

European lobster, *Homarus gammarus*

ADVICE

Landings may be increased in line with the improving size indicators of lobster catches. It is advised that landings in 2023 should be no more than 64 tonnes.

FISHERY AND STOCK TRENDS

In 2021, 63 tonnes of lobster were landed by NI registered vessels from the ICES rectangles 37E3, 37E4, 38E4, 39E3 and 39E4 (Fig 1). Whilst an increase in landings compared to 2019 and 2020, this is a reduction in landings from a peak in 2014 (Fig 1). The landings per unit effort (LPUE) also peaked in 2014 but has since decreased (Fig 1). The mean size of landed females remain to be above the size at which growth is optimal, Lopt, whilst 2021 is the first year that males have also been above Lopt since the beginning of the time series. Using Lopt as a proxy for Maximum Sustainable Yield (MSY) the stock in 2021 is considered to be exploited sustainably.

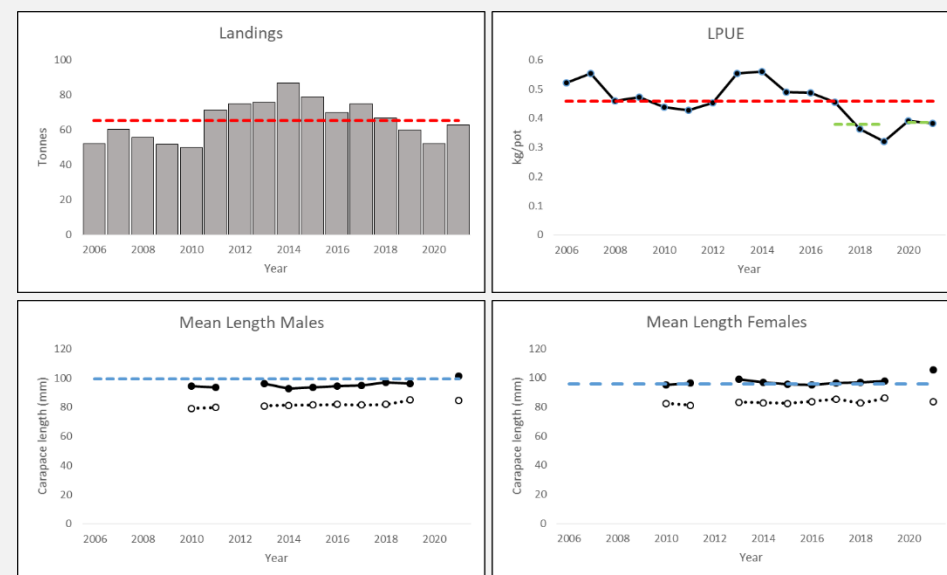


Fig 1. Lobster in ICES rectangles 37E3, 37E4, 38E4, 39E3 and 39E4. Summary of the stock assessment. Landings, Landings Per Unit Effort (LPUE), length based indicators. The dashed green lines indicate Index A and Index B. Red dashed line represents average over time period. For the length based indicator the solid black line indicates mean size lobster landed and the dashed black line is mean size of all lobsters measured. The dashed blue lines indicate Lopt.

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

Fishing Pressure				Stock Indicator (males)				Stock Indicator (females)			
2019	2020	2021	Increasing; Below average	2019	2020	2021	Increasing; Above Lopt	2019	2020	2021	Increasing; Above Lopt
↑	↓	↑		↓	-	↑		↑	-	↑	

ADVICE BASIS

A commercial LPUE time series is used to indicate stock trends. The advice is based on the ratio of the mean LPUE of the last two index values (Index A) and the mean of the three preceding values (Index B), multiplied by the recent average catch (3 years).

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

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

Index A (2020 - 2021)	0.39 kg/pot
Index B (2017–2019)	0.38 kg/pot
Index ratio (A/B)	1.02
Recent landings for 2018 – 2021**	63 t
Precautionary Reduction	Not applied
Landings advice***	64 t
% Advice change ^	+1.65 %

* 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.

** 2020 landings excluded due to Covid-19 impacts on landings

*** [Mean recent landings (2018 – 2021)] × [Index Ratio].

^Advice change is based on the current advised landings compared to mean recent landings (2018 – 2021).

REFERENCE POINTS

Table 2. Reference points

Reference point	Value	Technical basis
Lopt Male	99.3	Length at which growth rate is maximum
Lopt 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 and 39E4) by NI registered vessels. These landings are made into NI, other UK and Irish ports.

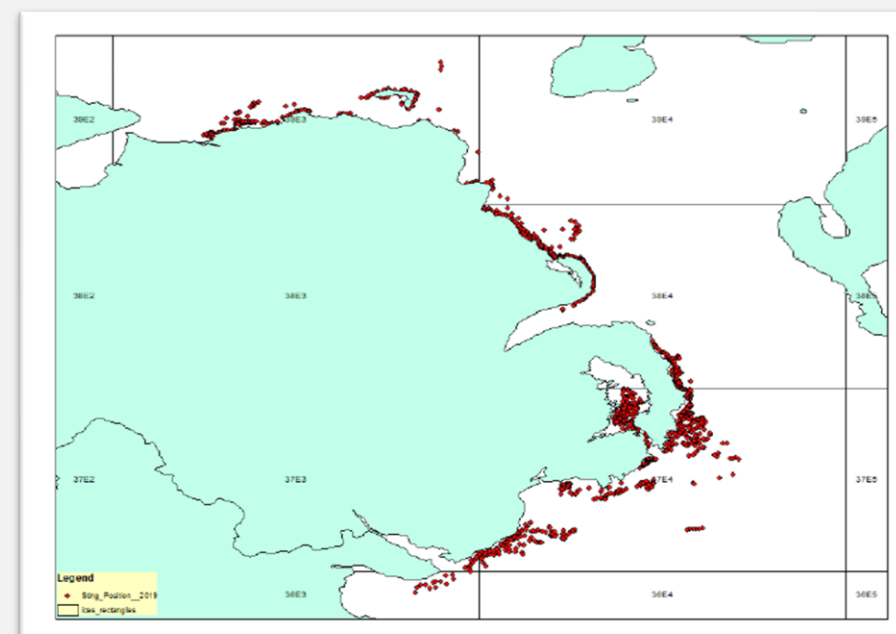


Fig 2. At-sea observation of lobster pot fishing.

The landings and effort in 2020 may have been impacted by Covid-19 due to market factors and public restrictions to limit Covid-19 spread.

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 currently both male and female lobsters are above Lopt.

The data used in the length based model is collected at-sea, on board fishing vessels. This data is available from 2010 to 2021 (limited data is available in 2020 due to Covid-19). The data used in the assessments excludes lengths from lobsters in Strangford Lough which are considered to have different growth characteristics. Between 2010 and 2021, 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

A minimum landing size of 87mm is applied in NI.

SUMMARY OF THE ASSESSMENT

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

Year	Landings	Effort*	Mean Length Males	Mean Length Females
2006	52.0	15135	-	-
2007	60.1	15700	-	-
2008	55.5	18499	-	-
2009	51.7	19655	-	-
2010	49.9	21916	94.5	95.4
2011	71.2	22247	93.6	96.6
2012	74.9	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	-	-
2021	62.7	18335	101.2	105.3

*Reported number of pots.