

Norway lobster (*Nephrops norvegicus*) in divisions 7.b–c and 7.j–k, Functional Unit 16 (west and southwest of Ireland, Porcupine Bank)

ICES advice on fishing opportunities

ICES advises that when the EU multiannual plan (MAP) for Western Waters and adjacent waters is applied, and assuming zero discards, catches in 2021 that correspond to the F ranges in the MAP are between 2653 tonnes and 3290 tonnes. The entire range is considered precautionary when applying the ICES advice rule.

To ensure that the stock in Functional Unit (FU) 16 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

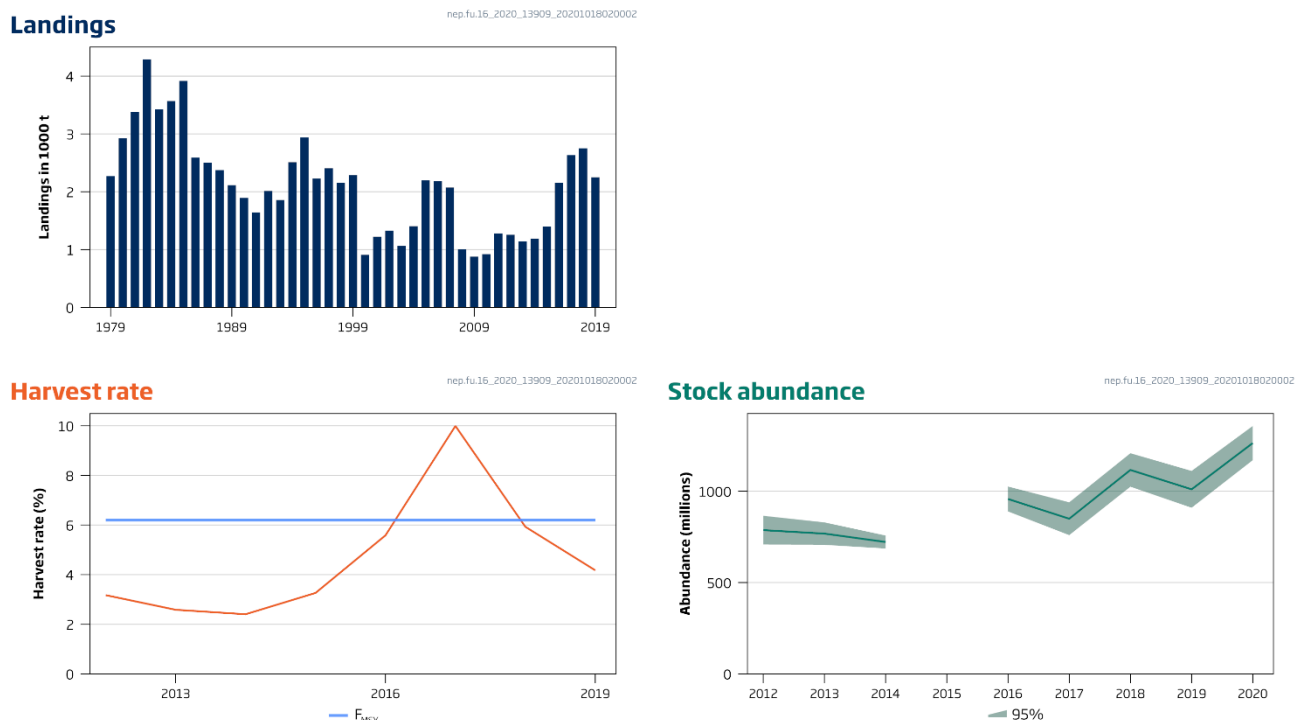


Figure 1 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Summary of the stock assessment. Landings (between 1979–2015 discarding is considered negligible; from 2016 onwards discards are not quantified), harvest rate (sum of landings in numbers, divided by stock abundance), and stock abundance (underwater TV survey). The harvest rate in 2015 was calculated using an interpolated value for abundance, as no survey data are available for 2015.

Stock and exploitation status

Table 1 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. 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}	✗	✓	✓ Below		MSY $B_{trigger}$?	?	?
Precautionary approach	F_{pa}, F_{lim}	?	✓	✓ Below possible reference points		B_{pa}, B_{lim}	?	?	?
Management plan	F_{MGT}	✗	✓	✓ Below the range		B_{MGT}	?	?	?

Catch scenarios

Table 2 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. The basis for the catch scenarios.

Variable	Value	Notes
Stock abundance (2021)	1264	UWTV survey 2020; numbers of individuals in millions
Mean weight in projected landings	42.0	Average 2017–2019; in grammes
Mean weight in projected discards	-	Unknown
Projected discards	-	Discarding assumed negligible
Discards survival	-	Not applicable
Projected dead discards	-	Assumed to be zero

Table 3 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Annual catch scenarios. All weights are in 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.

Basis	Total catch	Projected landings	Projected discards	Harvest rate * %	% advice change **
	PL + PD	PL	PD	for PL + PD	
ICES advice basis					
EU MAP ^: F _{MSY}	3290	3290	0	6.2	25
F= MAP F _{MSY lower}	2653	2653	0	5.0	25
F = MAP F _{MSY upper} ***	3290	3290	0	6.2	25
Other scenarios					
MSY approach	3290	3290	0	6.2	25
F ₂₀₁₉	2215	2215	0	4.2	-16.0

^ EU multiannual plan (MAP) for Western Waters (EU, 2019).

* By number.

** Advice values for 2021 relative to the corresponding 2020 values (MAP advice of 2637, 2127, and 2637 tonnes, respectively); other option values are relative to F_{MSY} .

*** $F_{MSY upper} = F_{MSY}$ for this stock.

The increase in total catch advice is a result of the higher stock abundance estimate in 2020.

History of the advice, catch, and management

Table 4 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. ICES advice and landings. All weights are in tonnes.

Year	ICES advice	Catch advice	The “of which limit” in the TAC regulation *	Recommended landings in divisions 7.b, 7.c, 7.j, and 7.k **	ICES landings
1987					2499
1988					2375
1989					2115
1990					1895
1991					1640
1992				3800	2015
1993				~ 4000	1857
1994				~ 4000	2512
1995				~ 4000	2936
1996				4000	2230
1997				4000	2409
1998				4000	2155
1999				4000	2290
2000				4000	910
2001				4000	1222
2002				4440	1327
2003				4440	1064
2004	Restrict landings to 2000–2002 levels			3300	1406
2005	Restrict landings to 2000–2002 levels			3300	2197
2006	Restrict landings to 2000–2002 levels			3300	2185
2007	Constrain effort at recent levels			--	2074
2008	Constrain effort at recent levels			--	1000
2009	No increase in effort, and average landings (2000–2003)	< 1000			879
2010	Reduce catches to lowest possible level	0			922
2011	Reduce catches to lowest possible level	0	1260		1278
2012	No increase in catch	-	1260		1258
2013	MSY approach (updated November 2012)	< 1800	1800		1141
2014	MSY approach	< 1848	1848		1189
2015	MSY approach	< 1850	1850		1394
2016	MSY approach	≤ 1850	1850		2154
2017	MSY approach	≤ 3100	3100		2632
2018	MSY approach	≤ 2734	2734		2751
2019	MSY approach	≤ 2645***	2645		2251
2020	Management Plan	2637 (range 2127–2637)***	2637		
2021	Management Plan	3290 (range 2653 – 3290) ***			

* Since 2011, a maximum limit on landings from FU 16 is included in the TAC regulation (the “of which limit”).

** Until 2006, ICES gave combined advice for FUs 16, 17, 18, and 19, as well as for “other rectangles” in this area.

*** Assuming zero discards.

Summary of the assessment

Table 5 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Assessment summary.

Year	UWTV abundance estimate	95% confidence interval	Landings in number	Total discards in number *	Removals in number	Harvest rate (by number) ***	Landings	Total discards *	Discard rate (by number)	Dead discard rate (by number)	Mean weight in landings	Mean weight in discards
	millions					%	tonnes		%		grammes	
2012	787	79	25	0	25	3.2	1258	0	0	0	50.4	NA
2013	768	61	20	0	20	2.6	1141	0	0	0	57.5	NA
2014	722	35	17	0	17	2.4	1189	0	0	0	68.5	NA
2015	NA	NA	27	0	27	3.3 **	1394	0	0	0	50.9	NA
2016	958	68	53	NA	53	5.6	2154	NA	NA	NA	40.3	NA
2017	850	90	85	NA	85	10.0	2632	NA	NA	NA	31.0	NA
2018	1117	92	66	NA	66	5.9	2751	NA	NA	NA	41.6	NA
2019	1010	101	42	NA	42	4.2	2251	NA	NA	NA	53.4	NA
2020	1264	94										

* Discarding up to 2015 was considered to be negligible. Discard estimates are not available since 2016 and are therefore not included in the assessment.

** The harvest rate is estimated based on a linear interpolation of abundance for 2015, as no survey was carried out in this year.

*** Values since 2016 onwards may be underestimates owing to insufficient discard data.

NA = not available.

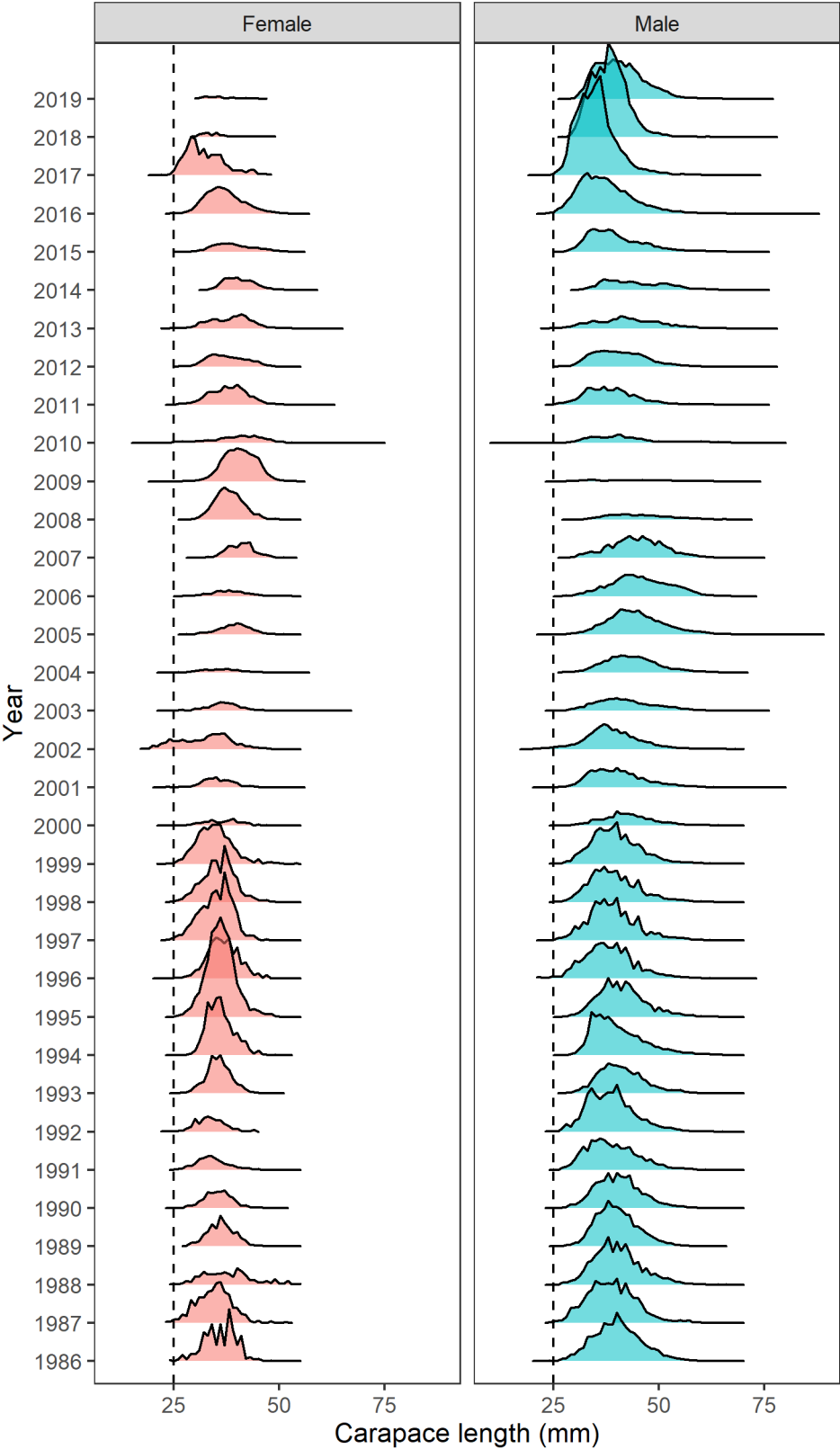


Figure 2 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Female and male length distributions of raised international landings. Vertical dashed lines refer to the Minimum Conservation Reference Size (25 mm).

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>.

ICES. 2020. Working Group for the Celtic Seas Ecoregion (WGCSE). ICES Scientific Reports, 2:40. 924 pp. <http://doi.org/10.17895/ices.pub.5978>.

Recommended citation: ICES. 2020. Norway lobster (*Nephrops norvegicus*) in divisions 7.b–c and 7.j–k, Functional Unit 16 (west and southwest of Ireland, Porcupine Bank). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, nep.fu.16. <https://doi.org/10.17895/ices.advice.5867>.

Annex 1

ICES Advice on fishing opportunities, catch, and effort
Celtic Seas and Oceanic Northeast Atlantic ecoregions
Published 31 October 2019

Norway lobster (*Nephrops norvegicus*) in divisions 7.b–c and 7.j–k, Functional Unit 16 (west and southwest of Ireland, Porcupine Bank)

ICES advice on fishing opportunities

ICES advises that when the EU multiannual plan (MAP) for Western waters and adjacent waters is applied and assuming zero discards, catches in 2020 that correspond to the F ranges in the MAP are between 2127 tonnes and 2637 tonnes. The entire range is considered precautionary when applying the ICES advice rule.

To ensure that the stock in Functional Unit (FU) 16 is exploited sustainably, management should be implemented at the functional unit level.

Stock development over time

Stock abundance is estimated to have decreased in 2019 from its historical high in 2018. The harvest rate has decreased, and is now below F_{MSY} .

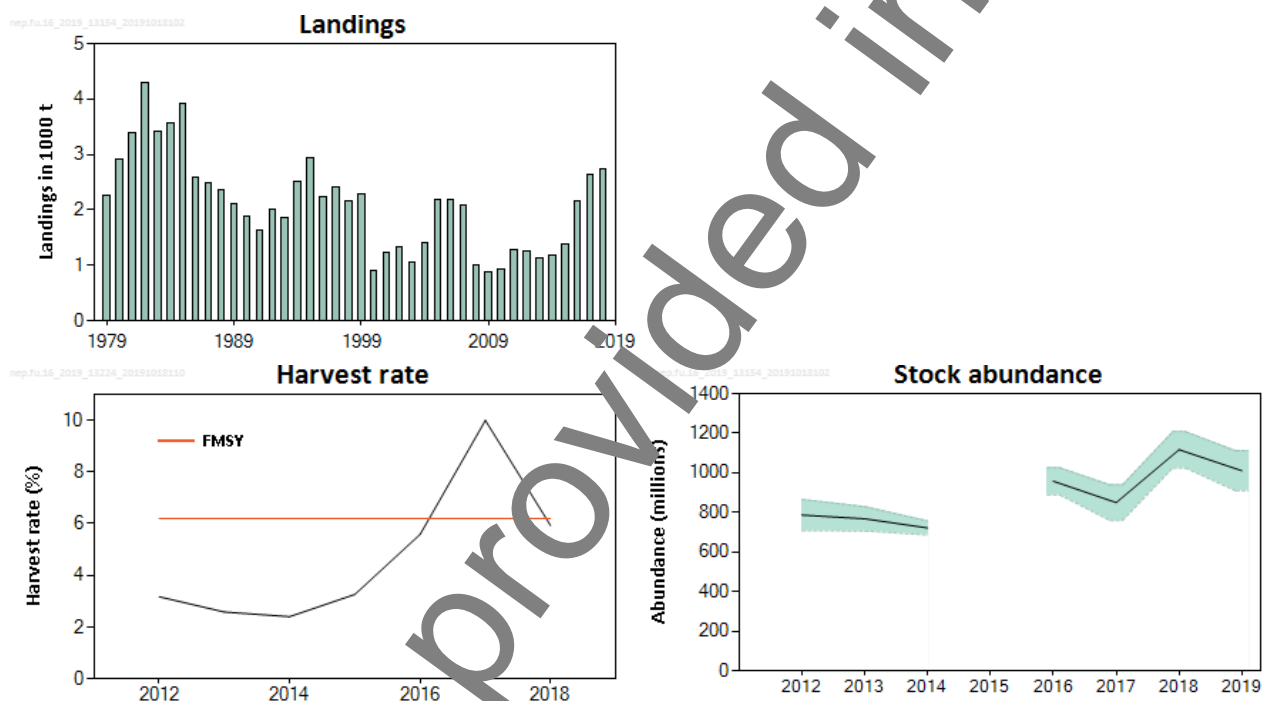


Figure 1 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Summary of the stock assessment. Landings (between 1979–2015 discarding is considered negligible; from 2016 onwards discards are not quantified), harvest rate (sum of landings in number divided by total abundance), and stock abundance (underwater TV survey, in millions; 95% confidence intervals). The harvest rate in 2015 was calculated using an interpolated value for abundance, since no survey data are available for 2015. The orange line represents the F_{MSY} harvest rate.

Stock and exploitation status

ICES assesses that fishing pressure on the stock is below F_{MSY} , and that no reference points for stock size have been defined for this stock.

Table 1 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. 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}	✓	✗	✓ Below	MSY	?	?	?	Undefined
Precautionary approach	F_{pa}, F_{lim}	✓	?	✓ Below possible reference points	B_{pa}, B_{lim}	?	?	?	Undefined
Management plan	F_{MGT}	✓	✗	✓ Within the range	B_{MGT}	?	?	?	Undefined

Catch scenarios

Table 2 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. The basis for the catch scenarios.

Variable	Value	Notes
Stock abundance (2020)	1010 million	UWTV survey 2019 (number of individuals).
Mean weight in wanted catch	42.1 grammes	Average 2017–2019.
Mean weight in unwanted catch	-	Unknown.
Unwanted catch	-	Discards assumed negligible.
Discards survival	-	Not applicable.
Dead unwanted catch	-	Assumed to be zero.

Table 3 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Annual catch scenarios. All weights are in 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.

Basis	Total catch	Wanted catch	Unwanted catch	Harvest rate *	% advice change **
	WC + UC	WC	UC	for WC + UC	
ICES advice basis					
EU MAP ^A : F _{MSY}	2637	2637	0	6.2	-0.3
F = MAP F _{MSY lower}	2127	2127	0	5.0	-19.6
F = MAP F _{MSY upper} ***	2637	2637	0	6.2	-0.3
Other options					
MSY approach	2637	2637	0	6.2	-0.3
F ₂₀₁₈	2522	2522	0	5.9	-4.7

[^] EU multiannual plan (MAP) for Western waters (EU, 2017).

* By number.

** Advice value for 2020 relative to the advice value for 2019 (2645 tonnes).

*** $F_{MSY upper} = F_{MSY}$ for this stock.

The catch advice is similar to what was advised last year, due to a combination of the reduction in the stock abundance estimate and the increase in the mean weights of the landings.

Basis of the advice

Table 4 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. The basis of the advice.

Advice basis	The EU multiannual plan (MAP) for stocks in the Western waters and adjacent waters (EU 2019)
Management plan	<p>The EU multiannual plan (MAP) for stocks in the Western waters and adjacent waters applies to this stock. The plan specifies conditions for setting fishing opportunities depending on stock status and making use of the F_{MSY} range for the stock.</p> <p>In accordance with the MAP, catches higher than those corresponding to F_{MSY} can only be taken providing SSB is greater than $MSY B_{trigger}$, and one of the following conditions is met:</p> <ul style="list-style-type: none"> a) if it is necessary for the achievement of objectives of mixed fisheries; b) if it is necessary to avoid serious harm to a stock caused by intra- or inter-species stock dynamics; c) in order to limit variations in fishing opportunities between consecutive years to not more than 20%. <p>ICES considers that the F_{MSY} range for this stock used in the MAP is precautionary.</p> <p>Full details of the plan are described in EU (2019).</p>

Quality of the assessment

The main uncertainties for the stock assessment relate to mean weight and discarding. The mean weight for this stock has been fluctuating strongly since 2000; declining due to strong recruitment between 2015 and 2017, and increasing in recent years (Figure 2). For this reason, a three-year average (2017–2019) weight in the landings was considered the most appropriate basis in the calculation of catch scenarios. In 2019, the mean weight on the catch samples has been consistent, with the grade information (commercial size categories) in the landings provided by the fishery.

The provision of grade information by individual fishers and fishery cooperatives remains highly important for calculating mean weight in the landings. The proportion of landings for which grade data was provided declined, from 49% in 2016 to 31% in 2018. It has since increased, however, to 65% in 2019, following the engagement of a fisheries liaison officer in Ireland.

The landings are considered to be fairly well estimated. An unallocated component related to area misreporting was included from 2011 to 2017. In 2018, following the implementation of new legislation limiting fishing trips to single functional units, misreporting was not included in the assessment.

Up to 2015, discarding was considered negligible for this functional unit. Since 2015 some discarding has been observed, and these observations have shown high variability. Sampling levels are insufficient to estimate total discards accurately. Not including discards in the assessment results in an underestimate of the actual harvest rate.

The UWTV survey provides abundance for FU 16 (Figure 3) since 2012 (except in 2015) with high precision, but the time-series is still too short to provide an $MSY B_{trigger}$.

In 2019 the survey camera system and reviewing method changed. A comparison showed no significant difference in density estimates between the new and the old method. Previous assumptions relating to correction factors are still applied.

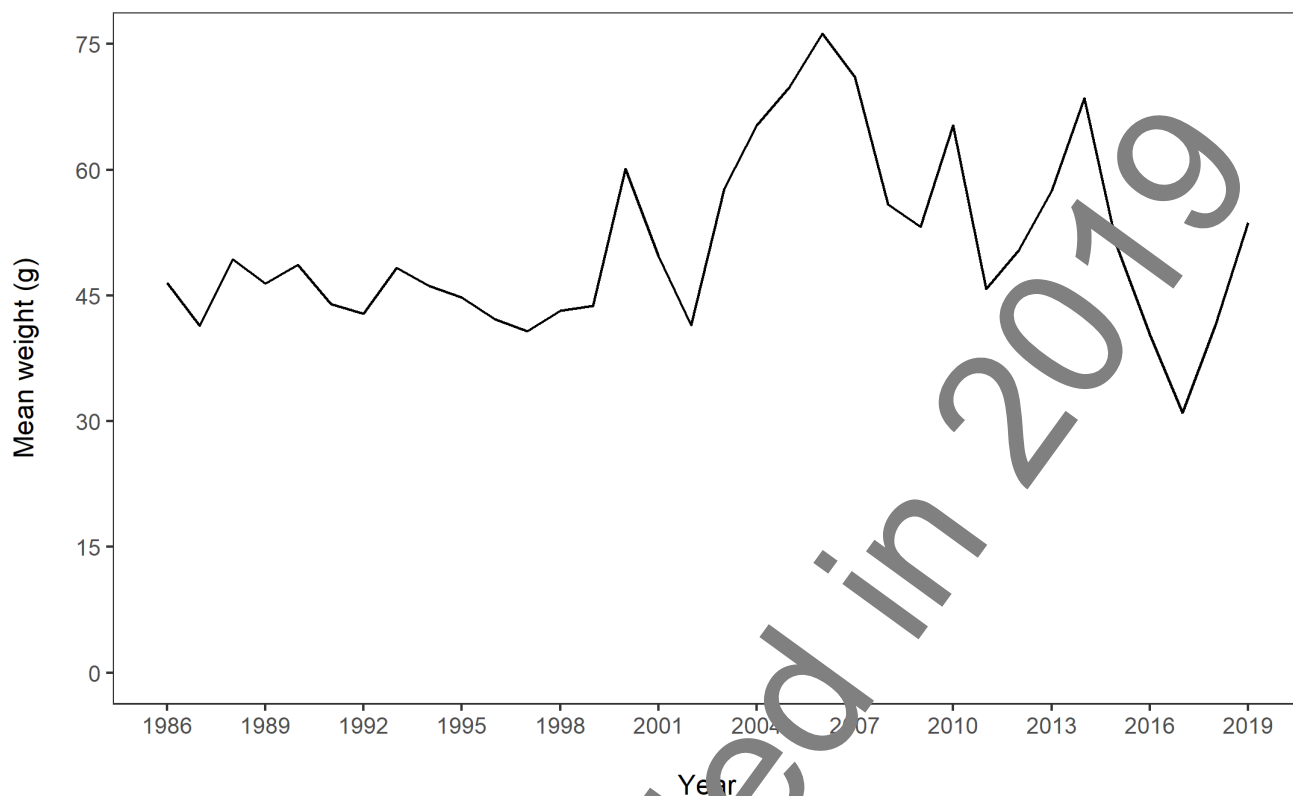


Figure 2 Norway lobster in divisions 7.b-c and 7.j-k, Function 1 Unit 10. Mean weight (g) in the commercial landings.

Issues relevant for the advice

There is a separate catch limit for Functional Unit (FU) 16 within the wider TAC for Subarea 7. National legislation was introduced in 2018, preventing Irish vessels from fishing in both FU 16 and other areas during the same fishing trip.

Productivity of deep-water *Nephrops* stocks is generally lower and recruitment is more sporadic than in shelf waters, though individual *Nephrops* grow to relatively large sizes and attain high market prices. This makes these stocks more vulnerable to overexploitation and potential recruitment failure, as has been observed in the early 2000s (ICES, 2018a). The separate catch limit for FU 16 should, therefore, remain in place.

From 2016 the EU landing obligation was applied to all catches of Norway lobster fisheries in ICES Subarea 7, with several exemptions. There is insufficient catch sampling to quantify discards in this fishery, although discarding has been observed recently. The current advice assumes that all catches will be landed in 2020.

The absolute density observed in the UWTV survey is low for FU 16 compared to other *Nephrops* FUs, with an average density of around 0.1 individuals m⁻². Under these circumstances, F_{0.1} is considered to be an appropriate F_{MSY} proxy.

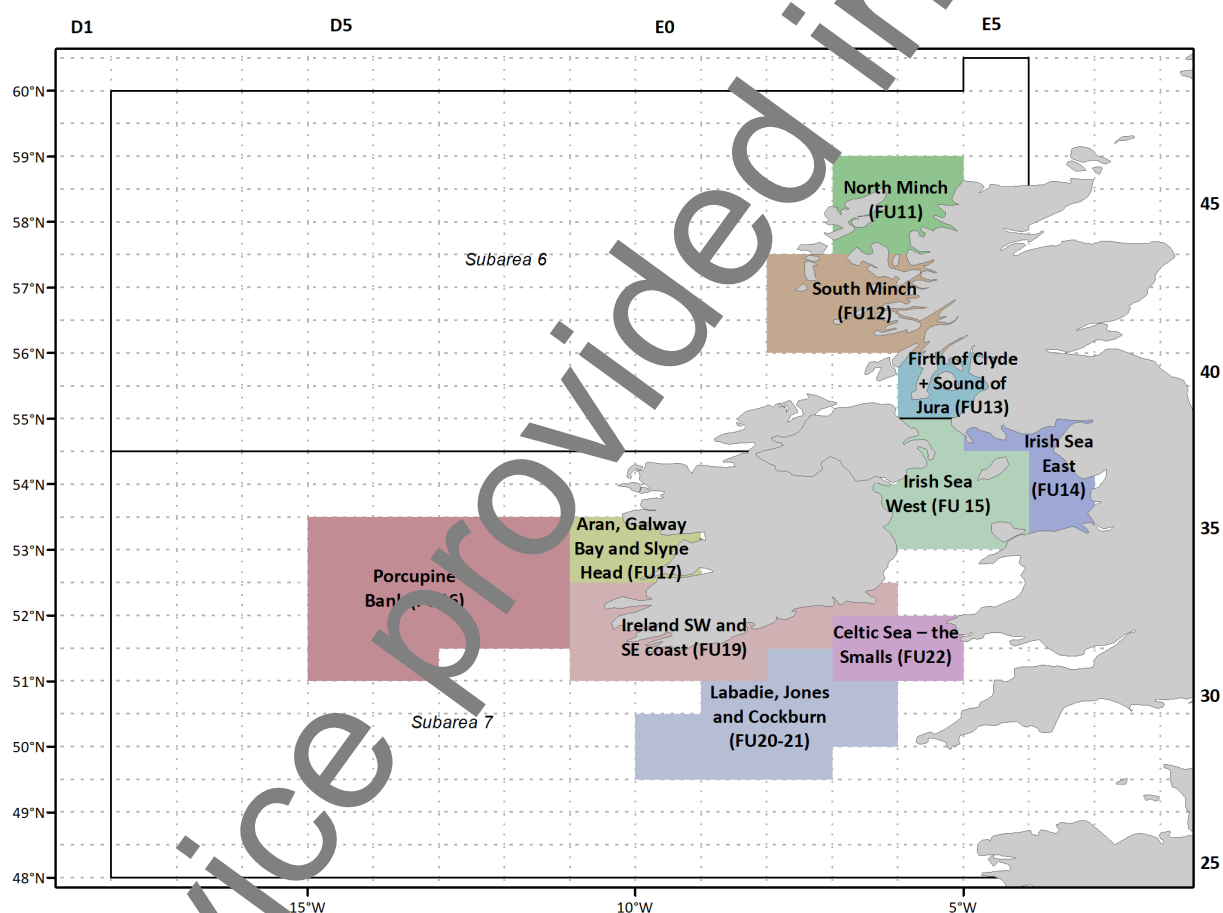


Figure 3 Norway lobster functional units in subareas 6 and 7.

Reference points

Table 5 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$	Not defined		
	F_{MSY}	6.2% harvest rate	F_{MSY} proxy equivalent to $F_{0.1}$ for combined sexes, derived from length-based per recruit analysis.	ICES (2016)
Precautionary approach	B_{lim}	Not defined		
	B_{pa}	Not defined		
	F_{lim}	Not defined		
	F_{pa}	Not defined		
Management plan	MAP MSY $B_{trigger}$	Not defined		
	MAP B_{lim}	Not defined		
	MAP F_{MSY}	6.2%	F_{MSY}	EU (2019), ICES (2016)
	MAP range F_{lower}	5.0–6.2% harvest rate	Consistent with ranges provided by ICES (2016), resulting in no more than 5% reduction in long-term yield compared with MSY.	EU (2019), ICES (2016)
	MAP range F_{upper}	6.2–6.2% harvest rate	$F_{MSY upper}$ value capped at F_{MSY} because it has not been possible to evaluate the probability of $SSB < B_{lim}$ (ICES, 2016).	EU (2019), ICES (2016)

Basis of the assessment

Table 6 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Basis of the assessment and advice.

ICES stock data category	1 (ICES, 2018b).
Assessment type	Underwater TV survey (ICES, 2019).
Input data	Commercial catches (international landings and length frequencies reconstructed from sampling and industry data); one UWTV survey (UWTV FU 16); fixed maturity and natural mortality.
Discards and bycatch	Not included, considered negligible until 2016 and not quantified since.
Indicators	Trawl survey (SpPGFS-WIBTS-U4); mean weight, mean length, and sex ratio from commercial landings and surveys.
Other information	This stock was benchmarked in 2013 (WKNEPH; ICES, 2013).
Working group	Working Group for the Celtic Seas ecoregion (WGCSE)

Information from stakeholders

No additional information is available for this stock.

History of the advice, catch, and management

Table 7 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. ICES advice and landings. All weights are in tonnes.

Year	ICES advice	Catch advice	The “of which limit” in the TAC regulation *	Recommended landings in divisions 7.b, 7.c, 7.j and 7.k **	ICES landings
1987					2499
1988					2375
1989					2115
1990					1895
1991					1640
1992				3800	2015
1993				~4000	1857
1994				~4000	2512
1995				~4000	2936
1996				4000	2230
1997				4000	2409
1998				4000	2155
1999				4000	2290
2000				4000	910
2001				4000	1222
2002				4440	1327
2003				4440	1064
2004	Restrict landings to 2000–2002 levels			3300	1406
2005	Restrict landings to 2000–2002 levels			3300	2197
2006	Restrict landings to 2000–2002 levels			3300	2185
2007	Constrain effort at recent levels			--	2074
2008	Constrain effort at recent levels			--	1000
2009	No increase in effort, and average landings (2000–2003)	< 100			879
2010	Reduce catches to lowest possible level				922
2011	Reduce catches to lowest possible level	0	1260		1278
2012	No increase in catch	-	1260		1258
2013	MSY approach (updated November 2012)	< 1800	1800		1141
2014	MSY approach	≤ 1848	1848		1189
2015	MSY approach	≤ 1850	1850		1394
2016	MSY approach	≤ 1850	1850		2154
2017	MSY approach	≤ 3100	3100		2632
2018	MSY approach	≤ 2734	2734		2751
2019	MSY approach	≤ 2645***	2645		
2020	Management Plan	2637 (range 2127– 2637)***			

* Since 2011, a maximum limit on landings from FU 16 is included in the TAC regulation (the “of which limit”).

** Until 2006 ICES gave combined advice for FUs 16, 17, 18, and 19, as well as for “other rectangles” in this area.

*** Assuming zero discards.

History of the catch and landings

Table 8 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Catch distribution by fleet in 2018 as estimated by ICES. All weights are in tonnes.

Catch	Landings		Discards
Unknown	97.1% otter trawl	2.9% miscellaneous gear	Not quantified
	2671 t	80 t	

Table 9 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. ICES estimates of landings by country. All weights are in tonnes.

Year	France	Ireland	Spain	UK (E&W & NI)	UK (Scotland)	Unallocated	Total
1965	514						514
1966	0						0
1967	441						441
1968	441						441
1969	609						609
1970	256						256
1971	500		1444				1944
1972	0		1738				1738
1973	811		2135				2946
1974	900		1894				2794
1975	0		2150				2150
1976	6		1321				1327
1977	0		1545				1545
1978	2		1742				1744
1979	14		2255				2269
1980	21		2904				2925
1981	66		3315				3381
1982	358		3931				4289
1983	615		2811				3426
1984	1067		2504				3571
1985	1181		2738				3919
1986	1060		1462				2591
1987	609		1677	213			2499
1988	600		1555	270			2375
1989	324	350	1417	24			2115
1990	336	169	1349	41			1895
1991	348	170	1021	101			1640
1992	665	311	822	217			2015
1993	799	206	52	100			1857
1994	1088	512	80	103			2512
1995	1234	971	579	152			2936
1996	1069	508	471	182			2230
1997	1028	652	473	255			2409
1998	879	508	405	273			2155
1999	1047	609	448	185			2290
2000	351	221	213	120			910
2001	425	369	270	158			1222
2002	369	13	276	139			1327
2003	131	307	489	108	29		1064
2004	289	494	468	126	28		1406
2005	397	754	681	208	156		2197
2006	422	731	636	201	155		2185
2007	802	1060	384	146	183		2074
2008	56	562	234	41	138		1000
2009	4	356	348	13	159		879
2010	4	579	240	10	90		922
2011	8	643	182	23	122	301	1278
2012	0.46	605	198	0	134	320	1258
2013	5.8	651	132	1	118	234	1141
2014	3	813	129	0	96	148	1189
2015	3	744	84	0	109	454	1394
2016	35	1052	58	1	160	849	2154
2017	63	743	73	249	131	1373	2632
2018	81	2079	158	288	144	0	2751

Summary of the assessment

Table 10 Norway lobster in divisions 7.b–c and 7.j–k, Functional Unit 16. Assessment summary.

Year	UWTV abundance estimate	95% Confidence Interval	Landings in number	Total discards in number*	Removals in number	Harvest rate (by number)**	Landings	Total discards*	Discard rate (by number)	Dead discard rate (by number)	Mean weight in landings	Mean weight in discards
	millions					%	tonnes		%		grammes	
2012	787	79	25	0	25	3.2	1258	0	0	0	50.4	NA
2013	768	61	20	0	20	2.6	1141	0	0	0	57.5	NA
2014	722	35	17	0	17	2.4	1189	0	0	0	68.5	NA
2015	NA	NA	27	0	27	3.3**	1394	0	0	0	50.9	NA
2016	958	68	53	NA	53	5.6	2154	NA	NA	NA	40.3	NA
2017	850	90	85	NA	85	10.0	2632	NA	NA	NA	31.0	NA
2018	1117	92	66	NA	66	5.9	2751	NA	NA	NA	41.6	NA
2019	1010	101									53.7	

*Discarding up to 2015 was considered to be negligible. Discard estimates are not available since 2016 and are therefore not included in the assessment.

** The harvest rate is estimated based on a linear interpolation of abundance for 2015 as no survey was carried out in this year.

*** Values since 2016 onwards may be underestimates due to insufficient discard data.

NA = not available.

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>.

ICES. 2013. Report of the Benchmark Workshop on *Nephrops* assessment (WKNEPH), 25 February–1 March 2013, Lysekil, Sweden. ICES CM 2013/ACOM:45. 230 pp. <https://doi.org/10.17895/ices.pub.5336>.

ICES. 2016. EU request to ICES to provide F_{MSY} ranges for selected stocks in ICES subareas 5 to 10. In Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 5, Section 5.4.1. 13 pp. <https://doi.org/10.17895/ices.pub.5613>.

ICES. 2018a. Report of the Working Group for the Celtic Seas (WGCSE), 9–18 May 2018, Copenhagen, Denmark. ICES CM 2018/ACOM:13. <https://doi.org/10.17895/ices.pub.5428>.

ICES. 2018b. Advice basis. In Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 1, Section 1.2. <https://doi.org/10.17895/ices.pub.4503>.

ICES. 2019. Working Group for the Celtic Seas Ecoregion (WGCSE). ICES Scientific Reports, 1:29. 1587 pp. <http://doi.org/10.17895/ices.pub.4982>.

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