ICES Advice on fishing opportunities, catch, and effort
Celtic Seas and Faroes ecoregions
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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 11 522 tonnes in 2021 and no more than 10 859 tonnes in 2022.

Note: This advice sheet is abbreviated due to the Covid-19 disruption. The previous advice issued for 2019 and 2020 is attached as Annex 1.

Stock development over time
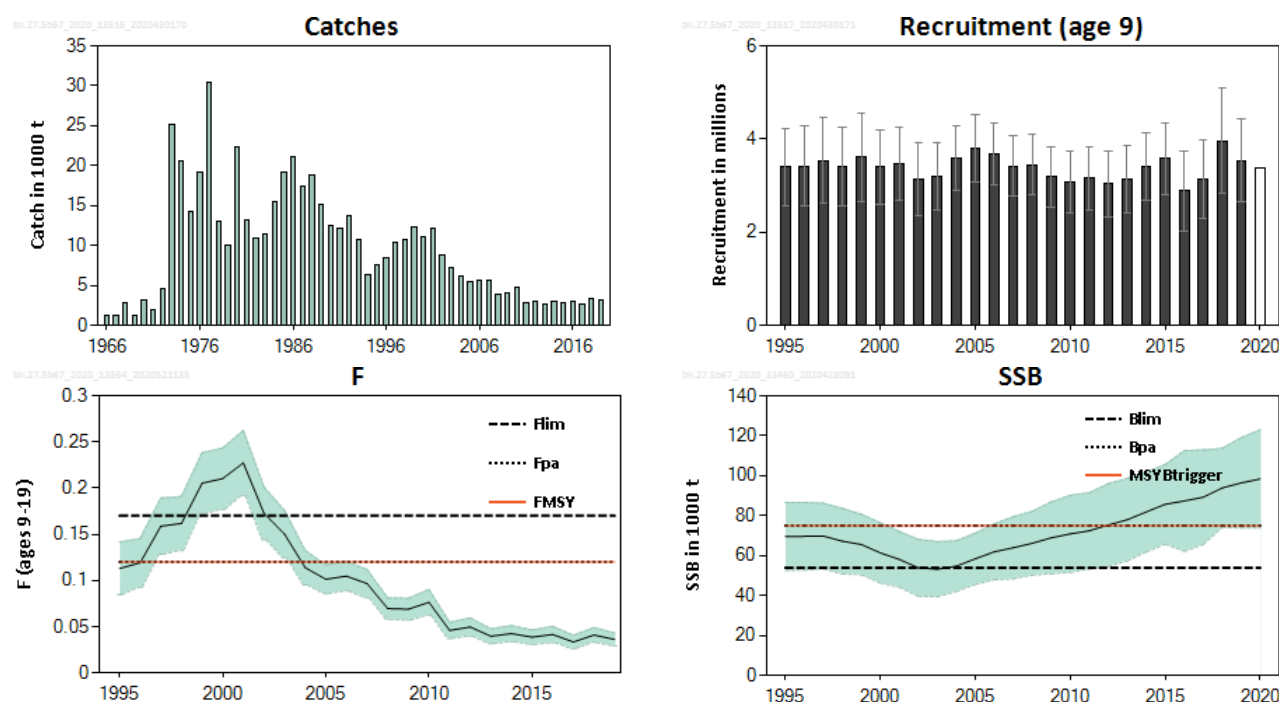
Figure 1 Blue ling in subareas 6–7 and Division 5.b. Summary of the stock assessment (weights in thousand tonnes and recruitment in millions). Assumed recruitment value for 2020 is unshaded. Shaded areas (F, SSB) and error bars (R) indicate 95% confidence intervals.

Stock and exploitation status

Table 1 Blue ling in subareas 6–7 and Division 5.b. State of the stock and the fishery relative to reference points.

		Fishing pressure				Stock size		
		2017	2018	2019		2018	2019	2020
Maximum sustainable yield	F_{MSY}	✅	✅	✅ Below	MSY $B_{trigger}$	✅	✅	✅ Above trigger
Precautionary approach	F_{pa}, F_{lim}	✅	✅	✅ Harvested sustainably	B_{pa}, B_{lim}	✅	✅	✅ Full reproductive capacity
Management plan	F_{MGT}	—	—	— Not applicable	B_{MGT}	—	—	— Not applicable

Catch scenarios

Table 2   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
$F_{\text{ages } 9–19}$ (2020)	0.036	$F = F_{sq} = F_{2019}$
$F_{\text{ages } 9–19}$ (2021)	0.12 or 0.036	F_{MSY} or F_{sq}, applied to 2021 for forecasting 2022
$R_{\text{age } 9}$ (2020 and 2021)	3 375 000	Geometric mean of model estimates 1995–2019; in numbers
SSB (2021)	101 214	SSB when fishing at F_{sq} in 2020; in tonnes
Total catch (2020)	3 518	Catches corresponding to F_{sq}; in tonnes
Discards (2020 and 2021)	0	Negligible discards in 2009–2019

Table 3a   Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2021. All weights are in tonnes.

Rationale	Catch (2021)	F (2021)	SSB (2022)	% SSB change *	% Advice change^
ICES advice basis					
MSY approach (F = F_{MSY})	11 522	0.12	95 078	−6.1	3.3
Other scenarios					
F_{pa}	11 522	0.12	95 078	−6.1	3.3
$F_{2021} = 0$	0	0	106 655	5.3	−100
$F_{2021} = F_{lim}$	15 949	0.17	90 678	−10	43
SSB (2022) = B_{pa}	31 738	0.37	75 037	−26	185
SSB (2022) = B_{lim}	53 149	0.72	54 000	−46	377
SSB (2022) = MSY $B_{trigger}$	31 738	0.37	75 037	−26	185
$F_{2021} = F_{sq} = F_{2019}$	3 610	0.03615	102 955	1.7	−68

* SSB in 2022 (1 January) in relation to SSB in 2021.

^ Advice value for 2021 relative to the advice value for 2020.

Table 3b   Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2022 with $F_{2021} = F_{MSY}$. All weights are in tonnes.

Rationale	Catch (2022)	F (2022)	SSB (2023)	% SSB change *	% Advice change^
ICES advice basis					
MSY approach ($F_{2022} = F_{MSY}$)	10 859	0.12	89 665	−5.7	−5.8
Other scenarios					
F_{pa}	10 859	0.12	89 665	−5.7	−5.8
$F_{2022} = 0$	0	0	100 457	5.7	−100
$F_{2021} = F_{lim}$	15 033	0.17	85 527	−10.0	30
SSB (2023) = B_{pa}	25 652	0.31^^	75 037	−21	123
SSB (2023) = B_{lim}	47 046	0.66^^	54 000	−43	309
SSB (2023) = MSY $B_{trigger}$	25 652	0.31^^	75 037	−21	123
$F_{2022} = F_{sq} = F_{2019}$	3 402	0.036	97 072	2.1	−70

* SSB in 2023 in relation to SSB in 2022 (95 078 tonnes assuming F_{MSY} in 2021).

^ Advice value for 2022 relative to the advice value for 2021.

^^ F driving the stock down to B_{pa}, B_{lim}, and MSY $B_{trigger}$ in 2023 when applied in 2022.

Table 3c   Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2022 with $F_{2021} = F_{sq} = F_{2019}$. All weights are in tonnes.

Rationale	Catch (2022)	F (2022)	SSB (2023)	% SSB change *	% Advice change^
ICES advice basis					
MSY approach ($F_{2022} = F_{MSY}$)	11 709	0.12	96 353	−6.4	1.6
Other scenarios					
F_{pa}	11 709	0.12	96 353	−6.4	1.6
$F_{2020} = 0$	0	0	107 993	+4.9	−100
$F_{2020} = F_{lim}$	16 207	0.17	91 891	−10.7	41
SSB (2023) = B_{pa}	33 258^^	0.38	75 037^^	−27	189
SSB (2023) = B_{lim}	54 706^^	0.74	54 000^^	−47	375
SSB (2023) = MSY $B_{trigger}$	33 258^^	0.38	75 037^^	−27	189
$F_{2022} = F_{sq} = F_{2019}$	3 669	0.036	104 342	1.35	−68

* SSB in 2023 (1 January) in relation to SSB in 2022 (102 955 tonnes assuming F_{sq} in 2021).

^ Advice value for 2022 relative to advice value for 2021.

^^ F driving the stock down to B_{pa}, B_{lim}, and MSY $B_{trigger}$ in 2023 when applied in 2022.

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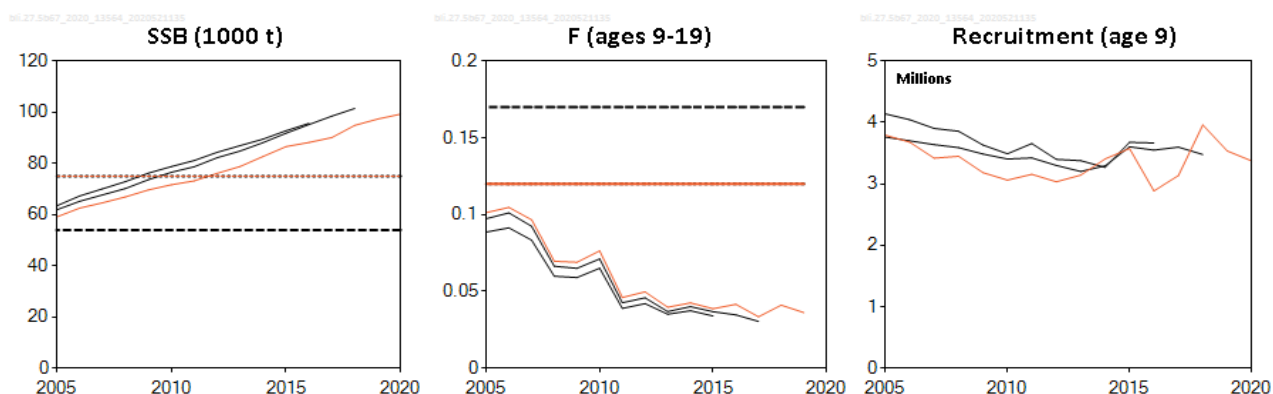
Figure 2   Blue ling in subareas 6–7 and Division 5.b. Historical assessment results.

Issues relevant for the advice

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

History of the advice, catch, and management

Table 4†   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	3031
2013	Average catch 2008 to 2011	3900	0	2540	0	150	2588
2014	No new advice, same as 2013	3900	1500	2540	***	***	2949
2015	MSY approach	< 5046	1500	5046	***	***	2748
2016	No new advice, same as 2015	< 5046	2100	5046	***	***	3059
2017	MSY approach	≤ 11314	2000	11314	***	***	2669
2018	MSY approach	≤ 10763	2000	10763	***	***	3322
2019	MSY approach	≤ 11778	1885	11778	***	***	3218
2020	MSY approach	≤ 11150	1885	11150	***	***	
2021	MSY approach	≤ 11522					
2022	MSY approach	≤ 10859					

* TAC 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).

Table 5   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 total landings. Weights are in tonnes.

Year	Inside the NEAFC RA	Outside the NEAFC RA	Total landings	Proportion inside the NEAFC RA (%)
2014	1	2948	2949	0.03
2015	31	2717	2748	1.1
2016	12	3047	3059	0.4
2017	21	2648	2669	0.8
2018	0	3322	3322	0
2019	4	3214	3218	0.15

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† Version 2: Values for the catch corresponding to advice in 2021 and 2022 have been corrected.

Summary of the assessment

Table 6   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		
	$R_{age\ 9}$	R_{upper}	R_{lower}	SSB	High	Low		$F_{ages\ 9–18}$	F_{upper}	F_{lower}
	thousands			tonnes			tonnes			
1995	3394	4226	2562	70230	98841	41619	7570	0.113	0.142	0.085
1996	3418	4280	2557	70392	98022	42762	8531	0.119	0.145	0.093
1997	3538	4465	2610	70535	97247	43824	10367	0.159	0.189	0.128
1998	3405	4244	2566	67936	92761	43112	10682	0.162	0.191	0.133
1999	3606	4562	2649	66278	89799	42757	12406	0.21	0.24	0.172
2000	3395	4190	2600	62015	83208	40821	11160	0.21	0.24	0.177
2001	3471	4257	2685	58731	78016	39445	12127	0.23	0.26	0.192
2002	3148	3933	2364	54452	72031	36872	8753	0.173	0.20	0.144
2003	3206	3929	2483	53756	70521	36992	7275	0.150	0.176	0.125
2004	3591	4285	2897	55343	71655	39030	6222	0.114	0.132	0.095
2005	3795	4521	3068	59044	75440	42648	5481	0.101	0.117	0.086
2006	3680	4350	3010	62534	78953	46115	5650	0.105	0.121	0.089
2007	3420	4058	2782	64605	80923	48287	5648	0.097	0.112	0.081
2008	3450	4089	2810	66921	83350	50493	3940	0.070	0.081	0.058
2009	3184	3829	2540	69647	86418	52877	4121	0.069	0.081	0.057
2010	3062	3725	2399	71678	88927	54428	4759	0.076	0.090	0.063
2011	3157	3834	2480	73191	90899	55482	2861	0.046	0.055	0.037
2012	3035	3732	2337	76136	94599	57674	3031	0.050	0.059	0.040
2013	3144	3866	2421	78807	98074	59541	2588	0.040	0.048	0.032
2014	3407	4141	2673	82715	102797	62632	2949	0.042	0.051	0.034
2015	3576	4338	2814	86575	107458	65693	2748	0.039	0.046	0.031
2016	2886	3743	2029	88189	110194	66183	3059	0.042	0.050	0.033
2017	3137	3968	2306	90119	113134	67105	2669	0.033	0.041	0.026
2018	3961	5089	2832	94891	119818	69964	3322	0.041	0.049	0.033
2019	3538	4420	2656	97354	123173	71536	3218	0.036	0.043	0.029
2020	3375*			99288	126006	72569				

*Geometric mean from 1995 to 2019.

Sources and references

ICES. 2020. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP). ICES Scientific Reports, 2:38. http://doi.org/10.17895/ices.pub.6015.

NEAFC. 2016. The NEAFC approach to conservation and management of deep-sea species and categorization of deep-sea species/stocks. Adopted at the 35th Annual Meeting, November 2016. https://www.neafc.org/basictexts.

Recommended citation: ICES. 2020. Blue ling (*Molva dypterygia*) in subareas 6–7 and Division 5.b (Celtic Seas and Faroes grounds). *In* Report of the ICES Advisory Committee, 2020. ICES Advice 2020, bli.27.5b67. https://doi.org/10.17895/ices.advice.5819.

Annex 1

ICES Advice on fishing opportunities, catch, and effort
Celtic Seas and Faroes ecoregions
bli.27.5b67

ICES
CIEM

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

ICES stock advice

ICES advises that when the MSY approach is applied, catches should be no more than 11 778 tonnes in 2019 and no more than 11 150 tonnes in 2020.

Stock development over time

The spawning-stock biomass (SSB) has increased since 2004 and has been above MSY $B_{trigger}$ since 2010. Fishing mortality has decreased since 2002 and has been lower than F_{MSY} since 2004. Recruitment is estimated to be stable.

Figure 1 Blue ling in subareas 6–7 and Division 5.b. Summary of stock assessment (weights in thousand tonnes and recruitment in millions). Assumed recruitment values are unshaded.

Stock and exploitation status

ICES assesses that fishing pressure on the stock is below F_{MSY} and spawning stock size is above MSY $B_{trigger}$.

Table 1 Blue ling in subareas 6–7 and Division 5.b. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size		
		2015	2016	2017		2016	2017	2018
Maximum sustainable yield	F_{MSY}	✓	✓	✓ Below	MSY $B_{trigger}$	✓	✓	✓ Above trigger
Precautionary approach	F_{pa}, F_{lim}	✓	✓	✓ Harvested sustainably	B_{pa}, B_{lim}	✓	✓	✓ Full reproductive capacity
Management plan	F_{MGT}	–	–	– Not applicable	B_{MGT}	–	–	– Not applicable

Catch scenarios

Table 2   Blue ling in subareas 6–7 and Division 5.b. Assumptions made for the interim year and in the forecast.

Variable	Value	Notes
F ages 9–19 (2018)	0.03	$F_{sq} = F_{2017}$
Total catch (2018)	3 000	Catch; tonnes
R age 9 (2018–2019)	3 500 000	geometric mean of recruitment 1995–2017
SSB (2018)	101 501	Model output; tonnes
Discards (2018)	0	Discarding is negligible
F ages 9–19 (2019)	0.12	F_{MSY}

Table 3a   Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2019. All weights are in tonnes.

Rationale	Catch (2019)	F (2019)	SSB (2020)*	% SSB change **	% TAC change ***	% Advice change^
ICES advice basis						
MSY approach (F = F_{MSY})	11 778	0.12	98 331	−4.7%	+1.5	+1.5
Other scenarios						
F_{pa}	11 778	0.12	98 331	−4.7%	+1.5	+1.5
$F_{2019} = 0$	0	0	109 470	+5.1	−100	−100
$F_{2019} = F_{lim}$	15 115	0.17	94 070	−9.	+	+51
SSB (2020) = B_{pa}	36 509	0.43	75 037	−28	+239	+239
SSB (2020) = B_{lim}	59 023	0.83	54 000	−48%	+448%	+448%
SSB (2020) = MSY $B_{trigger}$	36 509	0.43	75 037	−28	+239	+239
$F_{2019} = F_{sq}$	3 076	0.03	106 559	+2.3%	−71%	−71%

* SSB is estimated from first of January and does not depend on fishing in the same year.

** SSB in 2020 in relation to SSB in 2019.

*** Catches (EU+ Faroes waters) in 2019 in relation to EU TAC in 2018.

^ Advice value 2019 relative to advice value 2018.

Table 3b   Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2020 with $F_{2019} = F_{MSY}$. All weights are in tonnes.

Rationale	Catch (2020)	F (2020)	SSB (2021)*	% SSB change **	% TAC change***	% Advice change^
ICES advice basis						
MSY approach (F_{2020} = F_{MSY})	11 150	0.12	93 408	−5.0%		−5.3%
Other scenarios						
F_{pa}	11 150	0.12	93 408	−5.0%		−5.3%
$F_{2020} = 0$	0	0	103 921	+5.7%		−100%
$F_{2020} = F_{lim}$	14 62	0.17	89 387	−9.1%		+31%
SSB (2021) = B_{pa}	30 0	0.37^^	75 037	−24%		+161%
SSB (2021) = B_{lim}	53 59	0.77^^	54 000	−45%		+352%
SSB (2021) = MSY $B_{trigger}$	30 00	0.37^^	75 037	−24%		+161%
$F_{2020} = F_{sq} = F_{2017}$	2 912	0.030	101 173	+2.9%		−75%

* SSB is estimated from first of January and does not depend on fishing in the same year.

** SSB in 2021 in relation to SSB in 2020 (98 331 t assuming F_{MSY} in 2019).

*** Not provided: TAC 2019 not predicted because of the imbroglio between advised catch (for EU and Faroese waters) and EU TAC.

^ Advice value 2020 relative to advice value 2019.

^^ F driving the stock down to B_{pa}, B_{lim}, and MSY $B_{trigger}$ in 2021 when applied in 2020.

Table 3c Blue ling in subareas 6–7 and Division 5.b. Annual catch scenarios for 2020 with $F_{2019} = F_{sq} = F_{2017}$. All weights are in tonnes.

Rationale	Catch (2020)	F (2020)	SSB (2021)*	% SSB change **	% TAC change***	% Advice change^
ICES advice basis						
MSY approach (F_{2020} = F_{MSY})	12032	0.12	100 268	−5.9%		+2.2%
Other scenarios						
F_{pa}	12032	0.12	100 268	−5.9%		+2.2%
$F_{2020} = 0$	0	0	111 654	+4.8%		−100%
$F_{2020} = F_{lim}$	16 642	0.17	95 912	−10%		+41%
SSB (2021) = B_{pa}	38 809	0.45^^	75 037	−30%		+230%
SSB (2021) = B_{lim}	61 325	0.85^^	54 000	−49%		+421%
SSB (2021) = MSY $B_{trigger}$	38 809	0.45^^	75 037	−30%		+230%
$F_{2020} = F_{sq} = F_{2017}$	3 142	0.03	108 678	+2.0%		−73%

* SSB is estimated from first of January and does not depend on fishing in the same year.
** SSB in 2021 in relation to SSB in 2020 (106 559 t assuming F_{sq} in 2019).
*** Not provided: TAC 2019 not predicted because of the imbroglio between the advised catch (for EU and Faroese waters) and the EU TAC.
^ Advice value 2020 relative to advice value 2019.
^^ F driving the stock down to B_{pa}, B_{lim}, and MSY $B_{trigger}$ in 2021 when applied in 2020.

The advised catch in 2019 is higher than the advice for 2018 because of an increase in biomass. However, between 2019 and 2020 the biomass declines, resulting in a decrease in advised catches.

Basis of the advice

Table 4 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
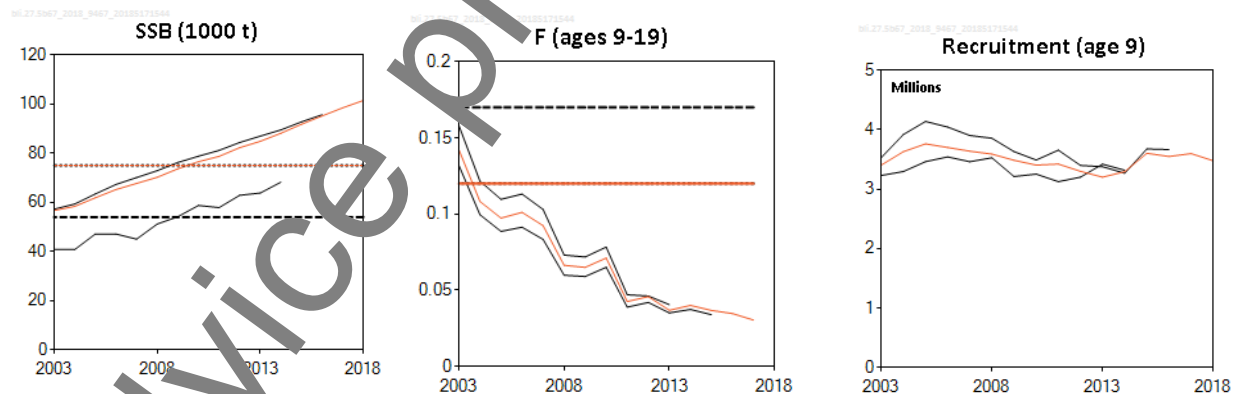
Figure 2 Blue ling in subareas 6–7 and Division 5.b. Historical plots.

Issues relevant for the advice

In EU waters, catches lower than the TACs in 2015–2017 are considered to reflect a low level of fishing activity. The capacity of fleets has been decreasing and protection of spawning areas restricts catch opportunities at times where blue ling has a higher catchability.

Although ICES advice applies to all catches from the stock, in both EU and Faroese waters, the EU TAC has been set at the level of ICES advice since 2014. A management plan or a share of fishing opportunities between EU and Faroe Islands should be developed for the entire stock.

Because F in recent years has been much lower than the F_{MSY}, the projections assume that the F in 2018 is equal to $F_{sq} = F_{2017}$ for all catch scenarios. Catch advice is provided for two years: 2019 and 2020. As the future F level is unknown, catch scenarios for 2020 were simulated under two options in 2019: $F_{2019} = F_{MSY}$ and $F_{2019} = F_{sq} = F_{2017}$; these two scenarios are presented in tables 3b and 3c, respectively.

Reference points

Table 5 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 (2018)
	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 6 Blue ling in subareas 6–7 and Division 5.b. The basis of the assessment.

ICES stock data category	1 (ICES, 2016).
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, 2016b).
Input data	International landings 1995–2017; age composition of French landings (2009–2017).
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).

Information from stakeholders

There is no available information.

History of the advice, catch, and management

Table 7   Blue ling in subareas 6–7 and Division 5.b. ICES advice and landings. Weights are in thousand tonnes.

Year	ICES advice	Catch corresponding to advice	TAC EU 5.b (Faroese waters)*	TAC EU 6 and 7**	TAC Faroese 6 and 7	TAC Norway .a, 5.b, 6, and 7	ICES catches 5.b, 6, and 7
2003	No direct fisheries^		3240	3678	40		7275
2004	Biennial		3240	3678	00	-	6222
2005	No direct fisheries^	-	3240	3137	90	200	5481
2006	Biennial	-	3065	3137	00	200	5650
2007	No direct fisheries	-	3065	2510	00	160	5648
2008	Biennial	-	3065	2009	00	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	17	0	150	2861
2012	No new advice, same as 2011		0	882	0	150	3031
2013	Average catch 2008 to 2011	3900	0	2540	0	150	2588
2014	No new advice, same as 2013	3900	1500	2540	***	***	2949
2015	MSY approach	< 5046	1500	5046	***	***	2748
2016	No new advice, same as 2015	< 5046	2100	5046	***	***	3059
2017	MSY approach	≤ 11314	2000	11314	***	***	2669
2018	MSY approach	≤ 10763	2000	10763	***	***	
2019	MSY approach	≤ 11778					
2020	MSY approach	≤ 11150					

* TAC 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 8   Blue ling in subareas 6–7 and Division 5.b. Official catch distribution by fleet in 2017.

Total catch (2017)	Landings		Discards
2669 t	5% longline fisheries	95% trawl fisheries	negligible
	2669 t		

Table 9   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	E & W	Scotland	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						4643
1973	51	18080	3009	4028	4	0	0	0	0					25172
1974	76	15390	3026	1916	167	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		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		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		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	0	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	1	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	0	45	0	0	0	0	0	0	0	13659
1993	2321	7631	181	19	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		150	1035	1609	10	0	0	0	1	0	190	10367
1998	1166	6867		88	485	1762	22	0	0	0	122	0	164	10682
1999	1949	5567		152	345	3558	41	0	0	0	610		178	12406
2000	1677	5724		491	588	2320	89	1	0	0		0	173	11160
2001	1643	3605	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	145	3933	1	52	15	647	20	18	38	1	0	3	19	6222
2005	655	3072	0	63	11	538	13	15	1	0	0	0	113	5481
2006	539	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	E & W	Scotland	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	1624	0	102	0	47	0	5	0	0	0	0	238	3031
2013	575	1628	0	132	0	205	0	3	0	0	0	0	45	2588
2014	880	1727	0	53	3	285	0	0	0	0	0	0	1	2949
2015	703	1119	0	366	11	372	0	0	0	0	0	0	177	2748
2016	1113	1410	0	111	0	281	1	0	0	0	0	0	143	3059
2017	854	1044	1	60	1	644	0	0	0	0	0	0	65	2669

Table 10   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
2014	4	2945	2949
2015	33	2725	2748
2016	18	3041	3059
2017	20	2649	2669

Summary of the assessment

Table 11   Blue ling in subareas 6–7 and Division 5.b. Assessment summary. Weights are in tonnes, recruitment in thousands.

Year	Recruitment			Stock size: SSB			Landings (tonnes)	Fishing pressure: F		
	R Age 9 (Thousands)	R_{upper}	R_{lower}	SSB (Tonnes)	SSB High	SSB Low		F Ages 9–18	F_{upper}	F_{lower}
1995	3496	4113	2880	70748	94261	47234	7570	0.112	0.136	0.087
1996	3514	4143	2884	71265	93822	48679	8531	0.117	0.140	0.095
1997	3562	4199	2924	71538	93125	49942	10367	0.156	0.183	0.130
1998	3506	4127	2885	69270	89559	49181	10682	0.158	0.184	0.133
1999	3586	4223	2949	67575	86410	48740	12406	0.20	0.23	0.171
2000	3498	4104	2893	63615	80811	46419	11160	0.21	0.24	0.174
2001	3531	4122	2939	60480	76335	44626	12127	0.22	0.26	0.187
2002	3381	4042	2719	56831	71779	41943	8753	0.165	0.192	0.138
2003	3406	4030	2781	56690	71292	42092	7275	0.142	0.166	0.118
2004	3632	4212	3053	58150	72785	43915	6222	0.108	0.126	0.091
2005	3764	4421	3107	61835	76585	47085	5481	0.097	0.112	0.083
2006	3702	4294	3110	65202	80102	50303	5650	0.101	0.116	0.086
2007	3640	4203	3077	67704	82637	52770	5648	0.092	0.106	0.079
2008	3591	4150	3033	70216	85302	55130	3940	0.066	0.076	0.056
2009	3486	4055	2917	73659	89142	58177	4121	0.065	0.075	0.055
2010	3405	4007	2804	76529	92520	60539	4759	0.071	0.082	0.060
2011	3424	4037	2815	78704	95165	62242	2861	0.043	0.049	0.036
2012	3301	3975	2627	82242	99532	64951	3031	0.046	0.053	0.038
2013	3203	3968	2417	84849	103272	66426	2588	0.037	0.043	0.030
2014	3295	4079	2560	88143	107471	68814	2949	0.040	0.047	0.033
2015	3605	4231	2980	91812	111547	72077	2748	0.037	0.043	0.030
2016	3511	4181	2920	95188	115412	74965	3059	0.035	0.041	0.029
2017	3591	4248	2950	98517	119293	77741	2669	0.030	0.035	0.025
2018	3479			101501	122841	80162				

* Geometric mean 1995–2018.

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