

### 7.3.29 Norway lobster (*Nephrops norvegicus*) in Division 9.a, functional units 28–29 (Atlantic Iberian waters East and southwestern and southern Portugal)

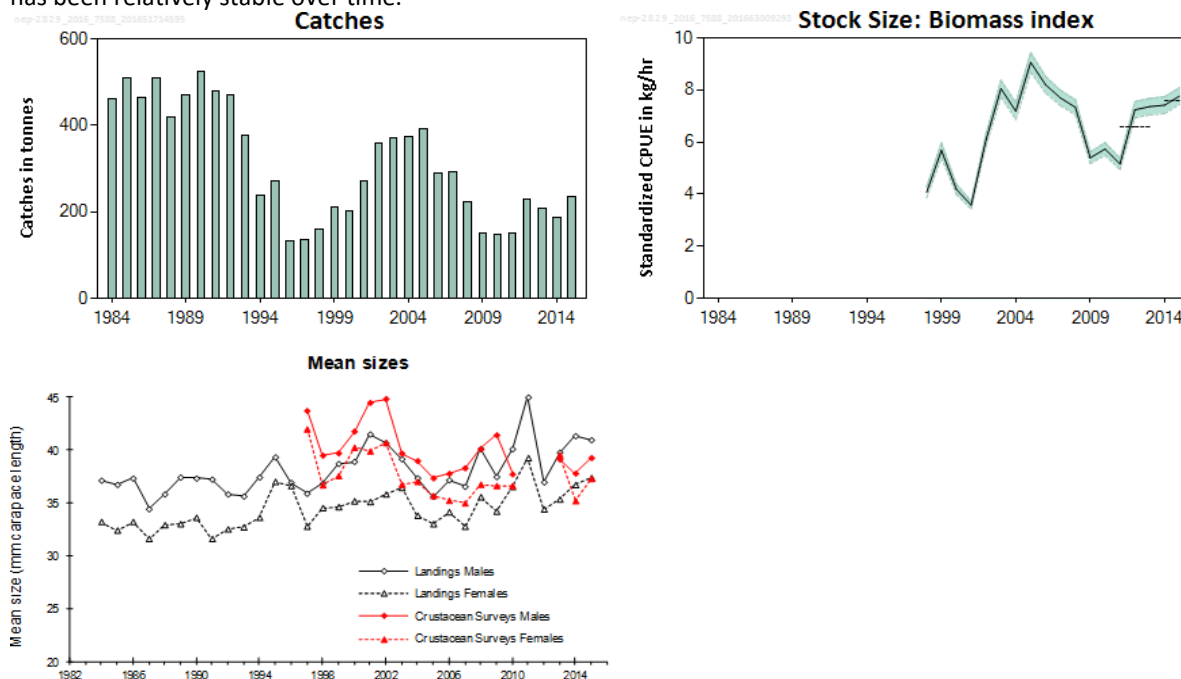
#### ICES stock advice

ICES advises that when the precautionary approach is applied, catches should be no more than 260 tonnes in 2017.

To protect the stock in these functional units, ICES advises that management should be implemented at the functional unit level.

#### Stock development over time

Standardized commercial CPUE (used as the stock size indicator) has increased since 2011 and the mean size of individuals has been relatively stable over time.



**Figure 7.3.29.1** Norway lobster in Division 9.a, functional units (FU)s 28–29. Upper left: Official landings (in tonnes). Upper right: Stock size indicator, standardized CPUE (kg hour<sup>-1</sup>); dashed lines denote the average of the respective year range. Lower left: Mean size of males and females from the survey and commercial landings.

#### Stock and exploitation status

**Table 7.3.29.1** Norway lobster in Division 9.a, FUs 28–29. State of the stock and fishery relative to reference points. The state of the stock evaluation is based on reference point proxies (ICES, 2016a, 2016b) for 2013 and 2014; no updated analysis is available for 2015.

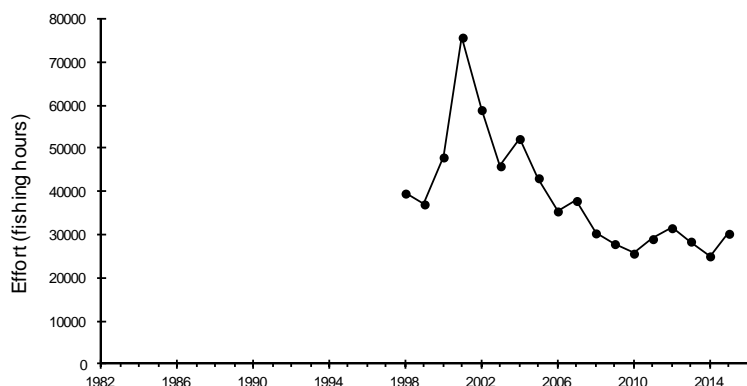
		Fishing pressure			Stock size		
		2013	2014	2015	2013	2014	2015
Maximum sustainable yield	$F_{MSYprox}$	✓	✓	⊛ Unknown	$MSY B_{trigger}$	⊛	⊛ Undefined
Precautionary approach	$F_{pa}, F_{lim}$	✓	✓	⊛ Unknown	$B_{pa}, B_{lim}$	⊛	⊛ Undefined
Management plan	$F_{MGT}$	-	-	- Not applicable	$SSB_{MGT}$	-	- Not applicable
Qualitative evaluation						↗	→ Stable

## Catch options

The ICES framework for category 3 stocks was applied (ICES, 2012a). The standardized commercial CPUE was used as the index of 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 the recent advised catch.

The index is estimated to have increased by less than 20% and thus the uncertainty cap was not applied. Although stock size is unknown, the fishing mortality was estimated to be below the MSY reference proxy in the evaluation conducted by (ICES, 2016b), with data until 2014. Additionally, fishing effort has decreased substantially from the early 2000s (Figure 7.3.29.2). Therefore, no additional precautionary buffer was applied.

Discarding is negligible.



**Figure 7.3.29.2** Norway lobster in Division 9.a, functional units (FU)s 28–29. Standardised fishing effort of Portuguese fisheries for Norway lobster in S and SW Portugal (FU 28+29).

**Table 7.3.29.2** Norway lobster in Division 9.a, FUs 28–29. Catch options.

Index A (2014–2015)	7.592 kg hour <sup>-1</sup>	
Index B (2011–2013)	6.588 kg hour <sup>-1</sup>	
Index ratio (A/B)	1.15	
Uncertainty cap	Not applied	-
Recent advised catch for 2016	226 tonnes	
Discard rate	Negligible	
Precautionary buffer	Not applied	-
Catch advice*	260 tonnes	

\* [Recent advice] × [index ratio].

## Basis of the advice

**Table 7.3.29.3** Norway lobster in Division 9.a, FUs 28–29. The basis of the advice.

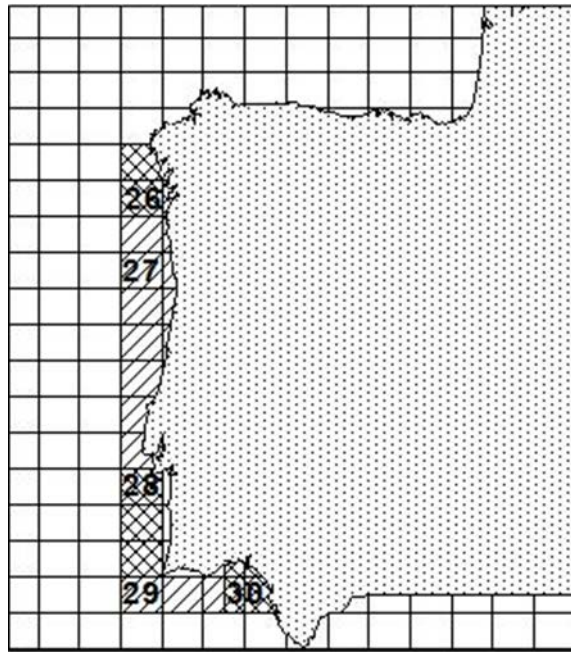
Advice basis	Precautionary approach
Management plan	A recovery plan for southern hake and Norway lobster was agreed by the EU in 2005 (EU, 2005, Appendix 7.3.7). This plan is based on precautionary reference points for southern hake that are no longer appropriate.

## Quality of the assessment

Spanish vessels have been licensed for crustacean fisheries in these FUs under a bilateral agreement since 2004. No data from the operations of these vessels is available prior to 2011. Landings include Spanish official landings since 2011.

### Issues relevant for the advice

ICES advises that the management area should be consistent with the assessment area (Figure 7.3.29.3).



**Figure 7.3.29.3** Norway lobster in Division 9.a, FUs 28–29. Map of functional units.

### Reference points

**Table 7.3.29.4** Norway lobster in Division 9.a, FUs 28–29. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$	Not defined		
	$F_{MSY proxy}$	0.30 males; 0.33 females	$F_{0.1}$ from length-based analysis estimated using the mean-length $Z$ method, assuming knife-edge length selection.	ICES (2016b)
Precautionary approach	$B_{lim}$	Not defined		
	$B_{pa}$	Not defined		
	$F_{lim}$	Not defined		
	$F_{pa}$	Not defined		
Management plan	$SSB_{MGT}$	Not defined		
	$F_{MGT}$	Not defined		

## Basis of the assessment

**Table 7.3.29.5** Norway lobster in Division 9.a, FUs 28–29. The basis of the assessment.

ICES stock data category	3 ( <a href="#">ICES, 2016c</a> )
Assessment type	Trends from standardized commercial CPUE.
Input data	Commercial catches (Portuguese catches 1984–2015 and Spanish catches 2011–2015); one commercial index (standardized CPUE from the Portuguese crustacean trawl fleet, 1998–2015).
Discards and bycatch	Not included and considered negligible.
Indicators	Biomass index from the crustacean trawl survey (PT-CTS), mean length in commercial catches and in surveys.
Other information	The last inter-benchmark protocol (IBP) was conducted in 2012. To be benchmarked in October 2016.
Working group	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion ( <a href="#">WGBIE</a> )

## Information from stakeholders

There is no available information.

## History of the advice, catch, and management

**Table 7.3.29.6** Norway lobster in Division 9.a, FUs 28–29. History of ICES advice, the agreed TAC, and ICES estimates of landings. All weights are in thousand tonnes.

Year	ICES advice	Predicted catches correspond. to advice	AgreedTAC *	ICES landings	ICES discards
2003	Zero catches	0	0.600	0.370	0
2004	Zero catches	0	0.600	0.375	0.010
2005	Zero catches	0	0.540	0.391	0.030
2006	Average landings in times when stock was recovering (1996–2002)	< 0.2	0.486	0.291	0
2007	Average landings in times when stock was recovering (1996–2002)	< 0.2	0.437	0.291	0
2008	Average landings in times when stock was recovering (1996–2002)	< 0.2	0.415	0.223	0
2009	Average landings in times when stock was recovering (1996–2002)	< 0.2	0.374	0.151	0
2010	No new advice, same as for 2009	< 0.2	0.337	0.147	0
2011	See scenarios	-	0.303	0.150	0
2012	Reduce catch	-	0.273	0.229	0
2013	Reduce catch by 14%	0.11	0.246	0.209	0.003
2014	No new advice, same as for 2013	0.11	0.221	0.193	0
2015	Increase catch by up to 14%	0.226	0.254	0.247	0
2016	No new advice, same as for 2015	0.226	0.320		
2017	Precautionary approach	≤ 0.260			

\* Subareas 9 and 10; EU waters of CECAF 34.1.1.

## History of catch and landings

**Table 7.3.29.7** Norway lobster in Division 9.a, FUs 28–29. Catch distribution by fleet in 2015 as estimated by ICES.

Catch (2015)	Landings		Discards
247 t	98.5% trawl	1.5% artisanal	0 t
	247 t		

**Table 7.3.29.8** Norway lobster in Division 9.a, FUs 28–29. History of official landings by area, country, and gear. All weights are in tonnes.

Year	Official landings					Total ICES landings*
	Spain		Portugal			
	FU 28**	FU 29	FUs 28 and 29			FUs 28–29
	Trawl I	Trawl I	Artisanal	Trawl I	Total	
1975	137	1510		34	34	1681
1976	132	1752		30	30	1914
1977	95	1764		15	15	1874
1978	120	1979		45	45	2144
1979	96	1532		102	102	1730
1980	193	1300		147	147	1640
1981	270	1033		128	128	1431
1982	130	1177		86	86	1393
1983				244	244	244
1984				461	461	461
1985				509	509	509
1986				465	465	465
1987			11	498	509	509
1988			15	405	420	420
1989			6	463	469	469
1990			4	520	524	524
1991			5	473	478	478
1992			1	469	470	470
1993			1	376	377	377
1994				237	237	237
1995			1	272	273	273
1996			4	128	132	132
1997			2	134	136	136
1998			2	159	161	161
1999			5	206	211	211
2000			4	197	201	201
2001			2	269	271	271
2002			1	358	359	359
2003			35	335	370	370
2004			31	345	375	375
2005			31	360	391	391
2006			17	274	291	291
2007			18	274	291	291
2008			35	188	223	223
2009			17	133	151	151
2010			16	131	147	147
2011		17	16	117	133	150
2012	< 1	14	3	211	214	229
2013		10	1	198	199	209
2014		8	3	183	186	193
2015		12	4	231	235	247

\* Includes unallocated landings.

\*\* Spanish landings in FU 29 include catches in FU 28.

## Summary of the assessment

**Table 7.3.29.9** Norway lobster in Division 9.a, FUs 28–29. Assessment summary.

Year	Landings (tonnes)	Mean sizes_commercial landings_males (CL mm)	Mean sizes_commercial landings_females (CL mm)	Mean sizes_crustacean survey_males (CL mm)	Mean sizes_crustacean survey_females (CL mm)	Standardized CPUE (kg hour <sup>-1</sup> )
1984	461	37.1	33.2			
1985	509	36.7	32.4			
1986	465	37.3	33.2			
1987	509	34.4	31.6			
1988	420	35.8	32.9			
1989	469	37.4	33.0			
1990	524	37.3	33.6			
1991	478	37.2	31.6			
1992	470	35.8	32.5			
1993	377	35.6	32.7			
1994	237	37.4	33.6	*	*	
1995	273	39.3	37.0	*	*	
1996	132	36.9	36.6	*	*	
1997	136	35.9	32.8	43.7	41.9	
1998	161	36.8	34.5	39.5	36.7	4.07
1999	211	38.7	34.6	39.7	37.5	5.68
2000	201	38.9	35.2	41.7	40.2	4.19
2001	271	41.5	35.1	44.5	39.9	3.58
2002	359	40.6	35.8	44.8	40.7	6.09
2003	370	39.1	36.4	39.7	36.7	8.05
2004	375	37.3	33.8	39.0	37.0	7.19
2005	391	35.6	33.0	37.3	35.7	9.06
2006	291	37.1	34.1	37.7	35.2	8.20
2007	291	36.5	32.8	38.3	35.0	7.69
2008	223	40.1	35.5	40.1	36.7	7.34
2009	151	37.4	34.2	41.4	36.6	5.40
2010	147	40.1	36.5	37.7	36.6	5.73
2011	150	45.0	39.2	*	*	5.16
2012	229	36.9	34.4	**	**	7.24
2013	209	39.7	35.3	39.1	39.5	7.36
2014	193	41.3	36.7	37.8	35.2	7.42
2015	247	40.9	37.4	39.2	37.3	7.77

\* Limited survey coverage.

\*\* No survey available.

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