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Lesser-spotted dogfish (*Scyliorhinus canicula*) in Subarea 6 and divisions 7.a–c and 7.e–j (Celtic Seas)

ICES stock advice

ICES advises that when the precautionary approach is applied, landings should be no more than 4296 tonnes in each of the years 2018 and 2019. ICES cannot quantify the corresponding catches.

Stock development over time

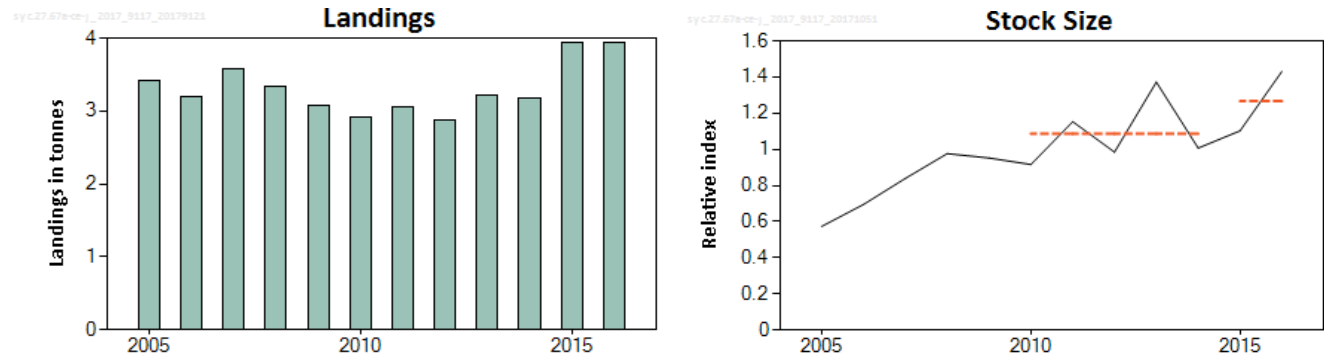The stock size indicator has increased over the time series.

Figure 1   Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. Summary of the stock assessment. Left: Recent ICES estimates of species-specific landings. Right: Stock size indicator from four surveys (EVHOE-WIBTS-Q4, IGFS-WIBTS-Q4, SpPGFS-WIBTS-Q4, UK(E&W)-BTS-Q3; kg/hr^{-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 6 and divisions 7.a–c and 7.e–j. 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 $B_{trigger}$	?	?	?	Undefined
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Undefined	B_{pa}, B_{lim}	?	?	?	Undefined
Management plan	F_{MGT}	-	-	-	Not applicable	B_{MGT}	-	-	-	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	↘	↗	↗	Increasing

Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). Biomass indices derived from four surveys (EVHOE-WIBTS-Q4, IGFS-WIBTS-Q4, SpPGFS-WIBTS-Q4 and UK(E&W)-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 less than 20%, thus the uncertainty cap was not 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 6 and divisions 7.a–c and 7.e–j. The basis for the catch options.*

Index A (2015–2016)		1.27
Index B (2010–2014)		1.09
Index ratio (A/B)		1.17
Uncertainty cap	Not applied	-
Average landings (2014–2016)		3685 tonnes
Discard rate		Unknown
Precautionary buffer	Not applied	-
Landings advice**		4296 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)] × [index ratio].

Basis of the advice

Table 3   Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. 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 extensive overlap with this stock, and landings data for vessels < 10 m length overall (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 survival of the species may be high, at least in some areas/métiers (Revill *et al*., 2005).

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

Issues relevant for the advice

The advice for 2016 and 2017 was provided in relative terms in the absence of reliable landings data. Landings in recent years are considered sufficiently reliable to be used to derive the advice for 2018 and 2019 but remain incomplete.

Scyliorhinids are generally productive species in comparison to other demersal elasmobranchs and are 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 4   Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2016a).
Assessment type	Survey trends-based assessment (ICES, 2017).
Input data	Surveys: EVHOE-WIBTS-Q4, IGFS-WIBTS-Q4, SpPGFS-WIBTS-Q4, UK(E&W)-BTS-Q3.
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 5   Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. ICES advice and estimates of landings. All weights are in tonnes.

Year	ICES advice	Predicted landings corresp. to advice	Agreed TAC	ICES species-specific estimates of landings*
2005	No advice		No TAC	3426
2006	No advice		No TAC	3195
2007	No advice		No TAC	3579
2008	No advice		No TAC	3344
2009	*Status quo* catch		No TAC	3080
2010	No new advice, same as for 2009		No TAC	2909
2011	Maintain catch at recent level		No TAC	3064
2012	No new advice, same as for 2011		No TAC	2868
2013	Increase catch by maximum 20% + no species-specific TAC		No TAC	3219
2014	No new advice, same as for 2013		No TAC	3176
2015	No new advice, same as for 2014		No TAC	3948
2016	Precautionary approach	Increase by no more than 18% compared to the average catches in 2012–2014	No TAC	3932
2017	Biennial advice	Same catch value as advised for 2016	No TAC	
2018	Precautionary approach	≤ 4296		
2019	Precautionary approach (Same catch advice as for 2018)	≤ 4296		

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

History of the catch and landings

Table 6   Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. Catch distribution by fleet in 2016 as estimated by ICES.

Catch (2016)	Landings			Discards
Unknown	Bottom trawl 77%	Beam trawl 9%	Others 14%	Unknown*
	3932 tonnes			

*Discards cannot be quantified, but available data suggest they may be of the same order of magnitude as landings (ICES, 2017).

Table 7 Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. 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	3176	3176
2015	0	3948	3948
2016	0	3932	3932

Table 8 Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. ICES estimates of landings by country (in tonnes). Data revised in 2016 (ICES, 2016b).

Year	Belgium	Spain	France	UK	Ireland	Netherlands	Total
2005	240	34	2936	123	92		3426
2006	225	33	2873	22	42	0	3195
2007	199	37	3101	115	128		3579
2008	165	12	2728	191	248		3344
2009	168	17	2479	226	190	0	3080
2010	165	28	2368	111	232	6	2909
2011	227	48	2359	111	317	1	3064
2012	236	109	2060	241	221	1	2868
2013	216	26	2284	380	310	4	3219
2014	141	18	2292	389	336	0	3176
2015	252	20	2024	1282	367	3	3948
2016	194	9	1969	1333	425	1	3932

Summary of the assessment

Table 9 Lesser-spotted dogfish in Subarea 6 and divisions 7.a–c and 7.e–j. Assessment summary. Biomass indices from four trawl surveys (EVHOE-WIBTS-Q4, IGFS-WIBTS-Q4, SpPGFS-WIBTS-Q4, UK (E&W)-BTS-Q3; all indices are in kg h^{-1}, normalized by their long-term means) and the stock size indicator (the annual mean of the normalized surveys).

Year	IGFS-WIBTS-Q4	EVHOE-WIBTS-Q4	SpPGFS-WIBTS-Q4	UK (E&W)-BTS-Q3	Stock size indicator
2005	0.702	0.653	0.373	0.565	0.574
2006	0.626	0.810	0.556	0.789	0.695
2007	0.751	0.984	0.863	0.757	0.839
2008	0.886	1.303	0.827	0.889	0.976
2009	1.003	1.056	0.769	0.981	0.952
2010	1.148	0.790	0.830	0.895	0.916
2011	1.395	1.051	0.789	1.378	1.153
2012	0.825	1.173	0.733	1.207	0.984
2013	1.014	1.102	2.060	1.310	1.371
2014	1.071	0.667	1.149	1.140	1.007
2015	1.098	1.298	1.011	1.001	1.102
2016	1.481	1.113	2.040	1.088	1.431

Sources and references

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