

## Norway lobster (*Nephrops norvegicus*) in Division 7.a, Functional Unit 15 (Irish Sea, West)

### ICES advice on fishing opportunities

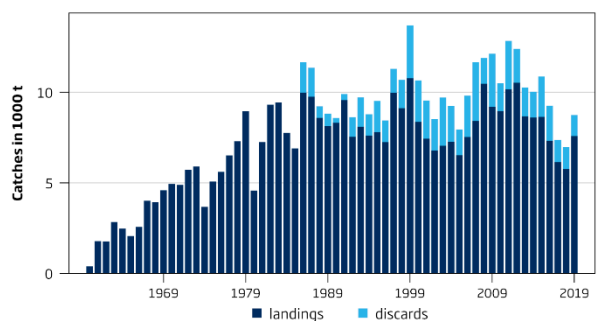
ICES advises that when the EU multiannual plan (MAP) for Western Waters and adjacent waters is applied, catches in 2021 that correspond to the F ranges in the MAP are between 7965 tonnes and 11691 tonnes, assuming recent discarding rates. The entire range is considered precautionary when applying the ICES advice rule.

To ensure that the stock in Functional Unit (FU) 15 is exploited sustainably, management should be implemented at the functional unit level.

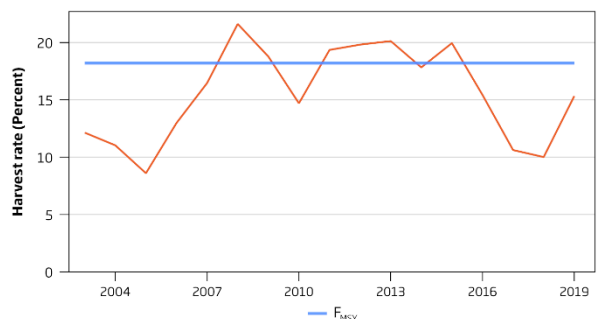
*Note: This advice sheet is abbreviated due to the COVID-19 disruption. The previous advice issued for 2020 is attached as Annex 1.*

### Stock development over time

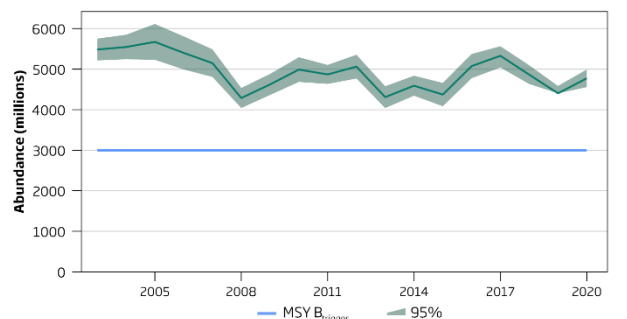
#### Catches



#### Harvest rate



#### Stock abundance



**Figure 1** Norway lobster in Division 7.a, Functional Unit 15. Summary of the stock assessment. Catches (discard data are only available from 1986), harvest rate (sum of landings and dead discards in numbers, divided by stock abundance), and stock abundance (underwater TV survey). Harvest rates between 2003 and 2006 may be unreliable because of underreporting of landings.

## Stock and exploitation status

**Table 1** Norway lobster in Division 7.a, Functional Unit 15. 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 $B_{trigger}$	✓	✓	✓ Above trigger
Precautionary approach	$F_{pa}, F_{lim}$	✓	✓	✓ Below possible reference points	$B_{pa}, B_{lim}$	✓	✓	✓ Above possible reference points
Management plan	$F_{MGT}$	✓	✓	✓ Within the range	$B_{MGT}$	✓	✓	✓ Above trigger

## Catch scenarios

**Table 2** Norway lobster in Division 7.a, Functional Unit 15. The basis for the catch scenarios.

Variable	Value	Notes
Stock abundance (2021)	4775	UWTV survey 2020; numbers of individuals in millions
Mean weight in projected landings	14.9	Average 2017–2019; in grammes
Mean weight in projected discards	7.67	Average 2017–2019; in grammes
Projected discards	25.8	Average 2017–2019; percentage by number
Discard survival *	10	Percentage by number
Projected dead discards	23.8	Average 2017–2019; percentage by number

\*Only applied in scenarios where discarding is allowed.

**Table 3** Norway lobster in Division 7.a, Functional Unit 15. Annual catch advice and scenarios; discarding is assumed to continue at the recent average. 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.

### Catch scenarios assuming recent discard rates

Basis	Total catch	Dead removals	Projected landings	Projected dead discards	Projected surviving discards	Harvest rate * %	% advice change **
	PL + PDD + PSD	PL + PDD	PL	PDD	PSD	for PL + PDD	
<b>ICES advice basis</b>							
EU MAP $\wedge$ : $F_{MSY}$	11691	11513	9919	1595	177	18.2	12.7
$F = MAP F_{MSY lower}$	7965	7844	6758	1087	121	12.4	12.7
$F = MAP F_{MSY upper}^{***}$	11691	11513	9919	1595	177	18.2	12.7
<b>Other scenarios</b>							
MSY approach	11691	11513	9919	1595	177	18.2	12.7
$F_{2019}$	9828	9679	8338	1341	149	15.3	-5.3

**Catch scenarios assuming zero discards**

Basis	Total catch	Projected landings	Projected discards ^^	Harvest rate * %	% advice change **
	PL + PD	PL	PD	for PL + PD	
ICES advice basis					
EU MAP ^: F <sub>MSY</sub>	11387	9658	1729	18.2	9.7
F = MAP F <sub>MSY lower</sub>	7758	6580	1178	12.4	9.7
F = MAP F <sub>MSY upper</sub> ***	11387	9658	1729	18.2	9.7
Other scenarios					
MSY approach	11387	9658	1729	18.2	9.7
F <sub>2019</sub>	9573	8119	1453	15.3	-7.7

\* By number.

\*\* Advice basis values for 2021 are relative to the 2020 values (MAP advice of 10377, 7070, and 10377 tonnes, respectively); other option values are relative to F<sub>MSY</sub>.

\*\*\* F<sub>MSY upper</sub> = F<sub>MSY</sub> for this stock.

^ EU multiannual plan (MAP) for the Western Waters and adjacent waters (EU, 2019).

^^ Represents the amount that would normally be discarded.

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

**Table 4** Norway lobster in Division 7.a, Functional Unit 15. ICES advice, landings, and discards. All weights are in tonnes.

Year	ICES advice	Landings advice	Catch advice	Recommended landings (FUs 14 + 15)	ICES landings	Total discards *
1989					8128	673
1990					8300	276
1991					9554	345
1992				8900	7541	1079
1993				9400	8102	1622
1994				9400	7606	1185
1995				9400	7796	1724
1996				9400	7247	1202
1997				9400	9971	1330
1998				9400	9128	1560
1999				9400	10786	2913
2000				9400	8370	2293
2001				9400	7441	2112
2002	Set TAC in line with 1995–1999 landings			9550	6793	1732
2003	Set TAC in line with 1995–1999 landings			9550	7065	2659
2004	Set TAC in line with 1995–1999 landings			9550	7270	1993
2005	Set TAC in line with 1995–1999 landings			9550	6554	1412
2006	No increase in effort			9550	7561	2285
2007	No increase in effort				8491	3246
2008	No increase in effort				10508	1421
2009	No increase in effort and landings	< 8500			9198	2934
2010	Harvest rate no greater than the equivalent to fishing at F <sub>0.1</sub>	< 5500			8963	1539
2011	Transition scheme towards the ICES MSY framework	< 9500			10162	2683
2012	MSY approach	< 9800			10529	1871
2013	MSY approach	< 9300			8672	1590
2014	MSY approach	< 8200			8613	1418

Year	ICES advice	Landings advice	Catch advice	Recommended landings (FUs 14 + 15)	ICES landings	Total discards *
2015	MSY approach	< 8223			8643	2228
2016	MSY approach		≤ 8682 **		7327	1939
2017	MSY approach		≤ 11248 ***		6150	1222
2018	MSY approach		≤ 11807 ***		5756	1231
2019	MSY approach		≤ 11107 ***		7591	1159
2020	Management plan		10377 (range 7070–10377) ***			
2021	Management plan		11691 (range 7965–11691) ***			

\* Dead + surviving discards.

\*\* Assuming all catches are landed.

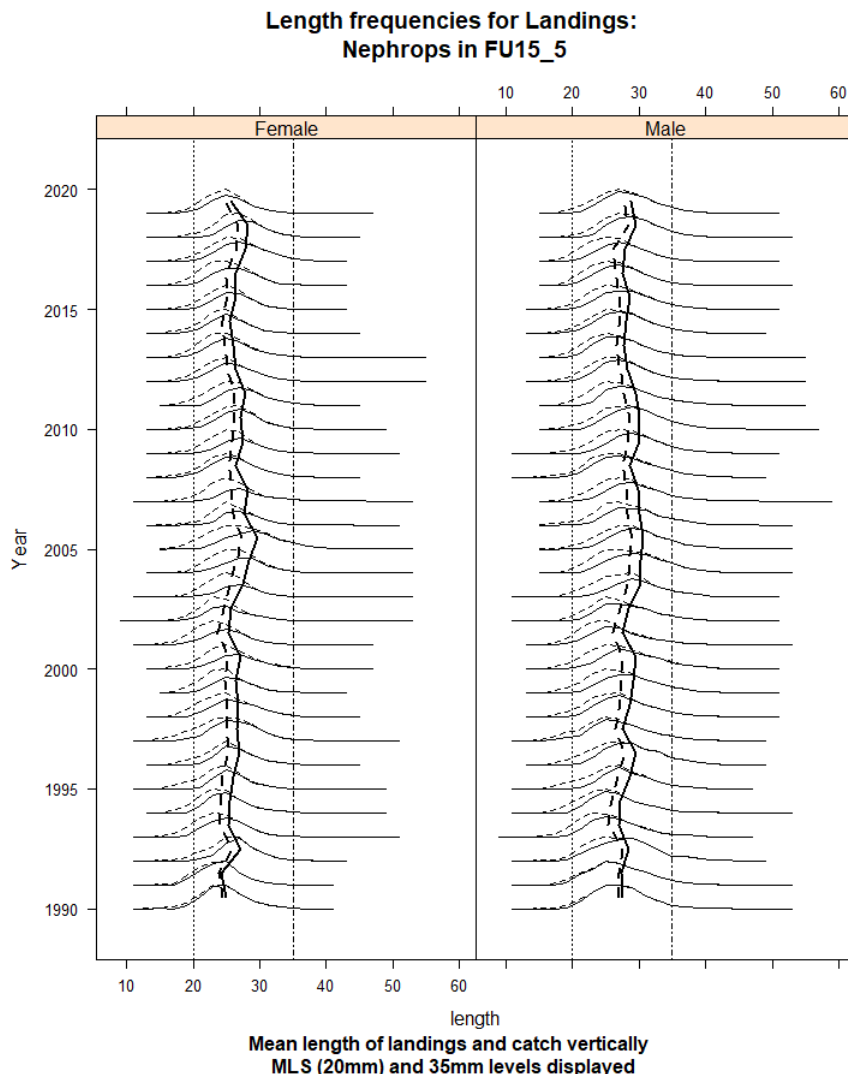
\*\*\* Assuming recent discard rates.

### Summary of the assessment

**Table 5** Norway lobster in Division 7.a, Functional Unit 15. 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		millions			%	tonnes		%		grammes	
2003	5485	255	404	291	666	12.1	7065	2659	41.9	39.3	17.5	9.14
2004	5547	237	416	218	612	11.0	7270	1993	34.4	32.0	17.5	9.14
2005	5673	327	346	157	488	8.6	6554	1412	31.2	29.1	18.9	8.99
2006	5402	314	467	261	701	13.0	7561	2285	35.9	33.4	16.2	8.75
2007	5150	228	511	375	848	16.5	8491	3246	42.3	39.7	16.6	8.66
2008	4288	144	755	191	927	21.6	10508	1421	20.2	18.6	13.9	7.44
2009	4623	190	567	335	868	18.8	9198	2934	37.1	34.7	16.2	8.76
2010	4990	198	572	180	733	14.7	8963	1539	23.9	22.0	15.7	8.55
2011	4871	176	644	332	943	19.4	10162	2683	34.0	31.7	15.8	8.08
2012	5062	249	771	258	1003	19.8	10529	1871	25.1	23.1	13.7	7.25
2013	4310	174	662	229	867	20.1	8672	1590	25.7	23.6	13.1	6.94
2014	4593	161	641	198	819	17.8	8613	1418	23.6	21.7	13.4	7.16
2015	4373	202	620	280	872	19.9	8643	2228	31.1	28.9	13.9	7.96
2016	5076	232	562	245	783	15.4	7327	1939	30.4	28.2	13.0	7.91
2017	5312	267	426	152	563	10.6	6150	1222	26.3	24.3	14.4	8.04
2018	4932	188	360	145	491	10.0	5756	1231	28.7	26.6	16.1	7.43
2019	4404	183	536	154	675	15.3	7591	1159	22.3	20.5	14.2	7.54
2020	4775	291										

\* Dead + surviving discards.



**Figure 2** Norway lobster in Division 7.a, Functional Unit 15. Catch length–frequency distribution and mean size in catches (dotted lines) and landings (solid lines). The vertical lines indicate the minimum conservation reference size (20 mm) and the 35 mm visual reference level.

### 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>.

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