

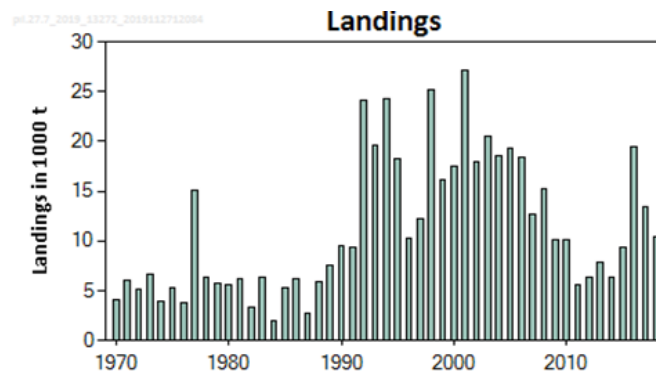
## Sardine (*Sardina pilchardus*) in Subarea 7 (southern Celtic Seas and the English Channel)

### ICES stock advice

ICES cannot provide advice on fishing opportunities for 2020 and 2021 for this stock, because of lack of reliable catch data.

### Stock development over time

The available catch data for the stock are considered unreliable. An abundance index from a survey is under development. Stock development, therefore, is unknown.



**Figure 1** Sardine in Subarea 7. Official landings (1000 t) of sardine in Subarea 7 (excluding ICES rectangles 25E5 and 25E4) from 1970 to 2018.

### Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to maximum sustainable yield (MSY) and precautionary approach (PA) reference points, because the reference points are undefined.

**Table 1** Sardine in Subarea 7. State of the stock and fishery relative to reference points.

		Fishing pressure			Stock size					
		2016	2017	2018	2017	2018	2019			
Maximum sustainable yield	$F_{MSY}$	?	?	?	Unknown	$MSY B_{trigger}$	?	?	?	Unknown
Precautionary approach	$F_{pa}, F_{lim}$	?	?	?	Unknown	$B_{pa}, B_{lim}$	?	?	?	Unknown
Management plan	$F_{MGT}$	—	—	—	Not applicable	$B_{MGT}$	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	?	?	?	Unknown

### Catch scenarios

ICES cannot provide catch advice for this stock because of lack of reliable landings data. The level of discarding is unknown, and probably quite variable.

### Basis of the advice

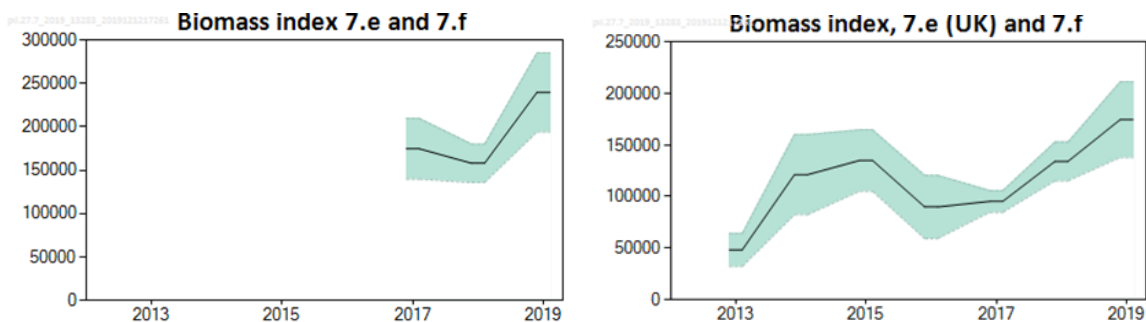
**Table 2** Sardine in Subarea 7. The basis of the advice.

Advice basis	No catch advice is provided.
Management plan	ICES is not aware of any agreed precautionary management plan for sardine in this area.

## Quality of the assessment

The landings statistics available to ICES are highly uncertain at present. Reported catches by country are variable over time and across ICES divisions, and currently this variability is not explained. In addition, because of the opportunistic nature of some of the fisheries, some of the bycatches of sardine may not be reported.

The only fishery-independent data available come from the PELTIC survey (Figure 2). The complete survey series (seven years) covers Division 7.f and UK waters of Division 7.e (which comprise about one fourth of the total potential sardine habitat in Division 7.e). Since 2017 its coverage has been expanded to the whole of Division 7.e and, in 2018 only, to Division 7.d. However, a longer time-series and further analyses are required before the survey index can be used as a stock indicator.



**Figure 2** Sardine biomass indices (in tonnes) from the PELTIC survey ( $\pm$  Standard Deviation). Left panel: represents the area covering divisions 7.f and 7.e as a whole. Right panel: represents the area covering Divisions 7.f and UK waters of Division 7.e.

A self-sampling programme for the UK artisanal fishery started in the autumn of 2017 and provides catch-at-length data.

French catches originating from ICES rectangles 25E5 and 25E4 (Subarea 7) have been allocated by ICES to Division 8.a, as they occur in the boundary and are considered to be more closely associated with the sardine stock in divisions 8.a, 8.b, and 8.d.

## Issues relevant for the advice

Reported catches by country are highly variable over time and across ICES divisions. Since part of these reported catches are bycatches, it is not clear whether this variability is a consequence of opportunistic fisheries or to a lack of reporting for some years. Therefore, the reliability of the catch data for Subarea 7 is questioned and the statistics need to be further reviewed.

## Reference points

No reference points are defined for this stock.

## Basis of the assessment

**Table 3** Sardine in Subarea 7. The basis of the assessment.

ICES stock data category	5 ( <a href="#">ICES, 2018</a> ).
Assessment type	No assessment (ICES, 2019).
Input data	None.
Discards and bycatch	Unknown.
Indicators	Official landings; PELTIC survey biomass index (2013–2019).
Other information	This stock was benchmarked in February 2017 (WKPELA; ICES, 2017).
Working group	Working Group on Southern Horse Mackerel, Anchovy, and Sardine ( <a href="#">WGHANSA</a> )

### Information from stakeholders

There is no additional available information.

### History of the advice, catch, and management

**Table 4a** Sardine in divisions 8.a–b and 8.d, and Subarea 7. ICES advice and official landings. All weights are in tonnes.\*

Year	ICES advice	Catch corresponding to advice	Reported landings	ICES landings
2010	None		32592	30287
2011	None		28847	28840
2012	None		37214	37214
2013	None		40971	40130
2014	20% reduction of catches (average of last three years)	< 27554	45312	42015
2015	No new advice, same as for 2014	< 27554	36928	38070
2016	Precautionary approach (increase catches by no more than 20%)	≤ 33065	47324	49161
2017	Precautionary approach (same advised catch value as given for 2016)	≤ 33065	57889	43101

\* No official TAC is set for this stock.

**Table 4b** Sardine in Subarea 7. ICES advice and official landings. All weights are in tonnes.\*

Year	ICES advice	Catch corresponding to advice	Official landings	ICES landings
2018	Precautionary approach: 20% reduction in catch relative to the 2014–2016 average	Value not quantified	17373	10412
2019	Precautionary approach: Same advice as for 2018	Value not quantified		
2020	No catch advice	-		
2021	No catch advice	-		

\* No official TAC is set for this stock.

### History of the catch and landings

**Table 5** Sardine in Subarea 7. Catch distribution by fleet in 2018 as estimated by ICES.

Catch 2018	Landings			Discards
	Pelagic trawl 85%	Purse-seines, 15%	Other gears, < 0.2%	
Unknown	10412 tonnes			Unknown

**Table 6** Sardine in Subarea 7. History of reported landings; values are presented for each country participating in the fishery. All weights are in tonnes.

Year	France*	United Kingdom	Netherlands	Ireland	Germany	Denmark	Lithuania	Belgium	Spain
1970	1014	890	38	0	2112	0	0	0	0
1971	1350	1242	108	0	3362	0	0	0	0
1972	1297	2190	54	0	1553	0	0	0	0
1973	1603	2375	17	0	2577	0	0	0	0
1974	833	1280	15	0	1826	0	0	0	0
1975	678	6	561	0	4043	0	0	0	0
1976	1284	3	127	0	2346	0	0	0	0
1977	3544	10778	623	0	183	0	0	0	0
1978	2773	549	1523	0	1463	0	0	0	0
1979	3247	46	1321	0	1188	0	0	0	0
1980	3573	753	1131	0	79	0	0	0	0

Year	France*	United Kingdom	Netherlands	Ireland	Germany	Denmark	Lithuania	Belgium	Spain
1981	1125	35	553	0	0	4471	0	0	0
1982	908	141	928	0	0	1311	0	0	0
1983	802	6	795	0	19	4743	0	0	0
1984	817	1	0	0	0	1210	0	0	0
1985	2089	20	0	0	0	3111	0	0	0
1986	2570	30	0	0	0	3602	0	0	0
1987	965	124	0	0	0	1573	0	0	0
1988	2586	0	0	0	0	3234	0	0	0
1989	1219	1660	11	0	0	4667	0	0	0
1990	1128	2078	6	0	107	6113	0	0	0
1991	1963	2952	0	0	8	4462	0	0	0
1992	1777	4493	41	0	4	17843	0	0	0
1993	1135	4917	109	0	0	13395	0	0	0
1994	1285	2081	20	0	2	20804	0	0	0
1995	1282	7133	107	0	66	9603	0	0	0
1996	1563	7304	48	0	0	1396	0	0	0
1997	3346	7280	411	0	13	1124	0	0	0
1998	1974	6873	1647	192	100	14316	0	0	0
1999	119	4815	5166	2375	146	3490	0	0	8
2000	4074	4353	6586	354	436	1682	0	0	0
2001	8589	10375	6609	1060	454	0	0	0	0
2002	5324	7858	1905	2652	224	0	0	0	10
2003	6594	4358	6897	2580	25	0	0	0	0
2004	6681	2681	2187	6195	109	742	0	0	0
2005	11113	3631	2231	2083	274	0	0	0	5
2006	12965	1925	2287	698	481	0	17	0	2
2007	8865	2654	1106	14	0	4	0	0	0
2008	8665	3470	2073	875	42	54	0	0	0
2009	4135	2541	3406	33	0	0	0	0	0
2010	850	2521	6645	25	106	13	0	0	0
2011	508	3604	513	983	22	3	0	0	0
2012	444	4423	1439	8	0	0	0	0	0
2013	1768	3722	1804	236	214	40	0	0	0
2014	1202	3889	249	0	18	953	0	0	0
2015	1040	4293	1137	380	1551	1011	1	0	0
2016	863	9389	4697	232	1941	2286	0	1	0
2017	726	7623	1349	140	1095	2459	0	0	0
2018	663	8141	811	44	490	263	0	0	0

\* French catches originating from ICES rectangles 25E5 and 25E4 are not included.

## Summary of the assessment

There is no assessment for sardine in this area.

## Sources and references

- ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM:68. 42 pp. <https://doi.org/10.17895/ices.pub.5322>.
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