

Lesser-spotted dogfish (*Scylliorhinus canicula*) in divisions 8.a–b and 8.d (Bay of Biscay)

ICES stock advice

ICES advises that when the precautionary approach is applied, catches should be no more than 5592 tonnes in each of the years 2018 and 2019. If discard rates do not change from the average of the last three years (2014–2016), this implies landings of no more than 611 tonnes.

Stock development over time

The stock size indicator shows that the stock has been increasing until 2008 and decreased thereafter.

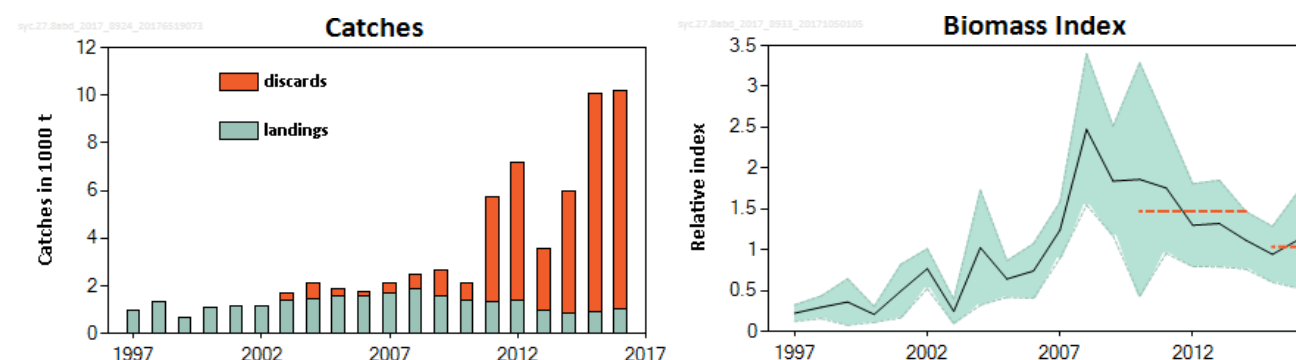


Figure 1 Lesser-spotted dogfish in divisions 8.a–b and 8.d. Summary of the stock assessment. Left: ICES estimates of species-specific landings of *Scylliorhinus canicula* since 1997. Discard data are provisional values and are from France, Belgium, and Spain (Basque Country), with more complete data from 2011. Right: Biomass index derived from the EVHOE-WIBTS-Q4 survey (normalized relative to the time-series mean). The dotted horizontal lines show the mean stock size indicators for 2015–2016 and 2010–2014. Confidence intervals are shaded.

Stock and exploitation status

Table 1 Lesser-spotted dogfish in divisions 8.a–b and 8.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} , F_{lim}	?	?	?	Undefined	B_{pa} , B_{lim}	?	?	?
Management plan	F_{MGT}	-	-	-	Not applicable	B_{MGT}	-	-	-
Qualitative evaluation	-	?	?	?	Unknown	-	↘	↘	↗
									Increasing

Catch options

The ICES framework for category 3 stocks (ICES, 2012) was applied. A biomass index derived from the EVHOE-WIBTS-Q4 survey was used to provide an overall stock size indicator. The advice is based on a comparison of the last two values (index A) with the five preceding values (index B), combined with the average catches in 2014–2016. The stock size indicator has decreased by 30% and so the uncertainty cap was applied. The stock size relative to candidate reference points is unknown. This is the first time ICES gives quantitative advice for this stock and the precautionary buffer is applied. The discard rate is 89% of the total catch.

Table 2 Lesser-spotted dogfish in divisions 8.a–b and 8.d. The basis for the catch options.*

Index A (2015–2016)		1.04
Index B (2010–2014)		1.47
Index ratio (A/B)		0.70
Uncertainty cap	Applied	0.8
Average catch (2014–2016)		8738 tonnes
Discard rate (average 2014–2016)		0.89
Precautionary buffer	Applied	0.8
Catch advice **		5592 tonnes
Landings corresponding to the catch advice ***		611 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 catch (2014–2016)] × [uncertainty cap] × [precautionary buffer].

*** [Average catch (2014–2016)] × [uncertainty cap] × [precautionary buffer] × [1 – discard rate].

Basis of the advice

Table 3 Lesser-spotted dogfish in divisions 8.a–b and 8.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

Historical series of discards were updated in 2017 (ICES, 2017a).

The biomass index series used in the assessment has been revised because a more consistent stratification of the survey for the stock area north and south of 48°North has been applied.

Discard survival occurs and can be around 70% in some métiers (Rodriguez-Cabello *et al.*, 2005), but has not been estimated for all the métiers.

Issues relevant for the advice

Scyliorhinid species are generally productive in comparison to other demersal elasmobranchs and are typically discarded or retained as low-value bycatch.

Reference points

Reference points are not defined for this stock.

An attempt has been made this year to calculate suitable MSY proxy reference points for this stock, but further investigation is needed (ICES, 2017b).

Basis of the assessment

Table 4 Lesser-spotted dogfish in divisions 8.a–b and 8.d. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2016a).
Assessment type	Survey-based trends (ICES, 2017b).
Input data	Survey EVHOE-WIBTS-Q4.
Discards and bycatch	Partially quantified.
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 5 Lesser-spotted dogfish in divisions 8.a–b and 8.d. ICES advice and species-specific estimates of landings. All weights are in tonnes.

Year	ICES advice	Predicted catch corresp. to advice	Predicted landings corresp. to advice	Agreed TAC	ICES species-specific estimates of landings *
2005	No advice			No TAC	1597
2006	No advice			No TAC	1598
2007	No advice			No TAC	1691
2008	No advice			No TAC	1863
2009	No advice		< 1800	No TAC	1586
2010	No advice		< 1800	No TAC	1415
2011	Maintain catch at recent level		< 1700	No TAC	1330
2012	No new advice, same as for 2011		< 1700	No TAC	1418
2013	Increase catch by a maximum of 20% + no species-specific TAC			No TAC	960
2014	No new advice, same as for 2013			No TAC	838
2015	No new advice, same as for 2014			No TAC	891
2016	Decrease by 20% compared to the average catches in 2012–2014			No TAC	1002
2017	Same catch advice as advised for 2016			No TAC	
2018	Precautionary approach	≤ 5592	≤ 611		
2019	Precautionary approach (same advice as for 2018)	≤ 5592	≤ 611		

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

History of the catch and landings

Table 6 Lesser-spotted dogfish in divisions 8.a–b and 8.d. Catch distribution by fleet in 2016 as estimated by ICES.

Catch (2016)	Landings				Discards
10 213 tonnes	Bottom and otter trawl 50%	Beam trawl 5%	Nets 10%	All other gears 35%	9210 tonnes
	1002 tonnes				

Table 7 Lesser-spotted dogfish in divisions 8.a–b and 8.d. History of ICES species-specific estimates of landings inside and outside of the NEAFC regulatory area. All weights are in tonnes.

Year	Inside the NEAFC regulatory area	Outside the NEAFC regulatory area	ICES species-specific estimates of landings
2014	0	838	838
2015	0	891	891
2016	0	1003	1002

Table 8 Lesser-spotted dogfish in divisions 8.a–b and 8.d. ICES species-specific estimated landings and discards (in tonnes). Data were revised in 2016 and 2017 (ICES, 2016b, 2017a).

Year	Belgium	France	Spain	UK	Ireland	Total landings	discards
2005	10	1229	355	3		1597	275
2006	13	1247	338			1598	173
2007	13	1352	327			1691	417
2008	18	1382	460		2	1863	641
2009	24	1117	445			1586	1092
2010	28	1085	302			1415	688
2011	28	1000	303	0		1330	4396
2012	32	911	472	2		1418	5774
2013	23	883	54			960	2582
2014	26	720	92			838	5122
2015	27	734	130			891	9150
2016	32	731	239		0	1002	9210

Summary of the assessment

Table 9 Lesser-spotted dogfish in divisions 8.a–b and 8.d. Assessment summary. Biomass index derived from the EVHOE-WIBTS-Q4 trawl survey (kg h^{-1}), normalized relative to the long-term mean.

Year	Stock indicator	High	Low
1997	0.224	0.326	0.122
1998	0.297	0.434	0.160
1999	0.362	0.646	0.078
2000	0.210	0.307	0.114
2001	0.494	0.821	0.167
2002	0.770	1.014	0.525
2003	0.247	0.393	0.100
2004	1.027	1.731	0.323
2005	0.643	0.867	0.419
2006	0.741	1.076	0.407
2007	1.242	1.585	0.899
2008	2.474	3.400	1.548
2009	1.841	2.511	1.172
2010	1.862	3.289	0.435
2011	1.756	2.554	0.958
2012	1.301	1.807	0.794
2013	1.322	1.851	0.792
2014	1.117	1.469	0.765
2015	0.944	1.286	0.602
2016	1.128	1.728	0.528

Sources and references

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