

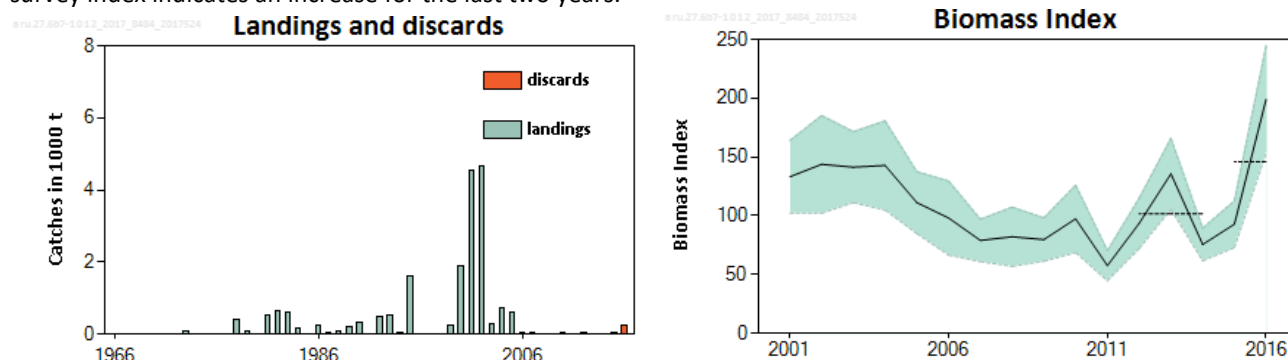
## Greater silver smelt (*Argentina silus*) in subareas 7–10 and 12, and in Division 6.b (other areas)

### ICES stock advice

ICES advises that when the precautionary approach is applied, landings should be no more than 14 tonnes in each of the years 2018 and 2019. Discarding is known to take place, but ICES cannot quantify the corresponding catches.

### Stock development over time

Over the past decade, landings from the stock have been low, typically under 500 tonnes. The Spanish survey on the Porcupine Bank provides an index of biomass for the area where the bulk of the cumulated catch in the past 30 years was taken. The survey index indicates an increase for the last two years.



**Figure 1** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. Summary of the stock assessment. The biomass index is given in kg/30min. The dotted horizontal lines indicate the average biomass index of the respective year range used to calculate the advice.

### Stock and exploitation status

**Table 1** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. 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	$B_{trigger}$	?	?	?
Management plan	$F_{lim}$	-	-	-	Not applicable	$B_{pa}, B_{lim}$	?	?	?
Qualitative evaluation	$F_{MGT}$	-	-	-	Unknown	$SSB_{MGT}$	-	-	-
	-	?	?	?	Unknown	-	↘	↗	↗

### Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012). The Spanish Porcupine bank survey was used 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), multiplied by recent landings advice. The index is estimated to have increased by more than 20%, which means the uncertainty cap was applied to calculate the landings advice. The stock status relative to candidate reference points is unknown. The precautionary buffer, which has not previously been applied, has been applied to the advice for 2018 and 2019. Most of the catch is discarded, and ICES cannot quantify the corresponding catches.

**Table 2** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. The basis for the catch options.

Index A (2015–2016)	145.9 kg [30 min] <sup>-1</sup>	
Index B (2012–2014)	101.6 kg [30 min] <sup>-1</sup>	
Index ratio (A/B)	1.4	
Uncertainty cap	Applied	1.2
Advised landings for 2016 and 2017	15 tonnes	
Discard rate	Unknown	
Precautionary buffer	Applied	0.8
Landings advice*	14 tonnes	

\* [advice for 2016 and 2017] × [uncertainty cap] × [precautionary buffer]. 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.

### Basis of the advice

**Table 3** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. The basis of the advice.

Advice basis	ICES precautionary approach.
Management plan	ICES is not aware of any agreed precautionary management plan for 2017 in this area.

### Quality of the assessment

The survey index used for the assessment does not cover the full area, but it does correspond to the area where the bulk of the catch was taken in the directed fishery from 2000 to 2005. The abundance of the species is lesser in southern areas (subareas 8, 9, and 10). The survey covers water depths from 300 to 800 m, which is the main depth range of the species.

The biomass index used from the Spanish Porcupine Bank survey includes two species, greater and lesser silver smelt; however, the proportion of lesser silver smelt is < 20%.

There is currently no directed fishery and bycatches of greater silver smelt are discarded in fisheries for other species (primarily hake, monkfish, and megrim). It is not possible to determine a discard rate that would be applicable to catches in the next two years.

### Issues relevant for the advice

The stock structure of greater silver smelt is unknown. The subareas 7–10 and 12 and Division 6.b stock unit was defined in 2015 when ICES revised the advice units for the greater silver smelt. ICES provides separate advice for three other stock units (Subarea 14 and Division 5.a; subareas 1, 2, and 4 and Division 3.a; and divisions 5.b and 6.a).

Landings in Division 6.b and subareas 7–12 are small. Considerable discarding is known to occur in some fisheries in the Porcupine Bank outer shelf and upper slope fisheries for demersal and deep-water fish. These fisheries do not land greater silver smelt. Targeted fisheries prior to 2006 have not operated significantly in these areas since then. It is considered more likely that variations in landings over time reflect market opportunities rather than fish abundance. Current advice is based on precautionary considerations on recent low landings and may not reflect potential fishing opportunities for this advice unit.

## Reference points

No reference points are defined for this stock. An attempt has been made this year to calculate MSY proxy reference points for this stock. However, the data were too few to generate input parameters for the analysis (ICES, 2017).

## Basis of the assessment

**Table 4** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. Basis of assessment and advice.

ICES stock data category	3 (ICES, 2016).
Assessment type	Trends-based assessment (ICES, 2017).
Input data	Spanish Porcupine Bank survey.
Discards and bycatch	Not included in the assessment.
Indicators	None.
Other information	This advice unit for greater silver smelt was defined in 2015.
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)

## Information from stakeholders

There is no available information.

## History of the advice, catch, and management

**Table 5** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. ICES advice and official landings. All weights are in tonnes.

Year	ICES advice	Predicted catch corresp. to advice	TAC EC Subareas 3 and 4*	TAC EC Subareas 5–7	ICES landings Other areas (current definition**)
2003	No fisheries unless data collection on (by)catch, no expansion unless proven to be sustainable	-	1566	6247	288
2004	Biennial	-	1566	6247	722
2005	No fisheries unless accompanied by programmes to collect data on both target and bycatch fish	-	1311	5310	626
2006	Biennial	-	1311	5310	40
2007	The fishery should not be allowed to expand unless it can be shown that it is sustainable	-	1331	5311	36
2008	Biennial	-	1331	5311	20
2009	Same advice as 2007	-	1331	5311	22
2010	Biennial	-	1278	5099	25
2011	The fishery should not be allowed to expand, and a reduction in catches should be considered	-	1176	4691	14
2012	No new advice, same as 2011		108	4316	36
2013	Reduce catches by 10%	31300	1028	4316	1
2014	No new advice, same as 2013	31300	1028	4316	22
2015*	Precautionary approach	31300			5
2016	Precautionary approach	15			0
2017	Biennial	15		3884	
2018	Precautionary approach	≤ 14			
2019	Precautionary approach (same landings advice 2018)	≤ 14			

\* 2015 was the first year that ICES provides advice for this stock unit. Prior to 2015, “other areas” included Subareas 1,2,3, and 4 and Divisions 5.b and 6.a.

\*\* Division 6.b and subareas 7–12.

## History of the catch and landings

There are no landings reported from the NEAFC regulatory area.

**Table 6** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. Catch distribution by fleet in 2016 as estimated by ICES.

Catch (2016)	Landings	Discards
259 tonnes	Trawl 100%	259 tonnes
	0 tonnes	

**Table 7** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. History of the official total landings and landings by area. All weights are in tonnes.

Year	6b	7	8	9	12	Total landings
1966						0
1967						0
1968						0
1969						0
1970						0
1971						0
1972		0				0
1973		103				103
1974		0				0
1975		0				0
1976		0				0
1977		1				1
1978		409				409
1979		103				103
1980	13	0				13
1981	525	0				525
1982	0	666				666
1983	4	595				599
1984	0	163				163
1985	0	0				0
1986	0	258				258
1987	0	50				50
1988	0	100			0	100
1989	0	200			0	200
1990	300	24			0	324
1991	5	9			0	14
1992	221	254			0	475
1993	3	505			6	514
1994	20	39			0	59
1995	1114	510			0	1624
1996	0	10			1	11
1997	0	12			0	12

Year	6b	7	8	9	12	Total landings
1998	0	0			0	0
1999	178	50			0	228
2000	1384	523			2	1909
2001	130	4415			0	4545
2002	30	4437	195		0	4662
2003	126	119	43		0	288
2004	23	47	23		629	722
2005	4	58	202		362	626
2006	0	40	0	0	0	40
2007	0	35	0	1	0	36
2008	9	0	10	1	0	20
2009	0	20	0	2	0	22
2010	0	23	0	2	0	25
2011	0	12	1	1	0	14
2012	0	3	0	2	31	36
2013	0	1	0	0	0	1
2014	20	1	1	0	0	22
2015	0	5	0	0	0	5
2016	0	0	0	0	0	0

## Summary of the assessment

**Table 8** Greater silver smelt in subareas 7–10 and 12, and in Division 6.b. Assessment summary. Biomass index from the Spanish Porcupine Bank survey for both greater and lesser silver smelt. Also given is the biomass index for *A.silus* only and the proportion between the two species. (Weights are in kg/30min).

Year	<i>Argentina sp.</i>		<i>Argentina silus</i>		Proportion of <i>A. silus/A. sphyrena</i>
	kg [30 min] <sup>-1</sup>	SE	kg [30 min] <sup>-1</sup>	SE	
2001	133.17	30.82			
2002	143.72	41.51			
2003	141.33	30.17			
2004	142.76	37.93			
2005	111.15	26.30			
2006	98.05	31.51			
2007	79.03	18.02			
2008	82.16	25.12			
2009	79.74	18.41	72.95	17.99	0.91
2010	97.39	28.67	89.97	28.55	0.92
2011	57.57	12.85	50.32	12.48	0.87
2012	93.52	21.43	83.02	20.67	0.89
2013	135.63	30.25	121.50	28.19	0.90
2014	75.59	13.87	59.57	12.27	0.79
2015	92.80	19.89	72.56	15.62	0.78
2016	199.00	45.67	172.94	41.13	0.87

## 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.

ICES. 2016. Advice basis. *In* Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 1, Section 1.2.

ICES. 2017. Report of the Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP), 24 April–1 May 2017, Copenhagen, Denmark. ICES CM 2017/ACOM:14. 702 pp.