

Lesser-spotted dogfish (*Scyliorhinus canicula*) in Subarea 4 and in divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel)

ICES stock advice

ICES advises that when the precautionary approach is applied, landings should be no more than 3380 tonnes in each of the years 2018 and 2019. ICES cannot quantify the corresponding catches.

Stock development over time

The stock size indicator has increased over the time series.

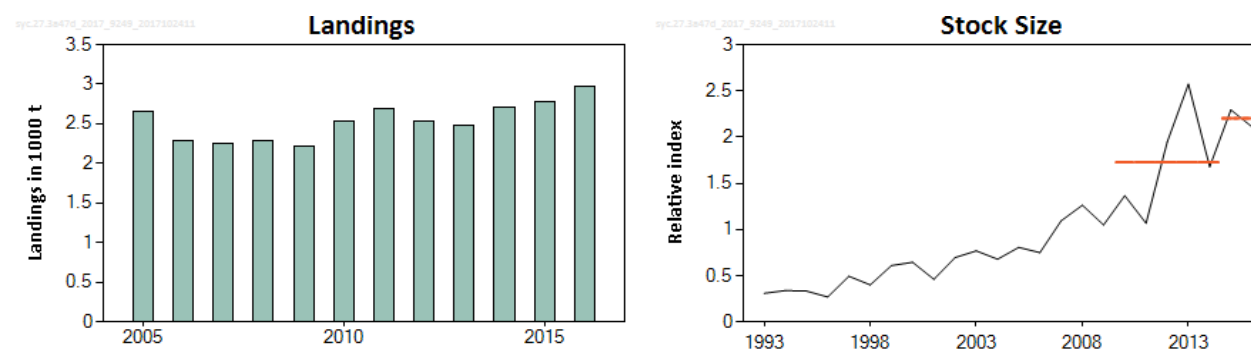


Figure 1* Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. Summary of the stock assessment. Recent ICES estimates of species-specific landings (landings data before 2005 are incomplete and not shown). Right: stock size indicator from four surveys (IBTS-Q1, IBTS-Q3, CGFS-Q4 and UK(EW)BTS-Q3; kg h⁻¹) relative to the time-series mean. The dotted horizontal lines show the mean stock indicators for 2015–2016 and 2010–2014.

Stock and exploitation status

Table 1 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size			
		2014	2015	2016		2014	2015	2016	
Maximum sustainable yield	F _{MSY}	?	?	?	Undefined	MSY	?	?	?
Precautionary approach	F _{pa}	?	?	?	Undefined	B _{trigger}	?	?	Undefined
Management plan	F _{lim}	-	-	-	Not applicable	B _{pa} , B _{lim}	?	?	?
Qualitative evaluation	F _{MGT}	-	-	-	Not applicable	B _{MGT}	-	-	Not applicable
	-	?	?	?	Unknown	-	↘	↗	↘
									Decreasing

* Version 2: Figures corrected

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). Biomass indices derived from four surveys (IBTS-Q1, IBTS-Q3, CGFS-Q4, and UK(EW)BTS-Q3) were used to provide an overall stock size indicator. The advice is based on a comparison of the two latest index values (index A) with the five preceding values (index B). The stock size indicator is estimated to have increased by more than 20%, thus the uncertainty cap was applied. The stock size relative to candidate reference points is unknown. Given the longer-term increase in the stock size indicator, the precautionary buffer is not applied. Discarding is known to take place, but ICES cannot quantify the corresponding catch.

Table 2 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. The basis for the catch options.*

Index A (2015, 2016)		2.2
Index B (2010–2014)		1.73
Index ratio(A/B)		1.28
Uncertainty cap	Applied	1.2
Average landings (2014–2016)		2816 tonnes
Discard rate		Unknown
Precautionary buffer	Not applied	-
Landings advice**		3380 tonnes

* The figures in the table are rounded. Calculations were done with unrounded inputs and computed values may not match exactly when calculated using the rounded figures in the table.

** [Average landings (2014–2016)] × [uncertainty cap].

Basis of the advice

Table 3 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	ICES is not aware of any agreed precautionary management plan for lesser-spotted dogfish in this area.

Quality of the assessment

Landings data are incomplete. Some landings are included in generic “dogfish” or “catshark” categories. Inshore fleets are expected to have a greater overlap with this stock, and landings data for vessels < 10 m overall length (LOA) may not be reported fully.

Discarding is known to occur and is very high and variable between fishing fleets, but it has not been fully quantified.

Published studies suggest that the discard survival of this species may be high, at least in some areas/métiers (Revill *et al.*, 2005).

The trawl surveys used cover the stock area and sample mature fish effectively.

Issues relevant for the advice

This species is generally productive in comparison to other demersal elasmobranchs and is typically either discarded or landed as a low-value bycatch.

Reference points

Reference points are not defined for this stock.

Basis of the assessment

Table 5 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2016a).
Assessment type	Survey-based trends (ICES, 2017).
Input data	Surveys: IBTS-Q1, IBTS-Q3, CGFS, and UK-7.d-BTS.
Discards and bycatch	Unknown.
Indicators	None.
Other information	None.
Working group	Working Group on Elasmobranch Fishes (WGEF)

Information from stakeholders

There is no additional available information for this stock.

History of the advice, catch, and management

Table 6 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. ICES advice and species-specific estimated landings. All weights are in tonnes.

Year	ICES advice	Predicted landings corresp. to advice	Agreed TAC	ICES estimated species-specific landings *
2005	No advice		No TAC	2652
2006	No advice		No TAC	2293
2007	No advice		No TAC	2243
2008	No advice		No TAC	2282
2009	Status quo catch	1800	No TAC	2223
2010	No new advice, same as for 2009	1800	No TAC	2528
2011	Maintain catch at recent level	1800	No TAC	2693
2012	No new advice, same as for 2011	1800	No TAC	2526
2013	Increase catch at most by 20% + no species-specific TAC		No TAC	2472
2014	No new advice, same as for 2013		No TAC	2705
2015	No new advice, same as for 2014		No TAC	2776
2016	Precautionary approach	Increase by no more than 20% compared to the average catches in 2012–2014		2967
2017	Biennial advice	Same catch value as advised for 2016		
2018	Precautionary approach	≤ 3380		
2019	Precautionary approach (Same advice as for 2018)	≤ 3380		

* The data were revised in 2016 (ICES, 2016b), but do not include generic “dogfishes & hounds”.

History of the catch and landings

Table 7 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. Catch distribution by fleet in 2016 as estimated by ICES.

Catch (2016)	Landings			Discards
Unknown	Bottom trawl 52%	Beam trawl 25%	Other gears 23%	Unknown
	2967 tonnes			

Table 8 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. ICES estimates of landings by country (in tonnes). Data revised in 2016 (ICES, 2016b).

Year	Belgium	Denmark	France	Netherlands	UK	Total
2005	238		2265	56	92	2652
2006	267		1857	48	121	2293
2007	264		1843	32	104	2243
2008	337		1822	29	94	2282
2009	309		1758	37	118	2223
2010	290		2055	37	146	2528
2011	311		2150	47	185	2693
2012	249		2061	35	181	2526
2013	231		2021	36	184	2472
2014	325		2189	45	146	2705
2015	416	0.01	2090	85	185	2776
2016	343	0.02	2173	122	330	2967

Summary of the assessment

Table 9 Lesser-spotted dogfish in Subarea 4 and in divisions 3.a and 7.d. Assessment summary. Biomass indices from four trawl surveys (IBTS Q1, IBTS Q3, CGFS, and UK-7d-BTS; all indices in kg h^{-1} , normalized by their long-term means) and the stock size indicator (the annual mean of the normalized surveys).

Year	IBTS-Q1	IBTS-Q3	CGFS	UK-7d-BTS	Stock size indicator
1993	0.073	0.202	0.582	0.381	0.309
1994	0.126	0.245	0.501	0.484	0.339
1995	0.156	0.115	0.530	0.533	0.334
1996	0.179	0.256	0.201	0.443	0.270
1997	0.150	0.181	1.187	0.457	0.494
1998	0.142	0.289	0.610	0.560	0.400
1999	0.318	0.336	1.149	0.636	0.610
2000	0.476	0.308	1.188	0.609	0.645
2001	0.284	0.260	0.758	0.542	0.461
2002	0.509	0.513	0.858	0.904	0.696
2003	0.529	0.402	1.542	0.600	0.768
2004	0.523	0.580	0.759	0.851	0.678
2005	0.403	0.485	1.221	1.115	0.806
2006	0.451	0.755	1.207	0.587	0.750
2007	0.993	0.459	1.948	0.972	1.093
2008	1.067	1.406	1.012	1.567	1.263
2009	1.061	1.084	0.941	1.110	1.049
2010	0.899	1.643	1.253	1.666	1.365
2011	0.713	1.451	1.003	1.106	1.068
2012	3.500	1.583	1.057	1.648	1.947
2013	3.669	3.455	1.240	1.925	2.572
2014	1.481	2.673	0.870	1.693	1.679
2015	3.054	2.732	1.366	2.024	2.294
2016	3.244	2.586	1.018	1.590	2.109

Sources and references

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