

Blue ling (*Molva dypterygia*) in subareas 6–7 and Division 5.b (Celtic Seas and Faroes grounds)

ICES stock advice

ICES advises that when the MSY approach is applied, catches should be no more than 10 952 tonnes in 2023 and no more than 10 972 tonnes in 2024.

Stock development over time

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

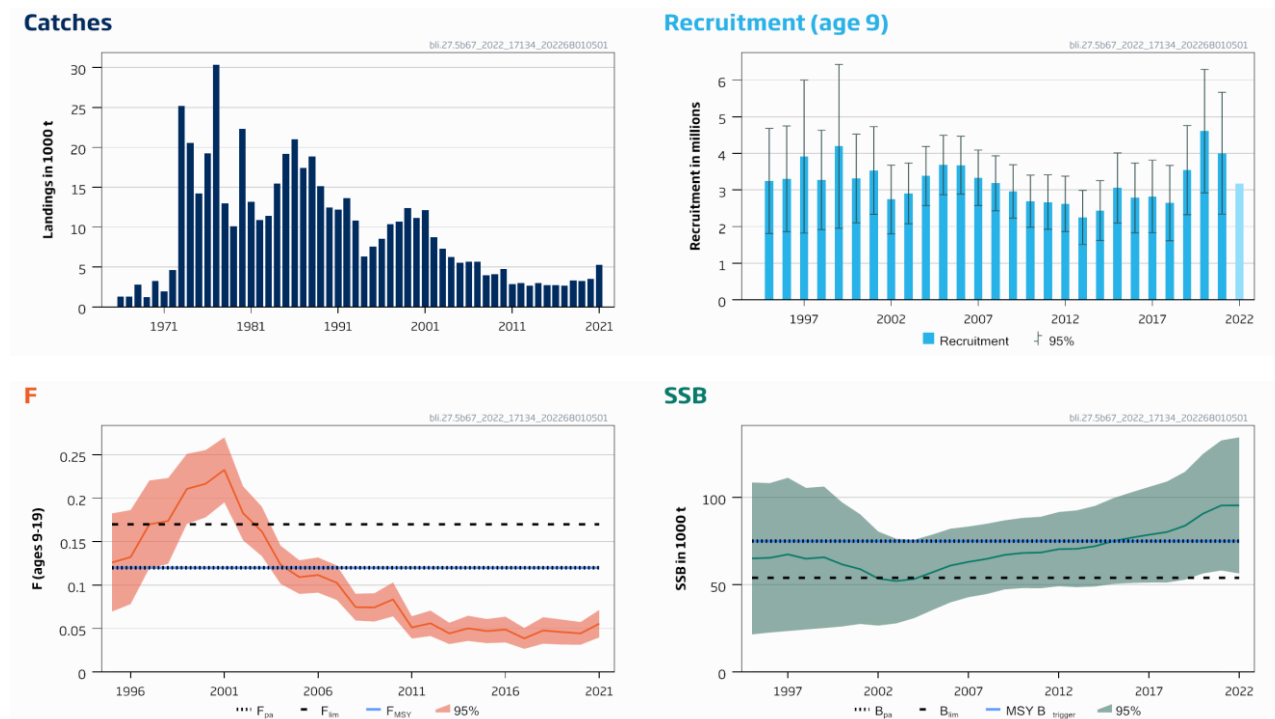


Figure 1 Blue ling in subareas 6–7 and Division 5.b. Summary of the stock assessment (weights in thousand tonnes and recruitment in millions). The assumed recruitment value for 2022 is shaded in a lighter colour.

Catch scenarios

Table 1 Blue ling in subareas 6–7 and Division 5.b. Assumptions made for the interim year and in the first forecast year.

Variable	Value	Notes
$F_{ages\ 9-19}$ (2022)	0.056	$F = F_{sq} = F_{2021}$
$F_{ages\ 9-19}$ (2023)	0.056	F_{sq} , applied to 2023 for forecasting 2024
Age 9 (2022 and 2023)	3 168 000	Geometric mean of model estimates 1995–2021; in numbers
SSB (2023)	95 770	SSB when fishing at F_{sq} in 2022; in tonnes
Total catch (2022)	5 224	Catches corresponding to F_{sq} ; in tonnes
Discards (2023 and 2024)	0	Negligible discards in 2009–2021

Table 2a Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2023. All weights are in tonnes.

Rationale	Catch (2023)	F (2023)	SSB (2024)	% SSB change*	% advice change^
ICES advice basis					
MSY approach ($F = F_{MSY}$)	10 952	0.12	90 298	–5.7	1
Other scenarios					
F_{pa}	10 952	0.12	90 298	–5.7	1
$F_{2021} = 0$	0	0	106 655	5.6	–100
$F_{2021} = F_{lim}$	15 161	0.17	86 136	–10.1	40
$SSB (2024) = B_{pa} = MSY B_{trigger}$	26 411	0.32	75 037	–21.6	144
$SSB (2024) = B_{lim}$	48 895	0.67	54 000	–43.6	351
$F_{2023} = F_{sq} = F_{2021}$	5 237	0.056	95 958	0.2	–52

* SSB in 2024 (1 January) in relation to SSB in 2023.

^ Advice value for 2023 relative to the advice value for 2022 (10 831 t).

Table 2b Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2024 with $F_{2023} = F_{sq} = F_{2021}$. All weights are in tonnes.

Rationale	Catch (2024)	F (2024)	SSB (2025)	% SSB change*	% advice change^
ICES advice basis					
MSY approach ($F_{2024} = F_{MSY}$)	10 972	0.12	90 530	–5.7	0.2
Other scenarios					
F_{pa}	10 972	0.12	90 530	–5.7	0.2
$F_{2024} = 0$	0	0	101 413	5.7	–100
$F_{2024} = F_{lim}$	15 189	0.17	86 357	–10	39
$SSB (2025) = B_{pa} = MSY B_{trigger}$	26 675	0.32	75 037	–22	144
$SSB (2025) = B_{lim}$	48 137	0.67	54 000	–44	340
$F_{2024} = F_{sq} = F_{2021}$	5 246	0.056	96 206	0.3	–52

* SSB in 2025 (1 January) in relation to SSB in 2024 (95 958 tonnes assuming F_{sq} in 2023).

^ Advice value for 2024 relative to advice value for 2023 (10 952 t).

The advice for 2023 and 2024 is similar to the advice for 2021 and 2022.

Basis of the advice

Table 3 Blue ling in subareas 6–7 and 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 blue ling in this area

Quality of the assessment

Estimated fishing mortality and biomass are more uncertain compared to previous assessments because of less sampling in recent years. If high longline landings continue, they should be sampled to avoid bias.

There has been a tendency of the assessment to overestimate SSB and underestimate fishing mortality.

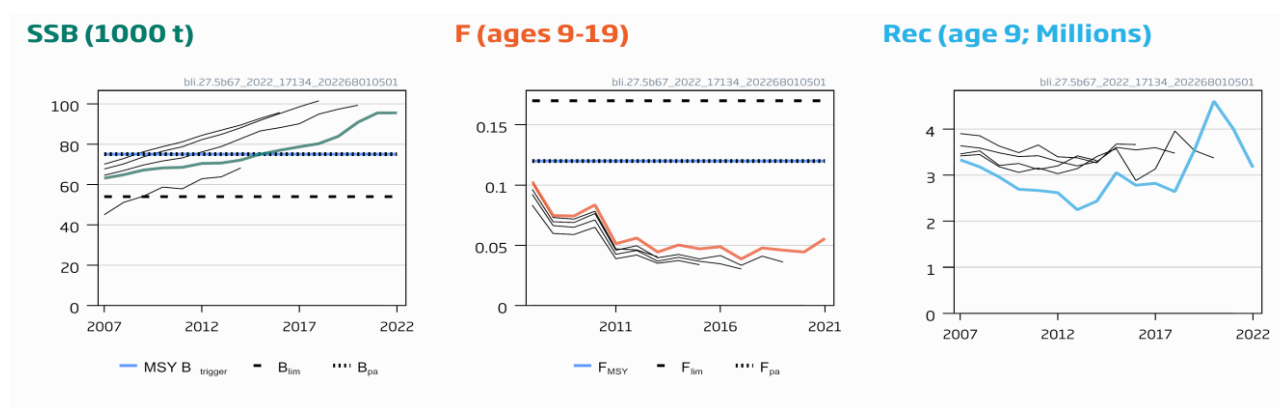


Figure 2 Blue ling in subareas 6–7 and Division 5.b. Historical assessment results.

Issues relevant for the advice

In EU waters, catches lower than the TACs in 2015–2021 are considered to reflect a low level of fishing activity. Protection of spawning areas restricts catch opportunities at times when blue ling has a higher catchability. Higher catches in 2021 likely resulted from increased recruitment and increased activities of longline fisheries, which landed about three times as much blue ling as in 2020 (Table 7).

This stock is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks (NEAFC, 2016), which 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 Blue ling in subareas 6–7 and Division 5.b. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	F_{MSY}	0.12	F_{MSY} and F intervals estimated without the advice rule (AR)	ICES (2014)
	MSY $B_{trigger}$	75 037 t	Set equal to B_{pa}	
Precautionary approach	B_{lim}	54 000 t	Set as B_{loss}	
	B_{pa}	75 037 t	$B_{lim} \times e^{1.645\sigma}$, $\sigma = 0.20$	
	F_{lim}	0.17	Based on simulated SSB to B_{lim}	
	F_{pa}	0.12	$F_{lim} \times \exp(-1.645 \times \sigma)$; $\sigma = 0.2$	
Management plan	SSB _{mgt}	Not defined		
	F_{mgt}	Not defined		

Basis of the assessment

Table 5 Blue ling in subareas 6–7 and Division 5.b. The basis of the assessment.

ICES stock data category	1 (ICES, 2022a).
Assessment type	Multi-Year Catch Curves (MYCC), a model fitted to age composition and total catch in order to estimate annual total mortality ([Z] ICES, 2022b)
Input data	International landings 1995–2021; age-at-length from French sampling (2009–2021)
Discards and bycatch	Not included; discarding is considered negligible
Indicators	None
Other information	Last benchmarked in 2014 (ICES, 2014)
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)

History of the advice, catch, and management

Table 6 Blue ling in subareas 6–7 and Division 5.b. History of TACs and quotas, and ICES advice and landings. Weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	EU quota in 5.b (Faroese waters)*	EU TAC in subareas 6 and 7**	Faroese quota in subareas 6 and 7	Norwegian quota in 2.a, 4, 5.b, 6, and 7	ICES landings in 5.b, 6, and 7
2003	No direct fisheries [^]	-	3240	3678	940	-	7275
2004	Biennial [^]	-	3240	3678	900	-	6222
2005	No direct fisheries [^]	-	3240	3137	900	200	5481
2006	Biennial [^]	-	3065	3137	400	200	5650
2007	No direct fisheries	-	3065	2510	200	160	5648
2008	Biennial	-	3065	2009	200	150	3940
2009	No direct fisheries	-	3065	2009	150	150	4121
2010	Biennial	-	2700	1732	150	150	4759
2011	No direct fishery and effort to limit bycatch. A reduction in catches should be considered.	-	0	1717	0	150	2861
2012	No new advice, same as 2011		0	1882	0	150	3016
2013	Average catch 2008 to 2011	3900	0	2540	0	150	2675
2014	No new advice, same as 2013	3900	1500	2540	***	***	2963
2015	MSY approach	< 5046	1500	5046	***	***	2748
2016	No new advice, same as 2015	< 5046	2100	5046	***	***	2734
2017	MSY approach	≤ 11314	2000	11314	***	***	2673
2018	MSY approach	≤ 10763	2000	10763	***	***	3310
2019	MSY approach	≤ 11778	1885	11778	***	***	3268
2020	MSY approach	≤ 11150	1885	11150	***	***	3478
2021	MSY approach	≤ 11470	0	11522	***	***	5285
2022	MSY approach	≤ 10831	0	10859	***	***	
2023	MSY approach	≤ 10952					
2024	MSY approach	≤ 10362					

* Quota of ling and blue ling combined.

** From 2011, TAC in EU waters and international waters of Division 5.b and subareas 6 and 7.

*** Included in EU TAC.

[^] Advice for blue ling in the Northeast Atlantic (not split by different assessment units).

History of catch and landings

Table 7 Blue ling in subareas 6–7 and Division 5.b. Official catch distribution by fleet in 2021.

Total catch (2021)	Landings		Discards
5285 t	20% longline	80% bottom trawl	Negligible
	5285 t		

Table 8 Blue ling in subareas 6–7 and Division 5.b. History of commercial catch as estimated by ICES.
All weights are in tonnes.

Year	Faroe Islands	France	Germany	Norway	UK (E & W)	UK (Scot)	Ireland	Russia	Lithuania	Poland	Iceland	Estonia	Spain	Total
1966	0	839	0	450	0	0	0	0	0					1289
1967	0	0	1043	273	0	0	0	0	0					1316
1968	0	0	1838	949	0	0	0	0	0					2787
1969	0	0	309	910	0	0	0	0	0					1219
1970	0	0	348	2894	0	0	0	0	0					3242
1971	0	0	1367	572	0	0	0	0	0					1939
1972	0	696	2730	1217	0	0	0	0	0					4643
1973	51	18080	3009	4028	4	0	0	0	0					25172
1974	76	15390	3026	1916	167	0	0	0	0					20575
1975	19	7147	4469	2549	9	0	0	0	0	0	0	0		14193
1976	61	15937	1714	1535	1	0	0	0	0	0	0	0		19248
1977	29	14953	1340	967	560	0	0	12500	0	0	0	0		30349
1978	433	8922	3242	347	56	0	0	0	0	0	0	0		13000
1979	1090	6399	1871	448	279	0	0	0	0	0	0	0		10087
1980	1223	8378	12204	481	0	1	0	0	0	0	0	0		22287
1981	1529	4243	7146	276	0	1	0	0	0	0	0	0		13195
1982	2889	4536	3171	216	99	1	0	0	0	0	0	0		10912
1983	4396	6144	271	606	13	2	0	0	0	0	0	0		11432
1984	7343	7449	397	243	5	0	0	0	0	0	0	0		15437
1985	4501	14126	253	323	2	0	0	0	0	0	0	0		19205
1986	6756	13760	243	248	9	2	0	0	0	0	0	0		21018
1987	3920	12645	553	298	4	10	0	0	0	0	0	0		17430
1988	8289	10201	89	237	11	15	0	0	0	0	0	0	0	18842
1989	4388	9952	75	685	0	16	0	0	0	0	0	0	0	15116
1990	1374	10113	115	822	0	3	0	0	0	0	0	0	0	12427
1991	1763	9871	60	412	7	72	0	0	0	0	0	0	0	12185
1992	3858	8895	27	828	6	45	0	0	0	0	0	0	0	13659
1993	2321	7631	181	319	114	220	3	0	0	0	0	0	0	10789
1994	1309	3897	131	313	13	143	74	0	0	0	0	0	437	6317
1995	1769	4121	191	182	92	796	14	0	0	0	0	0	405	7570
1996	1142	4693	99	202	103	1590	0	0	0	0	0	0	702	8531
1997	1145	6219	8	150	1035	1609	10	0	0	0	1	0	190	10367
1998	1166	6867	6	88	485	1762	22	0	0	0	122	0	164	10682
1999	1949	5567	6	152	345	3558	41	0	0	0	610		178	12406
2000	1677	5724	97	491	588	2320	89	1	0	0		0	173	11160
2001	1643	3601	13	577	493	4019	819	0	16	0		85	861	12127
2002	1082	3140	4	629	242	2719	579	3	28	0	0	0	327	8753
2003	2472	3680	1	304	26	677	30	2	29	4	0	5	45	7275
2004	1475	3933	1	52	15	647	20	18	38	1	0	3	19	6222
2005	1655	3072	0	122	11	538	13	15	1	0	0	0	113	5540
2006	1939	2976	0	106	10	478	5	16	2	0	0	0	118	5650
2007	1880	3213	0	253	17	160	2	37	1	0	0	0	85	5648
2008	975	2501	0	110	2	212	0	122	2	0	0	0	16	3940
2009	978	2547	0	83	0	346	0	1	0	0	0	0	166	4121
2010	1539	2453	0	160	0	360	0	0	0	0	0	0	247	4759

Year	Faroe Islands	France	Germany	Norway	UK (E & W)	UK (Scot)	Ireland	Russia	Lithuania	Poland	Iceland	Estonia	Spain	Total
2011	1167	1480	0	104	0	74	0	0	0	0	0	0	36	2861
2012	1015	1609	0	102	0	47	0	5	0	0	0	0	238	3016
2013	575	1715	0	132	0	205	0	3	0	0	0	0	45	2675
2014	880	1741	0	53	3	285	0	0	0	0	0	0	1	2963
2015	703	1119	0	366	11	372	0	0	0	0	0	0	177	2748
2016	1113	1086	0	111	0	281	1	0	0	0	0	0	142	2734
2017	854	1044	1	60	1	644	0	0	0	0	0	0	65	2673
2018	969	1290	0	237	0	736	0	0	0	0	0	0	78	3310
2019	638	1624	0	155	0	719	0	0	0	0	0	0	132	3268
2020	799	1569	0	121	0	715	0	0	0	0	0	0	274	3478
2021	848	1955	0	300	0	1807	0	0	0	0	0	0	375	5285

Table 9 Blue ling in subareas 6–7 and Division 5.b. Landings inside and outside the NEAFC Regulatory Area (RA) as estimated by ICES as well as official landings. Weights are in tonnes.

Year	Inside the NEAFC RA	Outside the NEAFC RA	Total landings	Proportion inside the NEAFC RA (%)
2014	1	2962	2963	0.03
2015	33	2715	2748	1.20
2016	18	2716	2734	0.66
2017	20	2653	2673	0.75
2018	6	3304	3310	0.18
2019	5	3263	3268	0.15
2020	0	3478	3478	0
2021	0	5285	5285	0

Summary of the assessment

Table 10 Blue ling in subareas 6–7 and Division 5.b. Assessment summary. Weights are in tonnes, recruitment in thousands. 'High' and 'Low' indicate 95% confidence intervals.

Year	Recruitment			Stock size: SSB			Landings	Fishing pressure: F		
	Age 9	High	Low	SSB	High	Low		Ages 9–18	High	Low
	thousands			tonnes			tonnes			
1995	3247	4683	1811	65099	108649	21549	7570	0.126	0.183	0.069
1996	3305	4749	1861	65466	108320	22613	8531	0.132	0.19	0.078
1997	3914	6003	1824	67431	111369	23492	10367	0.170	0.22	0.120
1998	3276	4635	1918	64960	105565	24355	10682	0.174	0.22	0.124
1999	4192	6430	1953	65763	106341	25185	12406	0.21	0.25	0.170
2000	3314	4525	2103	61685	97264	26107	11160	0.22	0.26	0.178
2001	3533	4731	2336	58983	90439	27527	12127	0.23	0.27	0.20
2002	2742	3680	1803	53590	80573	26608	8753	0.183	0.21	0.152
2003	2908	3738	2078	52134	76398	27869	7275	0.162	0.190	0.133
2004	3381	4189	2574	53377	75819	30935	6222	0.124	0.146	0.101
2005	3683	4493	2873	57156	78817	35494	5540	0.109	0.129	0.090
2006	3677	4468	2887	61041	82187	39895	5650	0.112	0.132	0.091
2007	3334	4090	2578	63150	83416	42883	5648	0.103	0.123	0.083
2008	3182	3932	2431	64838	85000	44677	3940	0.075	0.090	0.059
2009	2961	3690	2231	67147	86972	47321	4121	0.074	0.091	0.058
2010	2694	3405	1983	68237	88378	48097	4759	0.084	0.103	0.064
2011	2669	3413	1925	68501	88996	48006	2861	0.051	0.064	0.038
2012	2621	3377	1865	70444	91737	49151	3016	0.056	0.071	0.041
2013	2251	2990	1512	70649	92693	48605	2675	0.044	0.057	0.032
2014	2438	3256	1619	72117	95232	49002	2963	0.050	0.065	0.036
2015	3056	4013	2099	75028	99593	50462	2748	0.047	0.061	0.033
2016	2783	3735	1831	76983	102957	51009	2734	0.049	0.064	0.034
2017	2824	3816	1831	78684	106120	51249	2673	0.039	0.051	0.027
2018	2644	3673	1614	80265	109248	51283	3310	0.048	0.063	0.033

Year	Recruitment			Stock size: SSB			Landings	Fishing pressure: F		
	Age 9	High	Low	SSB	High	Low		Ages	High	Low
2019	3543	4762	2325	83902	114871	52933	3268	0.046	0.060	0.032
2020	4609	6296	2922	90852	125170	56533	3478	0.044	0.058	0.031
2021	4004	5668	2340	95478	132781	58174	5285	0.056	0.072	0.040
2022	3168*			95515	134560	56470				

*Geometric mean from 1995 to 2021.

Sources and references

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

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