

European lobster, *Homarus gammarus*

ADVICE

Catches should be reduced in line with declining Landings Per Unit Effort (LPUE) trends and size indicators of lobster catches. This supports that catches in 2021, 2022 should be no more than 49 tonnes.

FISHERY AND STOCK TRENDS

In 2020, 52 tonnes of lobster were landed by NI registered vessels from NI waters (ICES rectangles: 37E3, 37E4, 38E4, 39E3, 39E4). This is a reduction in landings from a peak in 2014. The LPUE also peaked in 2014 but has since decreased steadily. The mean size of individual lobsters measured in the catches indicate that whilst for females these are above the length at which growth is optimum (Lopt), for males these are below Lopt since the beginning of the time series.

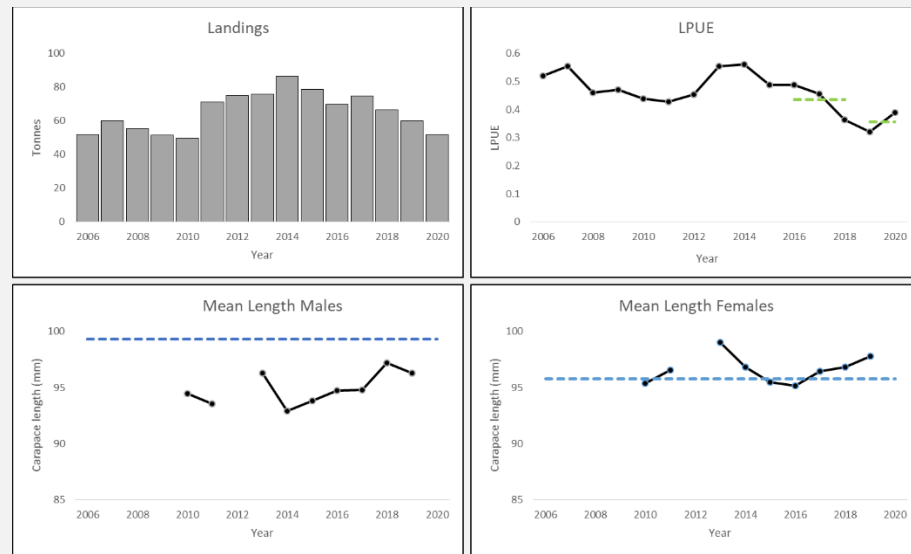


Fig 1. Lobster in ICES rectangles: 37E3, 37E4, 38E4, 39E3, 39E4. Summary of the stock assessment. Catches, LPUE, length based indicators. The dashed green lines indicate the average of the most recent two years and the previous three years. The dashed blue lines indicate Lopt.

Table 1. Lobster in ICES rectangles: 37E3, 37E4, 38E4, 39E3, 39E4. State of the stock relative to reference points and qualitative fishing pressure.

Fishing Pressure			Stock indicator (males)				Stock indicator (females)			
2018	2019	2020	2018	2019	2020	Below; Decreasing	2018	2019	2020	Above; Increasing
↑	↑	↓	↓	↓	↓	Decreasing	↑	↑	↑	Increasing

ADVICE BASIS

A commercial LPUE time series is used to indicate stock trends. The advice is based on the ratio of the mean of the last two index values (Index A) and the mean of the three preceding values (Index B), multiplied by the recent average catch.

A precautionary buffer was not applied for this stock due to the indicator of size of female lobster being above Lopt.

Table 2 Lobster in ICES rectangles: 37E3, 37E4, 38E4, 39E3, 39E4. Basis for advice.*

Index A (2019 - 2020)	0.36 kg/pot
Index B (2016–2018)	0.44 kg/pot
Index ratio (A/B)	0.818
Recent catch for 2018 - 2020	59 t
Precautionary Reduction	Not applied
Catch advice**	49 t
% Advice change ^	-18 %

* 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.
 ** [Mean recent catch (2018 – 2020)] × [Index Ratio].
 ^Advice change is based on the current advised catch compared to mean recent catch (2018 – 2020).

REFERENCE POINTS

Table 2. Reference points

Reference point	Value	Technical basis
L _{opt} Male	99.3	Length at which growth rate is maximum
L _{opt} Female	95.8	Length at which growth rate is maximum

QUALITY OF THE ASSESSMENT

The assessment is based on landings from NI waters (ICES rectangles 37E3, 37E4, 38E4, 39E3, 39E4) by NI registered vessels. These landings are made into NI, other UK and Irish ports.

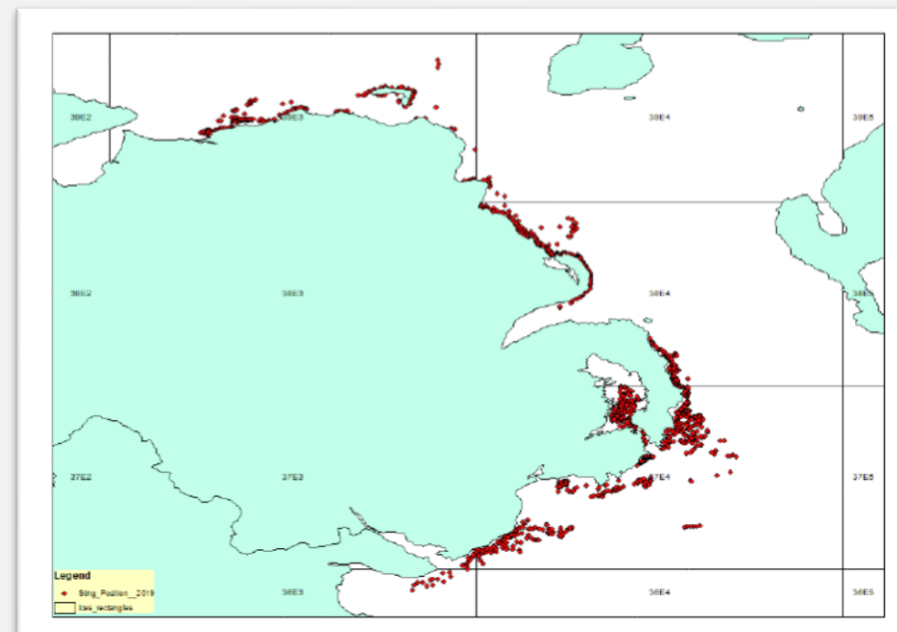


Fig 2. At-sea observation of lobster pot fishing.

Genetic studies show that the lobster population in NI waters is connected through larval dispersal.

A length based model was used to examine the health of the lobster stock. For a stock to be healthy the mean length should be at Lopt. The output of the assessment indicates that whilst female lobsters are being fished sustainably, male lobsters are shown to be overexploited (mean length is below Lopt).

The data used in the length based model is collected through an observer programme. Observer data is available from 2010 to 2019 (no data is available in 2020 due to Covid-19 which meant observer trips could not take place). The data used in the assessments excludes lengths from crabs in Strangford Lough which are felt to have a different growth rate. Between 2010 and 2019, an average of 18 trips have been carried out annually.

The LPUE series is derived from reported landings data. This data is reliant on accurate self-reporting from commercial fishers. Methods for automated data collection would provide more detail on effort trends, including the duration over which pots are deployed.

ISSUES RELEVANT FOR THE FISHERY

The assessment is based on a length based model but excludes Strangford Lough data as lobsters from the Lough are thought to have a different growth rate. A minimum landing size of 87mm.

2020 landings and effort may have been impacted by Covid-19 which impacted fishing and markets due to lockdown within UK and Europe.

SUMMARY OF THE ASSESSMENT

Table 3 *Homarus gammarus* in ICES rectangles: 37E3, 37E4, 38E4, 39E3, 39E4. Assessment summary.

Year	Landings	Effort*	Mean Length Males	Mean Length Females
2006	52.0	15135	-	-
2007	60.1	15700	-	-
2008	56.0	18499	-	-
2009	51.7	19655	-	-
2010	49.9	21916	94.5	95.4
2011	71.2	22247	93.6	96.6
2012	75.3	21340		
2013	75.7	22387	96.3	99.0
2014	86.5	21076	92.9	96.8
2015	78.7	18443	93.8	95.5
2016	69.8	18992	94.7	95.2
2017	74.9	22407	94.8	96.5
2018	66.5	23733	97.2	96.8
2019	60.0	26178	96.3	97.8
2020	51.9	17183	-	-

*This is the reported number of pots fishing not the number of hauls