

9.3.5 Blue ling (*Molva dypterygia*) in Subarea XIV and Division Va (East Greenland, Iceland grounds)

ICES stock advice

ICES advises that when the precautionary approach is applied, catches in 2016 should be no more than 2548 tonnes. All catches are assumed to be landed.

Stock development over time

The autumn survey index peaked in 2009 and has decreased slightly since then. It is considered that the stock biomass is above candidate biomass reference points. There are indications that fishing mortality has been decreasing in the last three years. However the juvenile abundance index has recorded four low values since 2010.

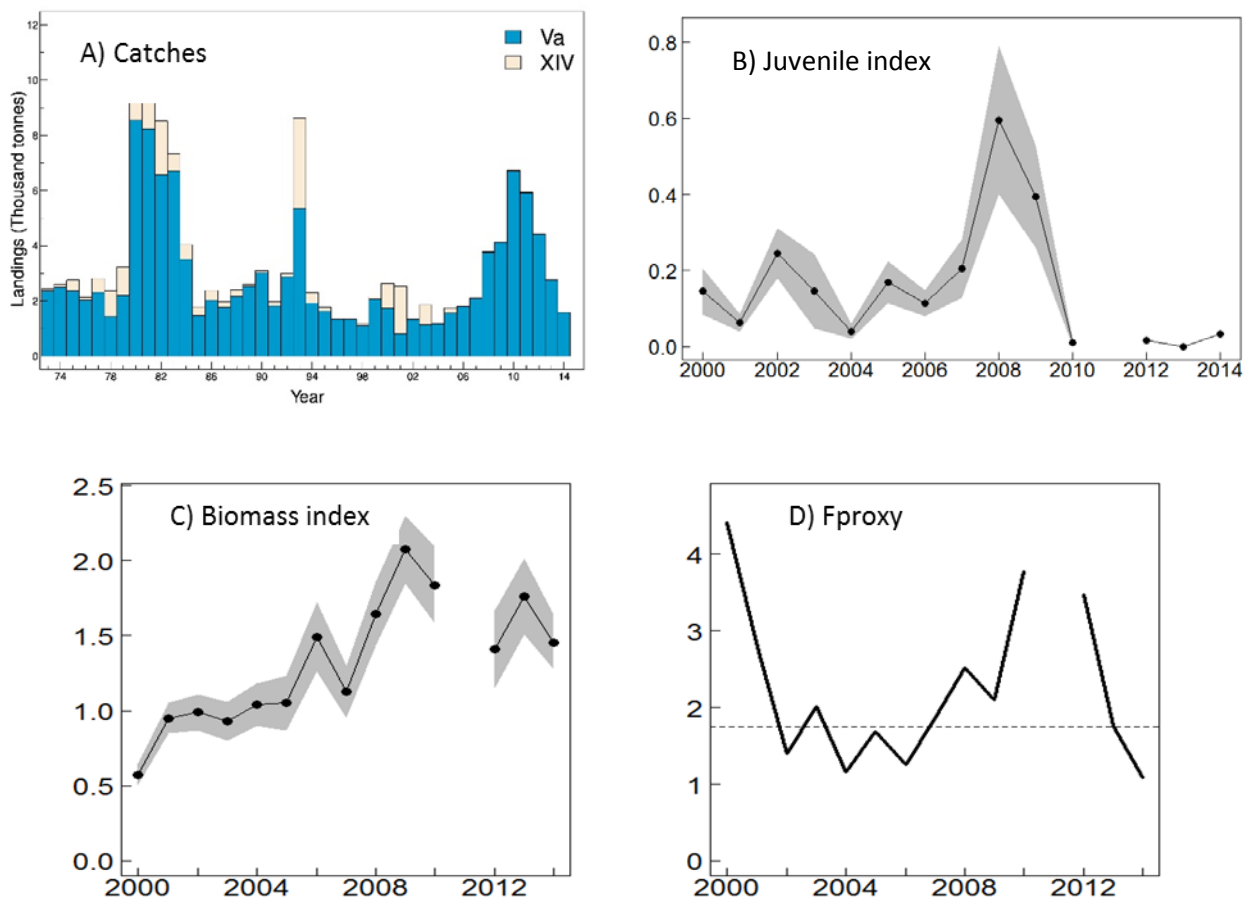


Figure 9.3.5.1 Blue ling in Subarea XIV and Division Va. A) Catches in thousand tonnes. B) Juvenile abundance index (< 40 cm) from the autumn survey in Division Va. C) Biomass index (+40 cm) from the autumn survey in Division Va. D) F_{proxy} based on catch/survey biomass (dashed line is the target F_{proxy}).

Stock and exploitation status

Table 9.3.5.1 Blue ling in Subarea XIV and Division Va. State of the stock and fishery, relative to reference points.

		Fishing pressure			Stock size					
		2012	2013	2014	2012	2013	2014			
Maximum Sustainable Yield	F_{MSY}	?	?	?	Undefined	MSY	?	?	?	Undefined
Precautionary approach	F_{pa} , F_{lim}	?	?	?	Undefined	B_{pa} , B_{lim}	?	?	?	Undefined
Management Plan	F_{MGT}	-	-	-	Not applicable	SSB_{MGT}	-	-	-	Not applicable
Qualitative evaluation	-	↘	↘	↘	Decreasing	-	✓	✓	✓	Above potential reference points

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The Icelandic autumn trawl survey was used together with the catch to calculate a harvest rate index. Based on this an F_{proxy} has been chosen from a reference period, 2002 to 2009, when the fishing pressure was relatively constant and the SSB increased steadily, which implies that the harvest was considered sustainable.

The advice is based first on a comparison of the latest index value (index A) with the preceding value (index B), combined with the F_{proxy} target (catch/survey biomass). The index is estimated to have decreased by less than 20% which means that the uncertainty cap was not applied. So, in estimating the catch advice the F_{proxy} is used directly with the survey observation (index A).

The stock status is considered to be above any candidate biomass reference points and the current F is below the F_{proxy} target. Therefore, the precautionary buffer was not applied. Discarding is considered negligible.

Table 9.3.5.2 Blue ling in Subarea XIV and Division Va. For stocks in ICES categories 3–6, one catch option is provided.

Index A (2014)		1 455.8
Index B (2013)		1 762.3
Index ratio (A/B)		0.83
Uncertainty cap	Not applied	
F_{proxy} target (2002–2009)		1.75
Discard rate		Negligible
Precautionary buffer	Not applied	
Catch advice *		2 548 t

* (F_{proxy} target × index A).

Basis of the advice

Table 9.3.5.3 Blue ling in Subarea XIV and Division Va. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	No management plan.

Quality of the assessment

The autumn survey covers the full depth range of the fisheries. The uncertainties of the survey index are low.

Issues relevant for the advice

It is anticipated that the low recruitment since 2010 will result in stock decline when these year classes enter the fishery.

Blue ling is susceptible to sequential depletion of spawning aggregations. Two spawning areas were depleted prior to 1993 and have not recovered. Maintaining the current closed areas will provide protection for the spawning aggregations. This may not be needed if the present TAC management regime is effective in limiting fishing mortalities as intended and if highly aggregated fisheries in these areas do not cause local depletion.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 9.3.5.4 Blue ling in Subarea XIV and Division Va. The basis of the assessment.

ICES stock data category	3.3 (ICES, 2015a).
Assessment type	Catch and survey trends-based assessment (ICES, 2015b).
Input data	Catch data from Division Va and Subarea XIV and the Icelandic autumn survey.
Discards and bycatch	Discarding is considered to be negligible.
Indicators	None.
Other information	None.
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP).

Information from stakeholders

There is no available information for this stock.

History of advice, catch, and management

Table 9.3.5.5 Blue ling in Subarea XIV and Division Va. History of ICES advice, the agreed TAC, and ICES estimates of landings. Weights in thousand tonnes.

Year	ICES advice	Predicted catch corresp. to advice	ICES Division Va and Subarea XIV catches
2003	No direct fisheries*	-	1.9
2004	Biennial*	-	1.2
2005	No direct fisheries*	-	1.8
2006	Biennial*	-	1.9
2007	No direct fisheries	-	2.1
2008	Biennial	-	4.1
2009	No direct fisheries	-	4.4
2010	Biennial	-	7.0
2011	No direct fishery and minimum bycatch	-	6.7
2012	No new advice, same as 2011	-	4.9
2013	F _{proxy} target	3.1	3.2
2014	No new advice, same as 2013	3.1	1.7
2015	F _{proxy} target	3.1	
2016	F _{proxy} target	2.5	

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

History of catch and landings

Table 9.3.5.6 Blue ling in Subarea XIV and Division Va. Catch distribution by fleet in 2014 as estimated by ICES.

Total catch	Commercial landings			Commercial discards
1.7 kt	40% longline	57% trawl	3% other gear types	Considered to be negligible
	1.7 kt			

Table 9.3.5.7 Blue ling in Subarea XIV and Division Va. History of official commercial catch in Division Va by country in tonnes.

Year	Faroes	Germany	Iceland	Norway	UK	Total
1973	74	1 678	548	6	61	2 367
1974	34	1 959	331	140	32	2 496
1975	69	1 418	434	366	89	2 376
1976	29	1 222	624	135	28	2 038
1977	39	1 253	700	317	0	2 309
1978	38	0	1 237	156	0	1 431
1979	85	0	2 019	98	0	2 202
1980	183	0	8 133	83	0	8 399
1981	220	0	7 952	229	0	8 401
1982	224	0	5 945	64	0	6 233
1983	1 195	0	5 117	402	0	6 714
1984	353	0	3 122	31	0	3 506
1985	59	0	1 407	7	0	1 473
1986	69	0	1 774	8	0	1 851
1987	75	0	1 693	8	0	1 776
1988	271	0	1 093	7	0	1 371
1989	403	0	2 124	5	0	2 532
1990	1 029	0	1 992	0	0	3 021
1991	241	0	1 582	0	0	1 823
1992	321	0	2 584	0	0	2 905
1993	40	0	2 193	0	0	2 233
1994	89	1	1 542	0	0	1 632
1995	113	3	1 519	0	0	1 635
1996	36	3	1 284	0	0	1 323
1997	25	0	1 319	0	0	1 344
1998	59	9	1 086	0	0	1 154
1999	31	8	1 525	8	11	1 583
2000	0	7	1 605	25	8	1 645
2001	95	12	752	49	23	931
2002	28	4	1 256	74	10	1 372
2003	16	16	1 098	6	24	1 160
2004	38	9	1 083	49	20	1 199
2005	24	25	1 497	20	26	1 592
2006	63	22	1 734	27	9	1 855
2007	78	0	1 999	4	10	2 091
2008	88	0	3 653	21	0	3 762
2009	178	0	4 132	5	0	4 315
2010	515	0	6 377	13	0	6 905
2011	797	0	5 903	2	0	6 702
2012	312	0	4 207	2	0	4 521
2013	435	0	2 769	2	0	3 204
2014*	71	0	1 588	30	0	1 689

* Preliminary.

Table 9.3.5.8 Blue ling in Subarea XIV and Division Va. History of official commercial catch in Subarea XIV by country in tonnes.

Year	Faroes	Germany	Greenland	Iceland	Norway	Russia	Spain	UK	Denmark	Total
1973	0	50	0	10	0	0	0	0	0	60
1974	0	90	0	6	0	0	0	0	0	96
1975	0	285	0	90	3	0	0	0	0	378
1976	0	65	0	21	0	0	0	13	0	99
1977	0	491	0	0	0	0	0	6	0	497
1978	0	933	0	0	4	0	0	0	0	937
1979	0	1 026	0	0	0	0	0	0	0	1 026
1980	0	746	0	0	0	0	0	0	0	746
1981	0	1 206	0	0	0	0	0	0	0	1 206
1982	0	1 946	0	0	0	0	0	0	0	1 946
1983	0	621	0	0	0	0	0	0	0	621
1984	0	537	0	0	0	0	0	0	0	537
1985	0	315	0	0	0	0	0	0	0	315
1986	214	149	0	0	0	0	0	0	0	363
1987	0	199	0	0	0	0	0	0	0	199
1988	21	218	3	0	0	0	0	0	0	242
1989	13	58	0	0	0	0	0	0	0	71
1990	0	64	5	0	0	0	0	10	0	79
1991	0	105	5	0	0	0	0	45	0	155
1992	0	27	2	0	50	0	0	32	0	111
1993	0	16	0	3 124	103	0	0	22	0	3 265
1994	1	15	0	300	11	0	0	57	0	384
1995	0	5	0	117	0	0	0	19	0	141
1996	0	12	0	0	0	0	0	2	0	14
1997	1	1	0	0	0	0	0	2	0	4
1998	48	1	0	0	1	0	0	6	0	56
1999	0	0	0	0	1	0	66	7	0	74
2000	0	1	0	4	0	0	889	2	0	896
2001	1	0	0	11	61	0	1 631	6	0	1 710
2002	0	0	0	11	1	0	0	0	0	12
2003	0	0	0	0	36	0	670	5	0	711
2004	0	0	0	0	1	0	0	7	0	8
2005	2	0	0	0	1	0	176	8	0	187
2006	0	0	0	0	3	1	0	0	0	4
2007	19	0	0	0	1	0	0	0	0	20
2008	1	0	0	0	2	0	381	0	1	385
2009	1	0	0	0	3	0	111	4	0	119
2010	1	0	0	0	9	0	34	0	3	47
2011	0	0	0	0	2	0	0	1	6	9
2012	0	0	0	367	9	0	0	0	3	379
2013	0	0	4	0	0	0	0	3	9	16
2014*	0	0	0	0	3	0	0	0	0	3

* Preliminary.

Summary of the assessment

Table 9.3.5.9 Blue ling in Subarea XIV and Division Va. Assessment summary. Weights in tonnes.

Year	Catch	Index	Lower CI	Upper CI	F _{proxy}
2000	2 541	574.5	503.3	645.7	4.42
2001	2 641	950.2	846.6	1 053.8	2.78
2002	1 384	988.3	866.7	1 109.9	1.4
2003	1 871	930.1	802.7	1 057.5	2.01
2004	1 207	1 039.7	898.3	1 181.1	1.16
2005	1 779	1 051.4	868.5	1 234.3	1.69
2006	1 859	1 492.9	1 263.0	1 722.8	1.25
2007	2 111	1 128.1	954.4	1 301.8	1.87
2008	4 148	1 645.2	1 433.0	1 857.4	2.52
2009	4 434	2 073.8	1 847.8	2 299.8	2.1
2010	6 952	1 836.8	1 581.5	2 092.1	3.78
2011	6 711	na	na	na	na
2012	4 900	1 411.5	1 153.2	1 669.8	3.47
2013	3 220	1 762.3	1 508.5	2 016.1	1.76
2014	1 692	1 455.8	1 272.4	1 639.2	1.09

Sources and references

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