

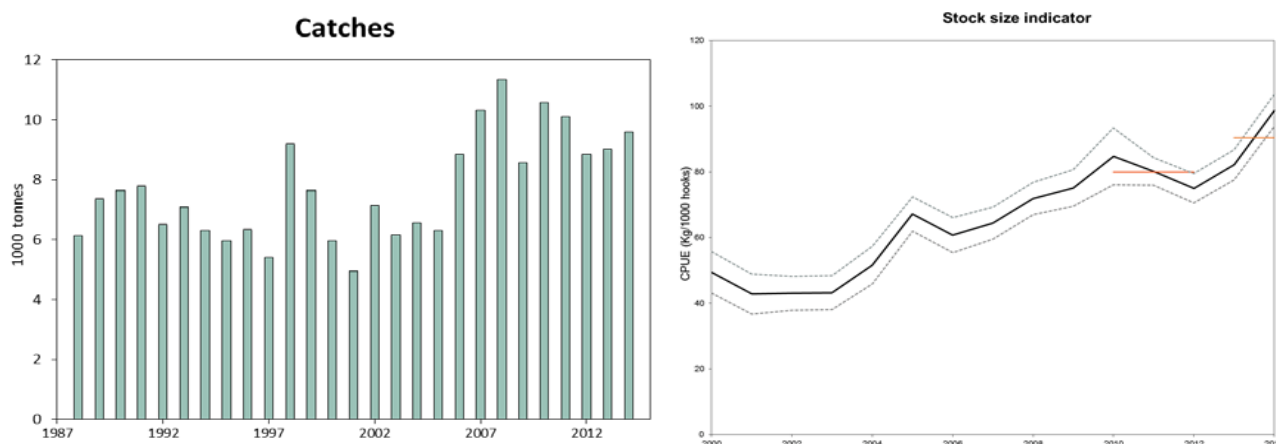
### 9.3.23 Ling (*Molva molva*) in Subareas I and II (Northeast Arctic)

#### ICES stock advice

ICES advises that when the precautionary approach is applied, catches should be no more than 11 300 tonnes in each of the years 2016 and 2017. All catches are assumed to be landed.

#### Stock development over time

A standardized catch per unit effort (cpue) based on data from the Norwegian longline fleet shows a positive trend since 2004 to present. Landings have been stable and relatively high since 2006.



**Figure 9.3.23.1** Ling in Subareas I and II. Left: Landings by ICES area (in thousand tonnes). Right: Estimates of cpue (kg per 1000 hooks) based on official logbooks from the Norwegian longline fishery in Division IIa. The red horizontal lines indicate the average cpue index of the respective year range used to calculate the advice.

#### Stock and exploitation status

**Table 9.3.23.1** Ling in Subareas I and II. 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	?	?	?
Precautionary approach	$F_{pa}$	?	?	?	Undefined	$B_{pa}$ , $B_{lim}$	?	?	?
Management Plan	$F_{MGT}$	-	-	-	Not applicable	$SSB_{MGT}$	-	-	-
Qualitative evaluation	-	?	?	?	Undefined	-	↘	↗	↗ increasing

### Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The standardized cpue series from the Norwegian longline reference fleet was applied as index for the stock development. The advice is based on a comparison of the two latest index values (index A) with the three preceding values (index B), combined with the 2013 advice. The index is estimated to have increased by less than 20%, which means that the uncertainty cap was not applied to calculate the catch advice. The stock status relative to candidate reference points is unknown, and the precautionary buffer was applied in 2013. Discarding is considered negligible.

**Table 9.3.23.2** Ling in Subareas I and II. For stocks in ICES categories 3–6, one catch option is presented.

Index A (2013–2014)		90.45
Index B (2010–2012)		79.92
Index ratio (A/B)		1.13
Uncertainty cap	Not applied	-
Advice 2013		10 000 t
Discard rate		Negligible
Precautionary buffer	Not applied	-
Catch advice *		11 300 t

\*[Advice 2013 x Index ratio]

### Basis of the advice

**Table 9.3.23.3** Ling in Subareas I and II. The basis of the advice.

Advice basis	Precautionary approach
Management plan	There is no management plan for Ling in this area.

### Quality of the assessment

The advice is based on a standardized cpue series from the Norwegian longline reference fleet which covers the main areas of the stock (Helle *et al.*, 2015).

### Issues relevant for the advice

There is no available information to present for this stock.

### Reference points

No reference points are defined for this stock.

### Basis of the assessment

**Table 9.3.23.4** Ling in Subareas I and II. The basis of the assessment.

ICES stock data category	3.2 (ICES, 2015a).
Assessment type	Trends in the cpue assessment (ICES, 2015b).
Input data	International catch and cpue from relevant fleets.
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 ( <a href="#">WGDEEP</a> ).

## Information from stakeholders

There is no available information.

## History of advice, catch, and management

**Table 9.3.23.5** Ling in Subareas I and II. History of ICES advice, the agreed TAC, and ICES estimates of catches. All weights are in thousand tonnes.

Year	ICES advice	Predicted catch corresp. to advice	TAC EC Subareas I and II	ICES catches Subareas I and II
2003	30% reduction on fishing effort*		0.045	6.2
2004	Biennial*		0.045	6.6
2005	30% reduction on fishing effort*		0.045	6.3
2006	Biennial*		0.045	8.8
2007	Maintain catches below the recent level	6	0.045	10.3
2008	Biennial	6	0.045	11.3
2009	Same advice as last year	6	0.045	8.4
2010	Biennial	6	0.038	10.6
2011	Constrain catches to 8000 t	8	0.038	10.1
2012	No new advice, same as 2011	8	0.038	8.8
2013	20% reduction in effort	10**	0.036	9.0
2014	No new advice, same as 2013	10**	0.036	9.6
2015	No new advice, same as 2013	10**	0.036	
2016	Precautionary approach	11.3		
2017	Biennial	11.3		

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

\*\* This is not a predicted catch, but an expected catch in the context of no increase in effort, given that abundance is judged to be stable.

## History of catch and landings

**Table 9.3.23.6** Ling in Subareas I and II. Catch distribution by fleet in 2014 as estimated by ICES.

Total catch	Commercial landings				Commercial discards
9.6 kt	50% longline	45% gillnets	4% trawl	1% other gear types	Negligible
	9.6 kt				

**Table 9.3.23.7** Ling in Subareas I and II. History of total official catch (tonnes) by area.

Year	Subarea I	Division IIa	Division IIb	All areas
1988		6 119	7	6 126
1989		7 368		7 368
1990		7 628		7 628
1991		7 793		7 793
1992		6 521		6 521
1993		7 093		7 093
1994		6 309	13	6 322
1995		5 954		5 954
1996	136	6 083	127	6 346
1997	31	5 373	5	5 409
1998	123	9 072	5	9 200
1999	64	7 581	6	7 651
2000	69	5 891	4	5 964
2001	66	4 858	33	4 957
2002	206	6 917	9	7 132
2003	89	6 062	6	6 157
2004	345	6 138	77	6 560
2005	107	6 106	93	6 306
2006	58	8 726	64	8 848
2007	96	10 058	180	10 334
2008	80	11 104	162	11 346
2009	236	8 244	84	8 564
2010	57	10 395	128	10 580
2011	129	9 798	171	10 098
2012	158	8 425	266	8 849
2013	126	8 825	76	9 027
2014	123	9 335	148	9 606

## Summary of the assessment

**Table 9.3.23.8** Ling in Subareas I and II. Standardized cpue series from the Norwegian longline reference fleet (kg per 1000 hooks).

Year	Cpue	Upper	Lower
2000	49.43	55.74	43.12
2001	42.80	48.88	36.71
2002	43.04	48.23	37.84
2003	43.24	48.41	38.08
2004	51.61	57.32	45.90
2005	67.17	72.41	61.94
2006	60.75	66.13	55.36
2007	64.40	69.25	59.55
2008	71.92	76.88	66.97
2009	75.13	80.68	69.57
2010	84.69	93.36	76.03
2011	80.08	84.26	75.90
2012	74.98	79.45	70.50
2013	82.16	86.77	77.55
2014	98.73	103.60	93.84

## Sources and references

Helle, K., Pennington, M., Hareide, N-R., and Fossen, I. 2015. Selecting a subset of the commercial catch data for estimating catch per unit effort series for Ling (*Molva molva* L.). Fisheries Research, 165: 115–120.

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