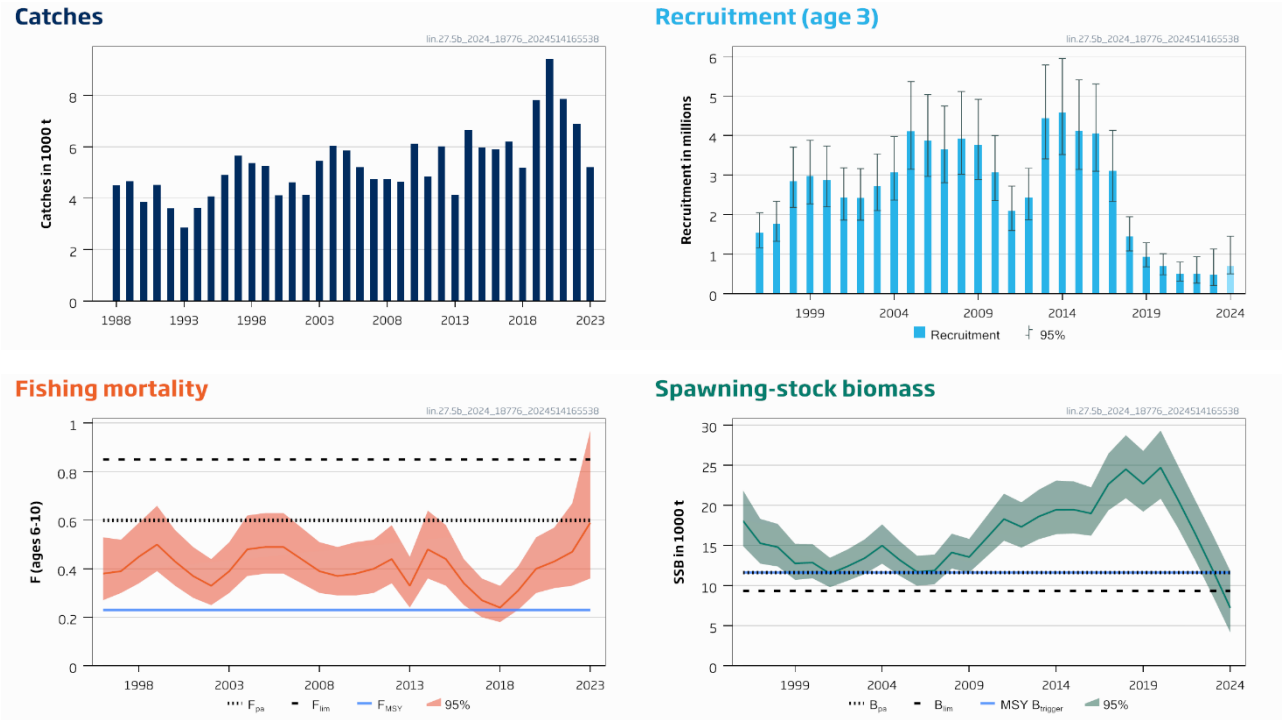

Figure 1 Ling in Division 5.b. Summary of the stock assessment with plots showing 95% confidence intervals. Catches, recruitment (age 3), fishing mortality (F), and spawning-stock biomass (SSB). The assumed recruitment value for 2024 is shaded in a lighter colour.

Catch scenarios

Table 1 Ling in Division 5.b. Values in the forecast and for the interim year.

Variable	Value	Notes
$F_{ages\ 6–10}$ (2024)	0.59	$F_{sq} = F_{2024}$
SSB (2025)	4 738	Short-term forecast fishing at F_{sq}; tonnes
$R_{age\ 3}$ (2024 and 2025)	700	Median recruitment, resampled from the years 2018–2022; thousands
Discards (2024)	0	Discarding is assumed to be negligible
Total catch (2024)	3 321	Short-term forecast using an F_{2023}; tonnes

Table 2 Ling in Division 5.b. Annual catch scenarios. Weights are in tonnes.

Basis	Total catch (2025)	F_{total} (2025)	SSB (2026)	% SSB change*	% advice change**	Probability SSB < B_{lim} in 2026 ^
ICES advice basis						
F = 0	0	0	5 906	25	0	0.934
Other scenarios						
MSY approach: F_{MSY}*SSB_{2024}/MSY $B_{trigger}$	584	0.127	5 198	9.7	NA	0.971
F_{MSY}	1 005	0.23	4 734	0	NA	0.981
F_{pa} = F_{p05}	2 195	0.6	3 446	−27	NA	0.997
Flim	2 784	0.85	2 808	−41	NA	1.000
F = F_{2022}	2 180	0.59	3 464	− 27	NA	0.997

* SSB_{2026} relative to SSB_{2025}.
** The advice value for 2025 relative to advice value for 2024 (0 tonnes).
^ The probability of SSB being below B_{lim} in 2026. This probability relates to the short-term probability of SSB < B_{lim} and is not comparable to the long-term probability of SSB < B_{lim} tested in simulations when estimating fishing mortality reference points.

There are no scenarios in which fishing can occur that allow the SSB in 2026 to be above B_{lim} with a greater than 50% probability. In these situations, the ICES MSY approach gives zero catch advice.

Basis of the advice

Table 3 Ling in Division 5.b. The basis of the advice.

Advice basis	MSY approach
Management plan	ICES is not aware of any agreed precautionary management plan for ling in this area

Quality of the assessment

The results of the current assessment are consistent with the previous assessment.

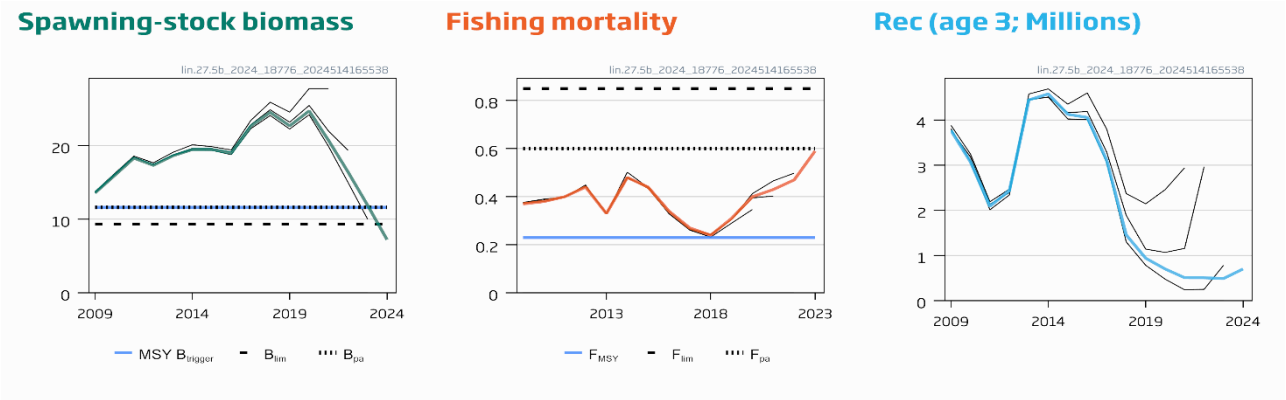

Figure 2 Ling in Division 5.b. Historical assessment results (final-year recruitment and biomass assumptions are included for each line).

Issues relevant for the advice

The Faroese fishery for ling in Division 5.b is managed by effort. ICES is not able to provide direct effort advice because the relationship between catch and fishing effort in the commercial fisheries is unknown.

The catch in 2019–2023 has exceeded the advised catch. This has resulted in an F well above F_{MSY}.

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 Ling in Division 5.b. Reference points, values, and their technical basis. Weights are in tonnes.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$	11 627	B_{pa}	ICES (2021)
	F_{MSY}	0.23	Stochastic simulations (EqSim) with segmented regression fixed at B_{lim}	ICES (2021)
Precautionary approach	B_{lim}	9 340	$B_{lim} = B_{pa}/\exp(\sigma \times SSB \times 1.645)$, $\sigma = 0.13$	ICES (2021)
	B_{pa}	11 627	$B_{pa} = B_{loss}$ lowest observed SSB (2001) from benchmark assessment	ICES (2021)
	F_{lim}	0.85	The F that on average leads to B_{lim} from EqSim	ICES (2021)
	F_{pa}	0.60	The F that leads to SSB ≥ B_{lim} with 95% probability	ICES (2021)

Basis of the assessment

Table 5 Ling in Division 5.b. Basis of assessment and advice.

ICES stock data category	1 (ICES, 2023)
Assessment type	Age-based analytical assessment (SAM model) (Nielsen and Berg, 2014) that uses catches in the model and in the forecast (ICES, 2024)
Input data	Commercial catches (mainly Faroese catches, ages and length frequencies from catch sampling); survey indices from the Faroese groundfish spring survey (G1264) and the Faroese groundfish summer survey (G3284); time invariant maturity ogive; natural mortalities set at 0.15 (ICES, 2023a)
Discards and bycatch	Discarding is considered negligible
Indicators	None
Other information	Benchmarked in 2021 (ICES, 2021)
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)

History of the advice, catch, and management

Table 6 Ling in Division 5.b. ICES advice, TACs (the Faroese fisheries in Division 5.b are managed using days-at-sea), and official landings. Weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	TAC EU/UK Subarea 5 (UK and international waters)#	TAC EU Division 5.b (Faroese waters)**	TAC UK Division 5.b (Faroese waters)**	TAC Norway Division 5.b (Faroese waters)**	ICES landings
2003	30% reduction on fishing effort***		54	3 600			5 453
2004	Biennial***		54	3 600		2 200	6 039
2005	No increase in effort		48	3 600		2 200	5 849
2006	Biennial			3 065		2 457	5 213
2007	No increase in effort	-	34	3 065		2 406	4 731
2008	Biennial	-	34	3 065		2 525	4 747
2009	No increase in effort	-	34	3 065		2 525	4 643
2010	Biennial	-	34	2 700		2 425	6 129
2011	No increase in effort and a reduction in catches should be considered	-	33	0		-	4 843
2012	No new advice, same as 2011	-	33	0		-	6 011
2013	20% decrease in effort	-	33	0		-	4 133
2014	No new advice, same as 2013	-	33	-		1 250	6 655
2015	Same effort advised as for 2013	-	33	-		1 900	5 974
2016	Adjust effort corresponding to catch advice	6 730	33	2 000		2 000	5 890
2017	Biennial	6 730	33	2 000		2 000	6 195

Year	ICES advice	Catch corresponding to advice	TAC EU/UK Subarea 5 (UK and international waters)#	TAC EU Division 5.b (Faroese waters)**	TAC UK Division 5.b (Faroese waters)**	TAC Norway Division 5.b (Faroese waters)**	ICES landings
2018	Adjust effort corresponding to catch advice	≤ 5 196	33	1 885		2 200	5 185
2019	Biennial	≤ 5 196	33	1 885		2 300	7 816
2020	Adjust effort corresponding to catch advice	≤ 4 157	33	1 885		2 500	9 427
2021	Biennial	≤ 4 157	32^	0		2 500	7 869
2022	MSY approach	≤ 5 636	32^	0	225	3 000	6 843
2023	MSY approach	≤ 3 552	32^	0	225	3 000	5 200*
2024	MSY approach, zero catch	0	5^			2 600	
2025	MSY approach, zero catch	0					

* Preliminary value.
** Combined TAC for ling and blue ling.
*** Advice for ling in the Northeast Atlantic.
^ UK 6 tonnes + EU 26 tonnes. For 2024: UK 1 tonnes + EU 4 tonnes.
# Prior to 2021, this TAC was for the EU in Subarea 5 (EU and international waters).

History of the catch and landings

There are no reported catches in the NEAFC regulatory areas.

Table 7 Ling in Division 5.b. Catch distribution by fleet in 2023 as estimated by ICES.

Catch (2023)	Landings		Discards
5 200 tonnes	Bottom trawl 31%	Longline 69%	Negligible (< 1t)
	5 199 tonnes		

Table 8 Ling in Division 5.b. History of ICES estimated commercial catch presented by area for each country. Weights are in tonnes.

Year	Subdivision 5.b.1									Subdivision 5.b.2					Division 5.b
	Denmark ***	Faroes	France	Germany	Norway	UK (E&W) **	UK (Scotland) **	Russian Federation	Total 5.b.1	Faroes	France	Norway	UK (Scotland)	Total 5.b.2	Total 5.b
1988	42	1383	53	4	884	1	5		2372	832		1284		2116	4488
1989		1498	44	2	1415		3		2962	362		1328		1690	4652
1990		1575	36	1	1441		9		3062	162		633		795	3857
1991		1828	37	2	1594		4		3465	492		555		1047	4512
1992		1218	3		1153	15	11		2400	577		637		1214	3614
1993		1242	5	1	921	62	11		2242	282		332		614	2856
1994		1541	6	13	1047	30	20		2657	479		486		965	3622
1995		2789	4	13	446	2	32		3286	281		503		784	4070
1996		2672			1284	12	28		3996	102		798		900	4896
1997		3224	7		1428	34	40		4733	526		398		924	5657
1998		2422	6		1452	4	145		4029	511		819		1330	5359
1999		2446	17	3	2034		71		4571	164	4	498		666	5238
2000		2103	7	1	1305	2	61		3479	229	1	399		629	4109
2001		2069	14	3	1496	5	99		3686	420	6	497		923	4609
2002		1638	6	2	1640	3	239		3528	150	4	457		611	4139
2003		2139	12	2	1526	3	215		3897	624	4	927		1555	5453
2004		2733	15	1	1799	3	178	2	4731	1058	3	247		1308	6039
2005		2886	3		1553	3	175		4620	575	7	647		1229	5849
2006	3	3563	6		850		136		4558	472	6	177		655	5213
2007	2	3004	9		1071		6		4092	327	4	309		640	4731
2008		3354	4		740	32	25	11	4166	458	3	120		580	4747
2009	13	3471	2		419		270		4174	270	1	198		469	4643
2010	28	4906	2		442		121		5500	393	1	236		630	6129
2011	49	4270	2						4321	522	< 1			522	4843
2012	117	5452	7						5576	434	1			435	6011
2013	3	3734	7						3745	387	1			388	4133
2014		5653	10		308		0	13	5983	276		389	7	672	6655
2015		4375	16		993	1	0	6	5391	244	1	337	3	585	5976

Year	Subdivision 5.b.1									Subdivision 5.b.2					Division 5.b
	Denmark ***	Faroes	France	Germany	Norway	UK (E&W) **	UK (Scotland) **	Russian Federation	Total 5.b.1	Faroes	France	Norway	UK (Scotland)	Total 5.b.2	Total 5.b
2016		4214	8		855	< 1	103		5180	569	4	126	11	710	5890
2017		4371	4		864		54		5294	359		542		901	6195
2018		3836	2		793		42		4673	428		78	6	512	5185
2019		4861	25		1983		27		6895	338		580	2	920	7816
2020		5642	16		2537		83		8277	1015		128	6	1149	9427
2021		5074	11		1444		0		6529	1268		72		1340	7869
2022		4503	3		895		113		5513	1200		89	40	1330	6843
2023*		3631	6		323		97		4058	545		553	44	1142	5200

* Preliminary.
** Includes Subdivision 5.b.2 until 2014.
*** Includes Greenland.

Summary of the assessment

Table 9 Ling in Division 5.b. Assessment summary. High and Low indicate 95% confidence intervals.

Year	Recruitment (Age 3)			Spawning-stock biomass			Catch	Fishing mortality (Ages 6-10)		
	Low	$R_{age\ 3}$	High	Low	SSB	High		Low	$F_{ages\ 6–10}$	High
	thousands			tonnes			tonnes			
1988							4488			
1989							4652			
1990							3857			
1991							4512			
1992							3614			
1993							2856			
1994							3622			
1995							4070			
1996	1165	1544	2048	14950	18105	21925	4896	0.27	0.38	0.53
1997	1328	1762	2338	12737	15284	18340	5657	0.30	0.39	0.52
1998	2183	2845	3708	12389	14810	17704	5359	0.34	0.45	0.59
1999	2273	2971	3882	10715	12776	15234	5238	0.39	0.50	0.66
2000	2199	2865	3733	10913	12877	15195	4109	0.33	0.43	0.56
2001	1864	2436	3185	9799	11495	13483	4609	0.28	0.37	0.49
2002	1861	2426	3164	10590	12397	14512	4139	0.25	0.33	0.44
2003	2104	2727	3535	11435	13435	15785	5453	0.30	0.39	0.51
2004	2370	3070	3976	12736	14993	17651	6039	0.37	0.48	0.62
2005	3150	4111	5366	11234	13221	15560	5849	0.38	0.49	0.63
2006	2969	3867	5036	9987	11721	13757	5213	0.38	0.49	0.63
2007	2809	3652	4748	10157	11868	13867	4731	0.34	0.44	0.57
2008	3021	3930	5113	12123	14137	16486	4747	0.30	0.39	0.51
2009	2887	3768	4917	11623	13568	15838	4643	0.29	0.37	0.49
2010	2357	3071	4001	13604	15928	18650	6129	0.29	0.38	0.51
2011	1600	2088	2724	15600	18304	21477	4843	0.30	0.40	0.52
2012	1872	2437	3173	14729	17333	20396	6011	0.34	0.44	0.58
2013	3413	4443	5785	15786	18624	21973	4133	0.24	0.33	0.45
2014	3520	4577	5950	16406	19473	23114	6655	0.36	0.48	0.64
2015	3145	4125	5410	16498	19482	23006	5976	0.33	0.44	0.58
2016	3100	4055	5304	16216	19002	22268	5890	0.25	0.34	0.44
2017	2333	3105	4132	19381	22651	26474	6195	0.20	0.27	0.36
2018	1085	1455	1950	20894	24518	28771	5185	0.18	0.24	0.33
2019	683	939	1291	19216	22697	26808	7816	0.23	0.31	0.41
2020	482	700	1015	20830	24727	29353	9427	0.30	0.40	0.53
2021	320	507	805	17164	20702	24969	7869	0.32	0.43	0.57
2022	271	505	941	13071	16417	20620	6885	0.33	0.47	0.67
2023	211	489	1133	8679	11905	16331	5200*	0.36	0.59	0.97
2024	505**	700**	1455**	4145	7224	11846				

* Preliminary.
** Resampled from the years 2018–2022.

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Download the stock assessment data and figures

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