

Norway lobster (*Nephrops norvegicus*) in Division 8.c, Functional Unit 25 (southern Bay of Biscay and northern Galicia)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, there should be zero catch in each of the years 2020, 2021, and 2022.

To ensure that the stock in Functional Unit 25 is managed sustainably, ICES advises that management should be implemented at the functional unit level.

Stock development over time

Catches and CPUE have fluctuated along a marked downward trend and are currently very close to zero. The *Nephrops* fishery in Division 8.c was closed in 2017 and 2018. The available information indicates that the stock is at a very low abundance.

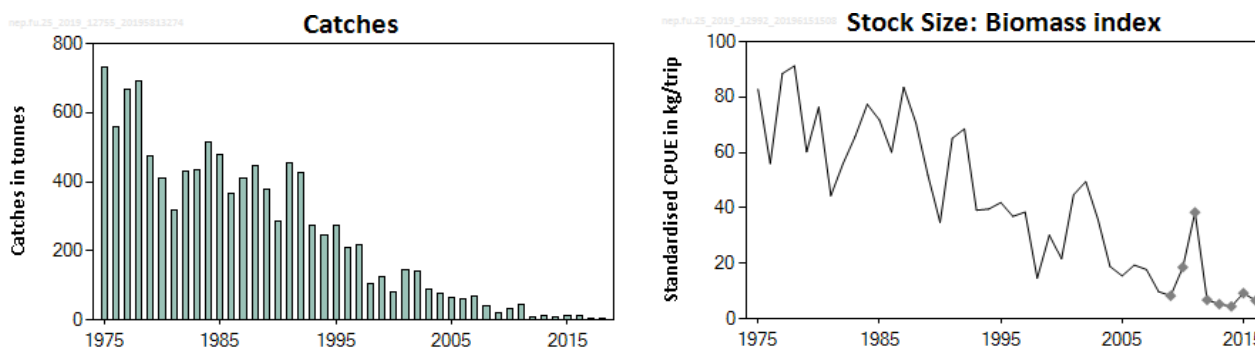


Figure 1 Norway lobster in Division 8.c, Functional Unit (FU) 25. Left: Catches (official landings + discards). Right: Stock size indicator: CPUE SP-CORUTR8c (1975–2008) and SP-LCGOTBDEF8c in kg/trips (dotted, 2009–2016).

Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to maximum sustainable yield (MSY) and precautionary approach (PA) reference points because the reference points are undefined. Qualitatively, the spawning stock size is below any possible biomass reference point.

Table 1 Norway lobster in Division 8.c, FU 25. State of the stock and fishery relative to reference points.

| | | Fishing pressure | | | Stock size | | | | | |
|---------------------------|-------------------|------------------|------|------|----------------|-------------------|------|---|---|---------------------------------|
| | | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 | | | |
| Maximum sustainable yield | F_{MSY} | ? | ? | ? | Unknown | $MSY B_{trigger}$ | ? | ? | ? | Undefined |
| Precautionary approach | F_{pa}, F_{lim} | ? | ? | ? | Unknown | B_{pa}, B_{lim} | ? | ? | ? | Undefined |
| Management plan | F_{MGT} | — | — | — | Not applicable | B_{MGT} | — | — | — | Not applicable |
| Qualitative evaluation | - | ? | ? | ? | Unknown | - | ⊗ | ⊗ | ⊗ | Below possible reference points |

Catch scenarios

The 2016 stock biomass indicator is at a historical low value, below possible reference points, and therefore the advice is for zero catch for each of the years 2020, 2021, and 2022. In 2017 and 2018 the Division 8.c *Nephrops* (FUs 25 and 31) fishery was closed. However, a sentinel fishery was conducted in 2017 and 2018 to monitor the status of this functional unit.

Table 2 Norway lobster in Division 8.c, FU 25. For stocks in ICES data categories 3–6, one catch scenario is possible.

| | | | |
|-------------------------|-------------|--|----------|
| Recent advised landings | | | 0 tonnes |
| Discard rate | | | 100%* |
| Precautionary buffer | Not applied | | - |
| Catch advice | | | 0 tonnes |

* Assumed 100% discard rate owing to the closure of the fishery.

Basis of the advice

Table 3 Norway lobster in Division 8.c, FU 25. The basis of the advice.

| | |
|-----------------|--|
| Advice basis | Precautionary approach |
| Management plan | ICES is not aware of any agreed precautionary management plan for Norway lobster in this area. |

Quality of the assessment

Historical official landings and commercial CPUE trends match with the Spanish trawl survey (SPNGFS-IBTS-Q4) abundance index trend for FU 25 *Nephrops*. However, this survey has yet to be fully evaluated for *Nephrops*.

Issues relevant for the advice

The FU 25 *Nephrops* sentinel fisheries (special fisheries in commercial vessels with observers on board) were carried out in 2017 and 2018 (ICES, 2018a, 2019); however, with only two years of data, this time-series is still too short to be used for stock assessment purposes.

A single TAC covers the entire ICES Division 8.c. ICES advises that the management area should be consistent with the assessment area (Figure 2).

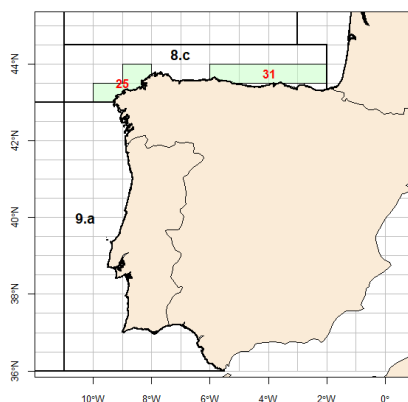


Figure 2 *Nephrops* functional units in Division 8.c. FU 25 covers statistical rectangles 15E0–E1 and 16E1.

Reference points

Table 4 Norway lobster in Division 8.c, FU 25. Reference points, values, and their technical basis.

| Framework | Reference point | Value | Technical basis | Source |
|------------------------|-------------------|-------------|--|-------------|
| SY approach | MSY $B_{trigger}$ | Not defined | | |
| | F_{MSY} proxy | 0.17 | $F_{0.1}$ from a yield-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 | SSB_{MGT} | Not defined | | |
| | F_{MGT} | Not defined | | |

Basis of the assessment

Table 5 Norway lobster in Division 8.c, FU 25. The basis of the assessment.

| | |
|--------------------------|---|
| ICES stock data category | 3 (ICES, 2018b). |
| Assessment type | Trends from commercial CPUE. |
| Input data | Spanish commercial catches (1975–2018); two commercial CPUE indices in kg/trip (SP-CORUTR8c) (1975–2008) and SP-LCGOTBDEF8c (2009–2018). |
| Discards and bycatch | The Division 8.c <i>Nephrops</i> fishery has been closed since 2017. Logbooks recorded discards of 179 kg in 2018. |
| Indicators | Mean length in commercial catches (1982–2016), proportion of males in landings (1981–2010). FU 25 <i>Nephrops</i> CPUE (kg/haul) time-series and spatial distribution, and Division 8.c <i>Nephrops</i> mean length and percentage of males from Spanish trawl survey (SPNGFS-IBTS-Q4) (1983–2018). |
| Other information | CPUE and mean lengths from sentinel fishery. |
| Working group | Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE). |

Information from stakeholders

There is no additional available information.

History of advice, catch, and management

Table 6[†] Norway lobster in Division 8.c, FU 25. History of ICES advice, the agreed TAC, and ICES estimates of catches. Weights are in tonnes.

| Year | ICES advice | Predicted landings correspond. to advice | Agreed TAC * | ICES catches |
|------|-------------|--|--------------|--------------|
| 1987 | | | | 412 |
| 1988 | | | | 445 |
| 1989 | | | | 376 |
| 1990 | | | | 285 |
| 1991 | | | | 453 |
| 1992 | | 510 | 800 | 428 |
| 1993 | | 510 | 1000 | 274 |
| 1994 | | 510 | 1000 | 245 |
| 1995 | | 510 | 1000 | 273 |
| 1996 | | 510 | 1000 | 209 |
| 1997 | | 510 | 1000 | 219 |
| 1998 | | 510 | 1000 | 103 |
| 1999 | | 510 | 1000 | 124 |
| 2000 | | 510 | 800 | 81 |

[†] Version 2: Corrected values updated by WGBIE. Table note descriptions updated.

| Year | ICES advice | Predicted landings correspond. to advice | Agreed TAC * | ICES catches |
|------|-------------------------------------|--|-----------------|--------------------------------|
| 2001 | | 510 | 720 | 147 |
| 2002 | Reduce catches to zero | 0 | 360 | 143 |
| 2003 | Reduce catches to zero | 0 | 180 | 89 |
| 2004 | Reduce catches to zero | 0 | 180 | 75 |
| 2005 | Reduce catches to zero | 0 | 160 | 63 |
| 2006 | Reduce catches to zero | 0 | 146 | 62 |
| 2007 | Reduce catches to zero | 0 | 131 | 67 |
| 2008 | Reduce catches to zero | 0 | 124 | 39 |
| 2009 | Reduce catches to zero | 0 | 112 | 21 |
| 2010 | No new advice, same as 2009 | 0 | 101 | 34 |
| 2011 | Reduce catches to zero | 0 | 91 | 44 |
| 2012 | No new advice, same as 2011 | 0 | 82 | 10 [#] |
| 2013 | Reduce catch to zero | 0 | 62 | 11 |
| 2014 | No new advice, same as 2013 | 0 | 67 | 9 |
| 2015 | Zero catch and reduce bycatch | 0 | 60 | 14 |
| 2016 | No new advice, same as 2015 | 0 | 48 [#] | 13 [#] |
| 2017 | Precautionary approach (zero catch) | 0 | 0 | 2 ^{**} |
| 2018 | Precautionary approach (zero catch) | 0 | 0 | 2 ^{**} , [^] |
| 2019 | Precautionary approach (zero catch) | 0 | 0 | |
| 2020 | Precautionary approach (zero catch) | 0 | | |
| 2021 | Precautionary approach (zero catch) | 0 | | |
| 2022 | Precautionary approach (zero catch) | 0 | | |

* For the entire Division 8.c.

** Sentinel fishery.

[^] Preliminary.

[#] Updated by WGBIE (ICES, 2019).

History of catch and landings

Table 7[‡] Norway lobster in Division 8.c, FU 25. Catch distribution by fleet in 2018 as estimated by ICES.

| Total catch (2018) | Landings* | | Discards** |
|--------------------|------------------------|-----------|------------|
| 2.2 tonnes | 75% bottom otter trawl | 25% other | 0.2 tonnes |
| | 2 tonnes | | |

* Sentinel fishery.

** Bottom trawl fleet.

[‡] Version 2: Corrected table note descriptions.

Table 8[§] Norway lobster in Division 8.c. Landings by FU and for all of Division 8.c. Total landings in tonnes (only exploited by the Spanish fleet).

| Year | Landings | | | Discards | | | ICES catch |
|-------|----------|-------|----------------|----------|-------|----------------|--------------|
| | FU 25 | FU 31 | Outside of FUs | FU 25 | FU 31 | Outside of FUs | Division 8.c |
| 1975 | 731 | | | | | | 731 |
| 1976 | 559 | | | | | | 559 |
| 1977 | 667 | | | | | | 667 |
| 1978 | 690 | | | | | | 690 |
| 1979 | 475 | | | | | | 475 |
| 1980 | 412 | | | | | | 412 |
| 1981 | 318 | | | | | | 318 |
| 1982 | 431 | | | | | | 431 |
| 1983 | 433 | 63 | | | | | 496 |
| 1984 | 515 | 100 | | | | | 615 |
| 1985 | 477 | 128 | | | | | 605 |
| 1986 | 364 | 127 | | | | | 491 |
| 1987 | 412 | 118 | | | | | 530 |
| 1988 | 445 | 151 | | | | | 596 |
| 1989 | 376 | 177 | | | | | 553 |
| 1990 | 285 | 174 | | | | | 459 |
| 1991 | 453 | 109 | | | | | 562 |
| 1992 | 428 | 94 | | | | | 522 |
| 1993 | 274 | 101 | | | | | 375 |
| 1994 | 245 | 148 | | | | | 393 |
| 1995 | 273 | 94 | | | | | 367 |
| 1996 | 209 | 129 | | | | | 338 |
| 1997 | 219 | 98 | | | | | 317 |
| 1998 | 103 | 72 | | | | | 175 |
| 1999 | 124 | 48 | | | | | 172 |
| 2000 | 81 | 34 | | | | | 115 |
| 2001 | 147 | 27 | | | | | 174 |
| 2002 | 143 | 26 | | | | | 169 |
| 2003 | 89 | 35 | 30 | | | | 154 |
| 2004 | 75 | 29 | 10 | | | | 114 |
| 2005 | 63 | 48 | 12 | | | | 123 |
| 2006 | 62 | 37 | 11 | | | | 110 |
| 2007 | 67 | 32 | 13 | | | | 112 |
| 2008 | 39 | 20 | 10 | | | | 69 |
| 2009 | 21 | 10 | 5 | | | | 36 |
| 2010 | 34 | 9 | 5 | | | | 47 |
| 2011 | 44 | 7 | 3 | | | | 54 |
| 2012 | 10** | 10 | 5 | | | | 25** |
| 2013 | 11 | 10 | 4 | | | | 25 |
| 2014 | 9 | 4 | 2 | | | | 15 |
| 2015 | 14 | 3 | 2 | | | | 19 |
| 2016 | 13** | 3 | 4 | | | | 20** |
| 2017 | 2 | 0 | 0 | | | | 2 |
| 2018* | 2.0 | 0.0 | 0.1 | 0.2 | 3.4 | 4.0 | 9.7 |

* Preliminary.

** Updated by WGBIE (ICES, 2019).

[§] Version 2: Corrected values updated by WGBIE.

Summary of the assessment

Table 9 Norway lobster in Division 8.c, FU 25. Assessment summary. Weights are in tonnes. Official catches.

| Year | Stock size: Biomass index | Catches |
|------|---------------------------|---------|
| 1975 | 83 | 731 |
| 1976 | 56 | 559 |
| 1977 | 88 | 667 |
| 1978 | 91 | 690 |
| 1979 | 60 | 475 |
| 1980 | 76 | 412 |
| 1981 | 44 | 318 |
| 1982 | 56 | 431 |
| 1983 | 66 | 433 |
| 1984 | 77 | 515 |
| 1985 | 72 | 477 |
| 1986 | 60 | 364 |
| 1987 | 84 | 412 |
| 1988 | 71 | 445 |
| 1989 | 52 | 376 |
| 1990 | 35 | 285 |
| 1991 | 65 | 453 |
| 1992 | 69 | 428 |
| 1993 | 39 | 274 |
| 1994 | 40 | 245 |
| 1995 | 42 | 273 |
| 1996 | 37 | 209 |
| 1997 | 39 | 219 |
| 1998 | 15 | 103 |
| 1999 | 30 | 124 |
| 2000 | 22 | 81 |
| 2001 | 45 | 147 |
| 2002 | 50 | 143 |
| 2003 | 36 | 89 |
| 2004 | 19 | 75 |
| 2005 | 16 | 63 |
| 2006 | 19 | 62 |
| 2007 | 18 | 67 |
| 2008 | 10 | 39 |
| 2009 | 8 | 21 |
| 2010 | 19 | 34 |
| 2011 | 38 | 44 |
| 2012 | 7 | 10 |
| 2013 | 5 | 11 |
| 2014 | 4 | 9 |
| 2015 | 9 | 14 |
| 2016 | 7 | 13 |
| 2017 | | 2 |
| 2018 | | 2 |

Sources and references

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