

Norway lobster (*Nephrops norvegicus*) in Division 9.a, Functional Unit 30 (Atlantic Iberian waters East and Gulf of Cadiz)

ICES advice on fishing opportunities

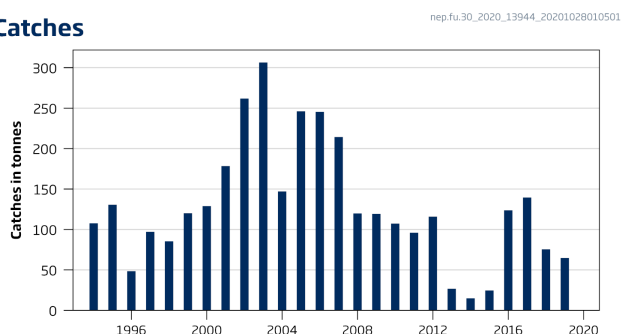
ICES advises that when the precautionary approach is applied, catches in 2021 should be no more than 62 tonnes.

To ensure that the stock in Functional Unit (FU) 30 is exploited sustainably, management should be implemented at the functional unit level.

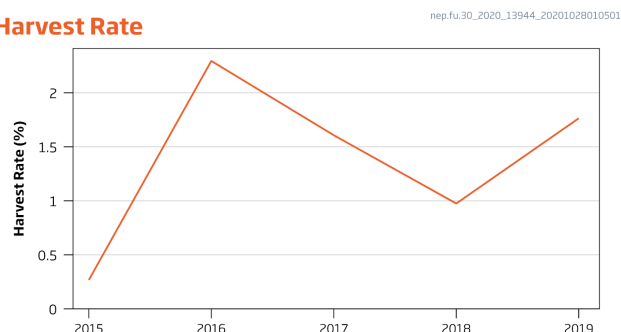
Note: This advice sheet is abbreviated due to the COVID-19 disruption. The previous advice issued for 2020 is attached as Annex 1.

Stock development over time

Catches



Harvest Rate



Stock abundance

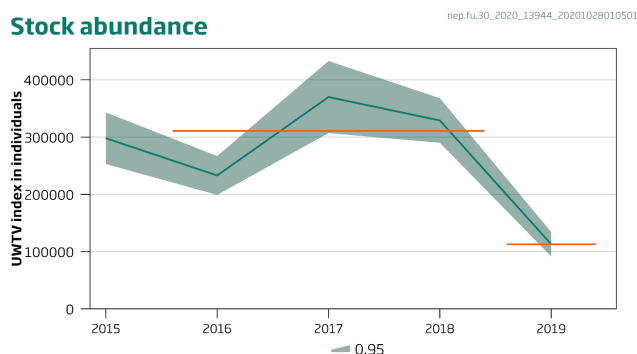


Figure 1 Norway lobster in Division 9.a, Functional Unit 30. Summary of the stock assessment. Catches, harvest rate (catch in numbers divided by total abundance), and stock abundance (from underwater television [UWTV] survey, in millions, with 95% confidence intervals). The yellow horizontal lines indicate the average of the most recent two years (with 2020 not available) and the previous three years.

Stock and exploitation status

Table 1 Norway lobster in Division 9.a, Functional Unit 30. State of the stock and the fishery relative to reference points.

		Fishing pressure				Stock size				
		2017	2018	2019		2018	2019	2020		
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	-				Increasing	-			?	Unknown

Catch scenarios

The ICES framework for category 3 stocks was applied (ICES, 2012). The UWTV survey in FU 30 (ISUNEP-CA) was used as the index of stock development. This survey was cancelled in 2020 due to COVID-19. The advice is based on the ratio of the mean of the last two index values (Index A, with 2020 treated as missing) and the mean of the three preceding values (Index B) multiplied by the recent advised catch using the *Nephrops* abundance, estimated by UWTV surveys as the size stock index. This is equivalent to assuming that the 2020 value is equal to the 2019 biomass index.

The precautionary buffer was last applied in 2019 and its application has, therefore, not been considered again. Discarding is considered negligible.

Table 2 Norway lobster in Division 9.a, Functional Unit 30. For stocks in ICES data categories 3–6, one catch scenario is possible. All weights are in tonnes. *

Index A (2019–2020; 2020 not available)	112800 thousands of individuals	
Index B (2016–2018)	310667 thousands of individuals	
Index ratio (A/B)	0.36	
Uncertainty cap	Applied	0.80
Advised landings for 2020	77 tonnes	
Discard rate	Negligible	
Precautionary buffer	Not applied	-
Catch advice **	62 tonnes	
% advice change ^	-20	

* 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.

** [Advised catch for 2020] × [uncertainty cap].

^ Advice value for 2021 relative to the advice value for 2020.

The advised catch for 2021 is lower than the 2020 advice due to the decrease in the index ratio.

Quality of the assessment

Underwater television (UWTV) surveys for the assessment began in 2015 and were considered long enough to be used as an indicator of stock abundance. No UWTV survey could be carried out in 2020 due to the COVID-19 pandemic; therefore, the stock-size indicator is unknown for 2020.

History of the advice, catch, and management

Table 3 Norway lobster in Division 9.a, Functional Unit 30. ICES advice, TAC, and landings. All weights are in tonnes.

Year	ICES advice	Catches corresponding to advice	Agreed TAC *	ICES landings
2003	Catch at the lowest recent level	< 50	600	307
2004	Catch at the lowest recent level	< 50	600	147
2005	Catch at the lowest recent level	< 50	540	246
2006	Catch at the lowest recent level	< 50	486	245
2007	Catch at the lowest recent level	< 50	437	214
2008	Catch at the lowest recent level	< 50	415	120
2009	Recent average catches (2005–2007)	< 200	374	120
2010	No new advice, same as for 2009	< 200	337	107
2011	See scenarios	-	303	96
2012	Reduce catch	-	273	116
2013	Reduce catch by 20%	90	243	26 **
2014	No new advice, same as for 2013	90	221	15 **
2015	Increase catch by no more than 20%	95	254	25 **
2016	No new advice, same as for 2015	95	320	124

Year	ICES advice	Catches corresponding to advice	Agreed TAC *	ICES landings
2017	Precautionary approach	≤ 76	336	140
2018	Precautionary approach	≤ 100	381	76
2019	Precautionary approach	≤ 120	401	65
2020	Precautionary approach	≤ 77	386	
2021	Precautionary approach	≤ 62		

* Subareas 9 and 10; EU waters of CECAF 34.1.1. Since 2018, a maximum limit on landings from FU 30 is included in the TAC regulation (the “of which” limit).

** Restrictions were imposed on the fishery during the years 2013–2015.

Summary of the assessment

Table 4 Norway lobster in Division 9.a, Functional Unit 30. Assessment summary.

Year	Stock abundance (thousands of individuals)	High	Low	Total catch (tonnes)	Harvest rate %
1994				108	
1995				131	
1996				49	
1997				97	
1998				85	
1999				120	
2000				129	
2001				178	
2002				262	
2003				307	
2004				147	
2005				246	
2006				245	
2007				214	
2008				120	
2009				119	
2010				107	
2011				96	
2012				116	
2013				27	
2014				15	
2015	298000	343000	253000	25	0.27
2016	233000	267000	199000	124	2.3
2017	370000	433000	307000	140	1.61
2018	329000	368000	290000	76	0.98
2019	112800	134246	91354	65	1.76
2020	Not available *	Not available *	Not available *		

* Stock abundance is not available, because the UWT survey was not conducted due to the COVID-19 pandemic.

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>.
- ICES. 2020. Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE). ICES Scientific Reports, 2:49. 845 pp. <http://doi.org/10.17895/ices.pub.6033>.

Recommended citation: ICES. 2020. Norway lobster (*Nephrops norvegicus*) in Division 9.a, Functional Unit 30 (Atlantic Iberian waters East and Gulf of Cadiz). *In* Report of the ICES Advisory Committee, 2020. ICES Advice 2020, nep.fu.30. <https://doi.org/10.17895/ices.advice.5838>.

Annex 1

ICES Advice on fishing opportunities, catch, and effort
Bay of Biscay and the Iberian Coast ecoregion
Published 31 October 2019

Norway lobster (*Nephrops norvegicus*) in Division 9.a, Functional Unit 30 (Atlantic Iberian waters East and Gulf of Cadiz)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches in 2020 should be no more than 77 tonnes.

To ensure that the stock in Functional Unit (FU) 30 is exploited sustainably, management should be implemented at the functional unit level.

Stock development over time

Stock abundance has decreased from 2017 onwards. The harvest rate has decreased from 2016.

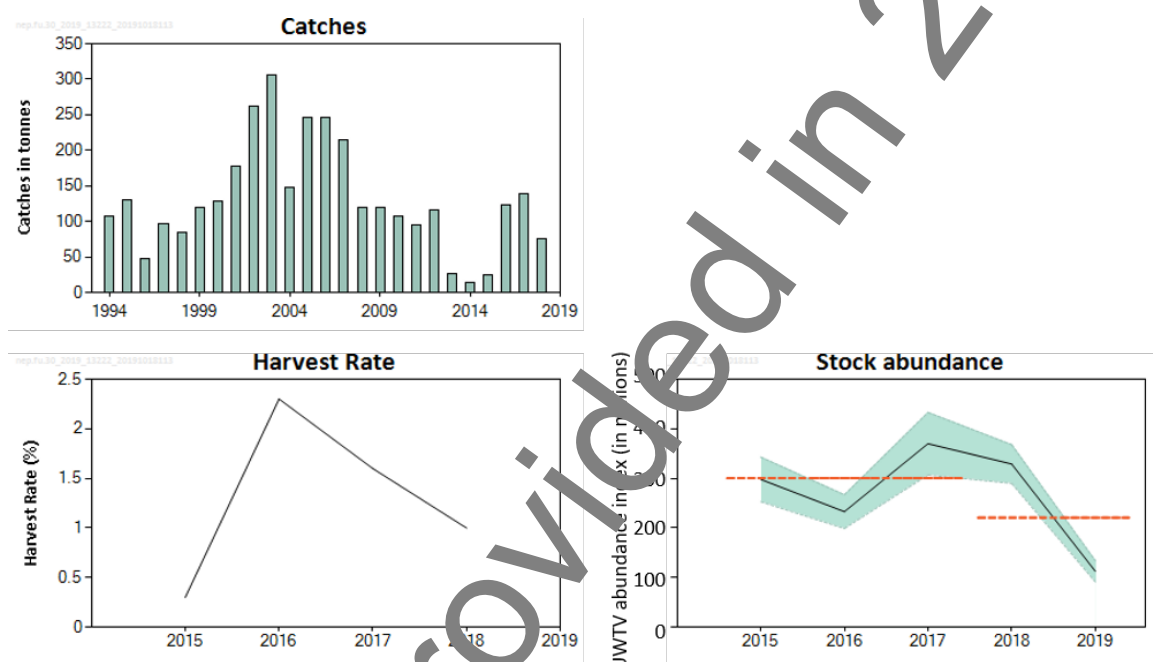


Figure 1 Norway lobster in Division 9.a, Functional Unit 30. Summary of the stock assessment. Upper left: catches; lower left: harvest rate (catch in numbers divided by total abundance); lower right: stock abundance (from underwater television (UWTV) survey, in millions, with 95% confidence intervals). The dashed orange lines indicate the average of the abundance index for 2015 to 2017, and for 2018 to 2019.

Stock and exploitation status

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

Table 1 Norway lobster in Division 9.a, Functional Unit 30. State of the stock and fishery relative to reference points.

		Fishing pressure			Stock size		
		2016	2017	2018	2017	2018	2019
Maximum sustainable yield	FMSY	?	?	?	MSY Btrigger	?	?
				Undefined			Undefined
Precautionary approach	Fpa,Flim	?	?	?	Bpa,Blim	?	?
				Undefined			Undefined
Management plan	FMGT	—	—	—	BMGT	—	—
				Not applicable			Not applicable
Qualitative evaluation	-	↗	↘	↘	-	↗	↘
				Decreasing			Decreasing

Catch scenarios

The ICES framework for category 3 (ICES, 2012) was applied because the survey time-series, underwater television (UWTV)-FU30, is long enough to be used as the index of stock development. The advice is based on the ratio of the mean of the last two index values (index A) and the mean of the preceding values (Index B) multiplied by the recent advised catch.

The abundance index from UWTV survey is estimated to have decreased by more than 20% and thus the uncertainty cap was applied. The stock status relative to candidate reference points is unknown; therefore, the precautionary buffer was applied.

Discarding is considered negligible.

Table 2 Norway lobster in Division 9.a, Functional Unit 30. For stocks in ICES data categories 3–6, one catch scenario is possible.

Index A (2018–2019)		220900 individuals
Index B (2015–2017)		300333 individuals
Index ratio (A/B)		0.74
Uncertainty cap	Applied	0.80
Advised landings for 2019		120 tonnes
Discard rate		Negligible
Precautionary buffer	Applied	0.80
Catch advice		77 tonnes
% advice change [^]		–36%

[^] Advice value for 2020 relative to advice value for 2019.

The catch advice for 2020 decreased compared to previous advice, due to the large decrease in stock abundance and the application of the precautionary buffer.

Basis of the advice

Table 3 Norway lobster in Division 9.a, Functional Unit 30. The basis of the advice.

Advice basis	ICES precautionary approach
Management plan	The EU multiannual plan (MAP; EU, 2019) for stocks in the Western Waters and adjacent waters applies to this stock. The MAP stipulates that when the F_{MSY} ranges are not available, fishing opportunities should be based on the best available scientific advice.

Quality of the assessment

Underwater television (UWTV) surveys for the assessment began in 2015 and were considered long enough to be used as an indicator of stock abundance.

Issues relevant for the advice

Misreporting has been quantified since 2016. Observed misreporting decreased 37% in 2018 from the year before, and now represents 55% of the official landings (Table 7). This is probably related to the allocation of the *Nephrops* quota by vessel, established since 2014. Misreporting is included in the assessment.

A single TAC covers the entire ICES subareas 9 and 10, as well as EU waters of CECAF 34.1.1. Management should be implemented at the functional unit level to ensure that fishing opportunities are in line with the scale of the resource, and the corresponding MSY approach for each of the stocks.

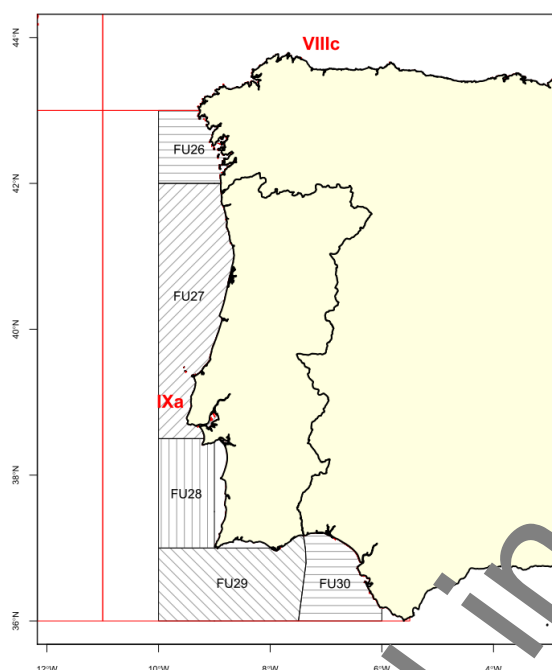


Figure 2 Norway lobster in Division 9.a, Functional Unit 30. Map of functional units.

Reference points

No reference points have been defined for this stock.

Basis of the assessment

Table 4 Norway lobster in Division 9.a, Functional Unit 30. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2018)
Assessment type	Underwater television (UWTV) survey (ICES, 2019).
Input data	Survey index (UWTV-FU30, 2011–2019); commercial catches (Spanish 1994–2018 and Portuguese landings 2003–2018)
Discards and bycatch	Not included; discarding is considered negligible.
Indicators	One abundance survey index (SPGF-cspr/WIBTS-Q1, 1993–2018), mean length in commercial catches (2001–2018). One commercial index (directed <i>Nephrops</i> Gulf of Cadiz bottom trawl fleet, 1994–2018).
Other information	This stock was last benchmarked in 2016 (ICES, 2016).
Working group	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE)

Information from stakeholders

No additional information is available for this stock.

History of the advice, catch, and management

Table 5 Norway lobster in Division 9.a, Functional Unit 30. ICES advice, TAC, and landings. All weights are tonnes.

Year	ICES advice	Catches corresponding to advice	Agreed TAC *	ICES landings
2003	Catch at the lowest recent level	< 50	600	307
2004	Catch at the lowest recent level	< 50	600	147
2005	Catch at the lowest recent level	< 50	540	246
2006	Catch at the lowest recent level	< 50	486	245
2007	Catch at the lowest recent level	< 50	437	214
2008	Catch at the lowest recent level	< 50	415	120
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Year	ICES advice	Catches corresponding to advice	Agreed TAC *	ICES landings
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2012	Reduce catch	-	273	116
2013	Reduce catch by 20%	90	243	26**
2014	No new advice, same as for 2013	90	221	15**
2015	Increase catch by no more than 20%	95	254	25**
2016	No new advice, same as for 2015	95	320	124
2017	Precautionary approach	≤ 76	336	140
2018	Precautionary approach	≤ 100	381	76
2019	Precautionary approach	≤ 120	401	
2020	Precautionary approach	≤ 77		

* Subareas 9 and 10; EU waters of CECAF 34.1.1. Since 2018, a maximum limit on landings from FU 30 is included in the TAC regulation (the “of which” limit).

** Restrictions were imposed on the fishery during the years 2013–2015.

History of the catch and landings

Table 6 Norway lobster in Division 9.a, Functional Unit 30. Catch distribution by net in 2018 as estimated by ICES. All weights are in tonnes.

Catch	Landings	Discards
76	Bottom trawl 100% 76	Discarding is considered to be negligible

Table 7 Norway lobster in Division 9.a, Functional Unit 30. History of catch and landings; both the official and ICES estimated values are presented by country. All weights are in tonnes.

Year	Official landings		Total official landings	Unreported landings	ICES estimated catch
	Spain*	Portugal			
1994	108		108		108
1995	131		131		131
1996	49		49		49
1997	97		97		97
1998	85		85		85
1999	120		120		120
2000	129		129		129
2001	178		178		178
2002	262		262		262
2003	303	4	307		307
2004	143	4	147		147
2005	243	3	246		246
2006	242	4	246		246
2007	211	4	215		215
2008	117	3	120		120
2009	117	2	119		119
2010	106	1	107		107
2011	93	3	96		96
2012	115	1	116		116
2013**	26	< 1	27		27
2014**	14	< 1	15		15
2015**	25	< 1	25		25
2016	35	< 1	35	89	124
2017	38	< 1	38	101	140
2018	49	< 1	49	27	76

* Landings from the port of Ayamonte are included since 2002.

** Restrictions were imposed on the fishery during the years 2013–2015.

Summary of the assessment

Table 8 Norway lobster in Division 9.a, Functional Unit 30. Assessment summary.

Year	Stock abundance	High	Low	Total catch	Harvest rate
	millions of individuals			tonnes	%
1994				108	
1995				131	
1996				49	
1997				97	
1998				85	
1999				120	
2000				129	
2001				128	
2002				262	
2003				307	
2004				247	
2005				246	
2006				245	
2007				214	
2008				120	
2009				119	
2010				107	
2011				96	
2012				116	
2013				27	
2014				15	
2015	298	342	253	25	0.30
2016	233	207	199	124	2.3
2017	370	403	307	140	1.60
2018	329	268	290	76	1.00
2019	113	134	91		

Sources and references

EU. 2019. Regulation (EU) 2019/472 of the European Parliament and of the Council of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulations (EU) 2016/1139 and (EU) 2018/973, and repealing Council Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007 and (EC) No 1300/2008. Official Journal of the European Union, L 83: 1–17. <http://data.europa.eu/eli/reg/2019/472/oj>.

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Recommended citation: ICES. 2019. Norway lobster (*Nephrops norvegicus*) in Division 9.a, Functional Unit 30 (Atlantic Iberian waters East and Gulf of Cadiz). In: Report of the ICES Advisory Committee, 2019. ICES Advice 2019, nep.fu.30, <https://doi.org/10.17895/ices.advice.4771>.