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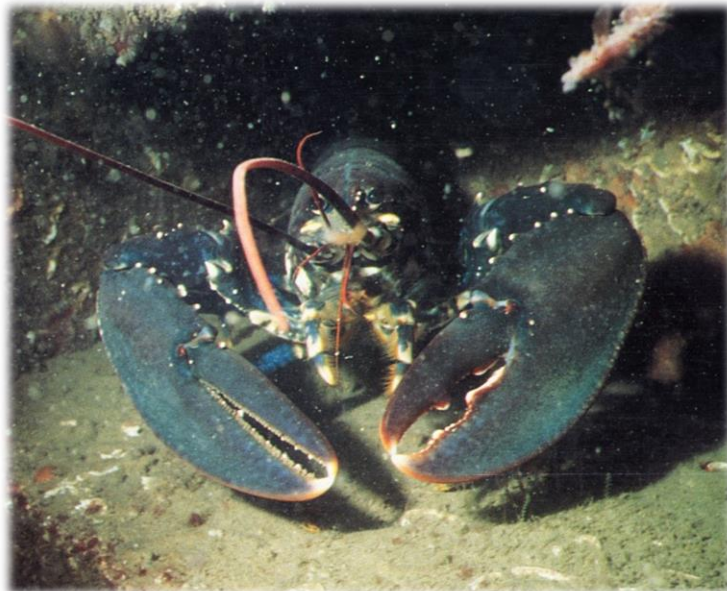
Cefas

Lobster (*Homarus gammarus*)

Cefas Stock Status Report 2019

October 2020

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Cefas Stock Status report 2019: Lobster (*Homarus gammarus*)

Background

Cefas has published reports describing the status of the lobster (*Homarus gammarus*) stocks around the UK since 2012. It is planned to re-run the assessment periodically on a 2-3 year timescale. This report details the main findings of the assessments and provides background information describing how the assessments are undertaken, the data that are required, and description of the uncertainties associated with these assessments.

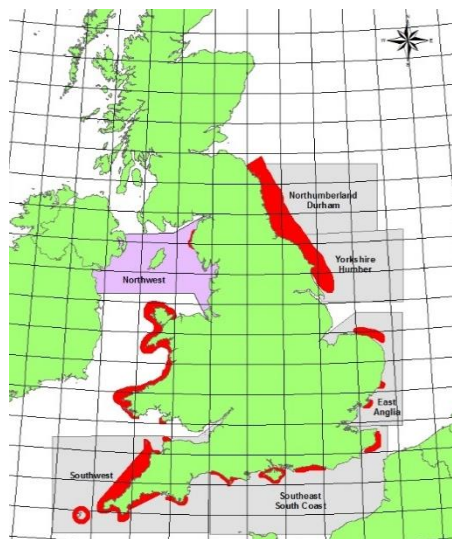


Figure 1. – The LFU's used for the assessment regions. The LFU in purple did not have sufficient data for an assessment this year.

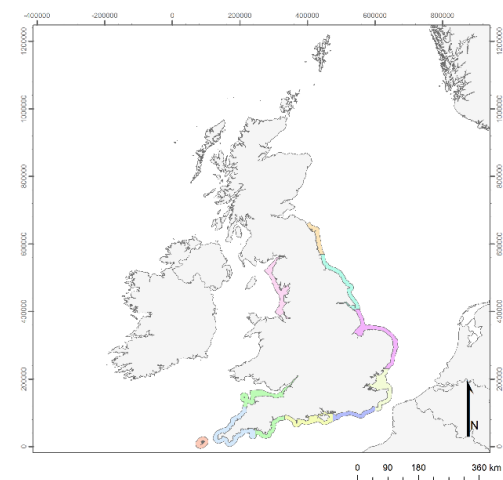
Biology

European lobster can be found from Scandinavia to North Africa, where they occupy solitary shelters in rocky substrates. They are opportunistic scavengers, as well as preying on small crustaceans, molluscs and polychaetes (worms). Moulting occurs in summer approximately once a year for adults, becoming less frequent in older animals. Mating occurs soon after the female has moulted, and most females are expected to have a 2-year reproductive cycle. After the eggs hatch the larvae are in the water for 3-4 weeks before the first juvenile stages settle on the seabed. Larval distribution depends on local hydrographical conditions and the behaviour of individuals. With such a lengthy time in the plankton, the probability of individual larvae surviving is low

and consequently recruitment levels are expected to be variable. Both sexes are considered fairly sedentary, although inshore/offshore and longshore migration is known to take place at some locations.

Fishery Unit Definitions

There are six Lobster Fishery Units (LFU) that have been defined for England. These units have been based upon the distribution of the fisheries, hydrographic conditions and what is known of larval distributions and development. Each LFU encompasses waters covered by International, National and local (IFCA) legislation which may be different within each region. The LFU's are presented in Figure 1.



IFCA Boundaries

Cornwall Isles of Scilly Devon & Severn Kent & Essex Eastern North Eastern North Western Northumberland Southern Sussex

Figure 2. – The IFCA boundaries.

Fishery management jurisdiction is organised on two different scales around England. Beyond 6 nautical miles, Defra and the MMO are responsible for managing lobster fisheries whereas from the coast out to 6 nautical miles, responsibility lies with the Inshore Fisheries and Conservation Authorities (IFCAs). There are 10 IFCAs within England (see Figure 2). It is obvious that the LFU and IFCA boundaries do not match, which can make interpreting results for each management unit challenging, however given that one functional area is based on species biology and the other is based on governmental logistics, differences are to be expected.

Data sources used

Landings come from the official MMO data records. There have been changes in the way the MMO (and its predecessors) have gathered landings data through time. For larger vessels landings and effort are taken from the mandatory EU logbooks. Prior to 2006, records of landings from smaller vessels (<10m) were gathered by local officers. Since a change in legislation in 2006, sales note returns from merchants are used to support the landings declarations. Between 2006 and 2008, official MMO landings data are a combination of sales notes and self-reported records of landings from the Monthly Shellfish Activity Return (MSAR) forms where no sales note had been generated. This practice ceased in 2009 and the MMO reverted to using sales note derived data only. Cefas has used MSAR data to supplement MMO official landings data from 2010 onwards.

Fishing effort is estimated by the MMO from MSARs for <=10m vessels or EU logbooks for >10m vessels. There is no requirement for potting fisheries to record the number of pots being fished, so in this report effort is measured as days fished.

The changes to reporting systems over time have predominantly improved the data quality but landings and effort series should not be viewed as coherent records through time.

Scientific officers visit ports to measure individual animals from catches and determine the ratio of landings by sex. Samples are also received from IFCA's in some regions, and these length samples are combined with Cefas' and scaled up to represent the total landings of lobster.

Overall Landings trends

Figure 3 presents the total official landings data that is used within the assessments. The data pertains to all English and Welsh vessels landing anywhere, and all landings into England and Wales from UK vessels. Due to changes in the way landings have been reported, care should be taken when comparing back through time. Data from 2010 to present have been collected in a consistent manner and total removals have been relatively stable for the past six years. The spring of 2018 saw extreme cold weather throughout the country; lobsters began to appear in pots very late in the season and mass mortalities occurred onshore in the North Sea.

Figure 4 presents the landings per rectangle for 2018, and Figure 5 presents the average landings per rectangle from 2013 to 2018. These plots show that although the overall landings appear to be increasing, the area from which the animals are being caught is decreasing.

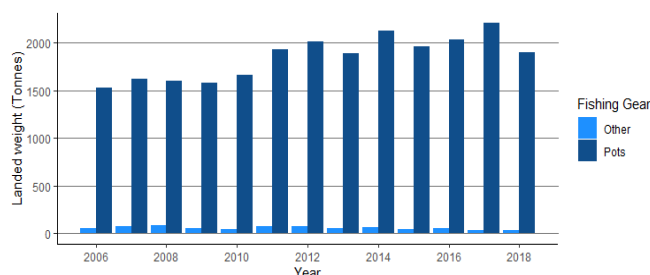


Figure 3 – The official landings for UK E&W.

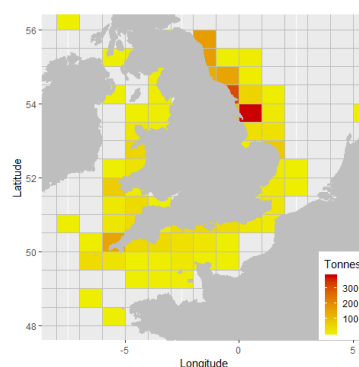


Figure 4 – Landings per ICES rectangle for 2018.

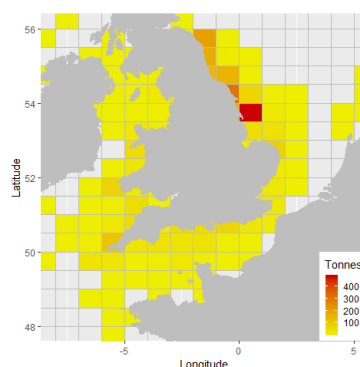


Figure 5 – Average landings per ICES rectangle from 2013 to 2018.

Assessment Methodology

Within European waters, most major fish stocks are assessed using methods which monitor the change in numbers over time for animals born in a particular year. This is possible because most fin-fish have bony structures which retain annual growth rings. Crustaceans shed their shell each time they moult and do not retain structures that can be easily used to determine their age, so an alternative assessment method has to be employed.

The methodology used in this assessment follows the change in shape of the length-frequency (numbers at length) from one year to

the next. The rates at which individual lobsters grow and die dictates how many animals at a given size there are in the population. Combined with knowledge of the growth rate of animals and the rate of natural death (M , assumed to be 0.15), the shape of the length-frequency curve is used to infer the rate at which the fishery is removing individuals.

For further details of the Length Cohort Analysis approach see the full stock assessment report which can be obtained from Cefas.

Reference point definition

A stock assessment result can indicate what the exploitation rate might be and how big the stock might be, but this is of limited use to fishery managers as they try to decide whether these rates are appropriate. The production of reference points aims to give managers benchmarks to see whether the management structure is being effective and whether fishing rates are above or below these points.

Reference points can be determined to achieve a number of different management objectives. For instance, managers could simply want to ensure that the fishery was unlikely to collapse the stock, or alternatively managers could want the fishery to derive maximum long-term profit from the stock. Within the European Community framework, the current management objective to achieve fishing rates likely to deliver Maximum Sustainable Yield (MSY) from fisheries. For crustacean fisheries scientists cannot directly calculate this rate and so rely upon alternative ways to estimate it.

This assessment uses 35% of virgin Spawner per Recruit (SpR) as the MSY level proxy. This is commonly used around the world to estimate the fishing rate likely to deliver MSY. A second point termed a limit reference point has also been calculated and having fisheries operating beyond this level is considered to carry higher risk to the production of further generations. This value is defined as 15% of virgin SpR.

Uncertainty

Fishery stock assessments are never perfect because any assessment model will produce estimates rather than absolute values and the accuracy of these estimates is affected by the quality of the input data. Scientific data collection (in this case landed numbers at length) are taken from a relatively small number of landings and

then scaled up to represent the whole landings, a process which doesn't claim to be exactly correct but should be broadly representative. Samples are bootstrapped to provide 5% and 95% confidence limits. Not all landings will be recorded as there are exemptions from reporting requirements for some small scale fisheries and recreational landings.

An assessment model is an attempt to simplify the real world into a few key structures and functions, so the assumptions made in the process will cause the modelled system to depart from reality. What fishery stock assessment does attempt to do is to capture the main processes and data streams so that the final estimate of fishing rate and/or stock size is broadly correct.

For this assessment the key uncertainties come from:

- the scientific understanding of growth and natural death rates
- the representativeness of the landings used to collect length samples
- the assumptions within the assessment model of
 - a) the population being at equilibrium (constant recruitment)
 - b) the spatial coverage of the population is constant and all size ranges are equally available to the fishery
 - c) fishery statistics are complete and accurate.

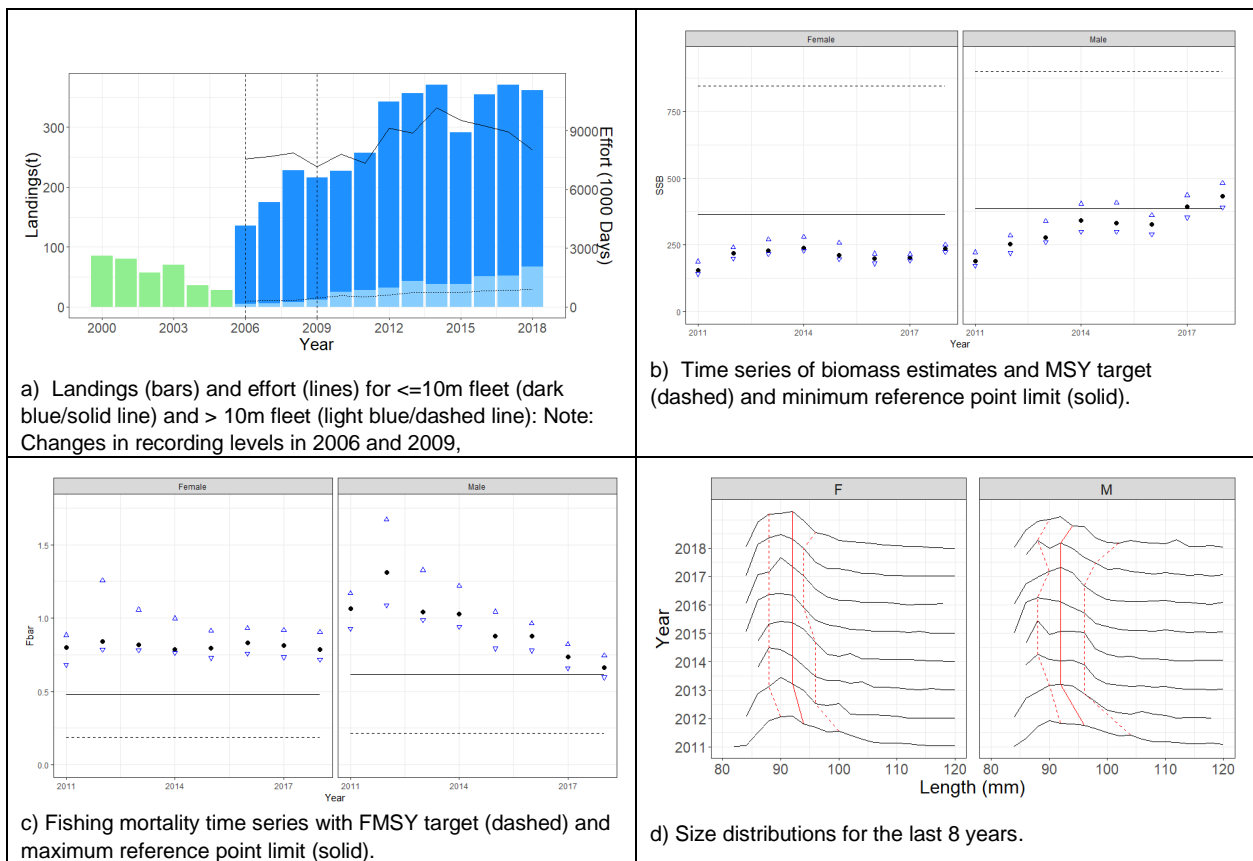
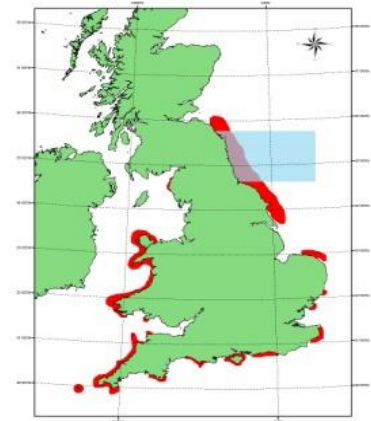
Cefas has a research program which continually searches to improve our understanding of processes governing population dynamics and there are currently projects focussing on growth and mortality rates. We are also working with the MMO to ensure that landings statistics are as complete and accurate as possible, and working with the IFCA's to ensure maximum efficiency and best practice in data collection.

Given the uncertainty in the input data and assessment model it is acknowledged that the precise value of any estimate of fishing mortality of stock size is uncertain but has sufficient reliability to indicate rates on a high-medium-low scale.

Cefas Stock Status 2018: European lobster (*Homarus gammarus*) in Northumberland & Durham.

Sustainability Status

Minimum Landing Size	At the MLS applied in this region around 100% males and 80% of females should be mature
Discarding	High discard survival assumed to be > 90%
Stock size	Below the minimum reference point limit for females, just above for males
Exploitation rate	High, around maximum reference point limit for males, above for females



The exploitation status of the stock of lobster in the Northumberland & Durham area is high, at the limit reference point for males and above for females, although there is a decreasing trend for exploitation on males since 2012. The biomass status is low, male biomass is around the minimum reference point limit and female biomass is below. The status of the stock in relation to the reference points is unchanged from the previous assessment in 2017.

Sampling levels

Table 1. Sample numbers used in the Northumberland and Durham assessment for the last three years, collected by Cefas and IFCAs

Year	Samples used	No. animals sampled
2016	54	2,037
2017	43	1,789
2018	38	1,650

Table 2. Total sample numbers collected for Northumberland and Durham during the last three years

	2016	2017	2018
Fleet size <= 10m / >10 m	126/8	100/9	120/10

Fishery overview and developments

Reported landings and fishing effort increased substantially following the introduction of Buyers and Sellers legislation and the Restrictive Shellfish License Scheme in 2006. Since this period fishing activity data are thought to be generally more reliable but the integrity of the time series, especially fishing effort, is uncertain.

Fishing mortality (F) has remained fairly constant for the last four years for females and decreased steadily for males since 2012. This trend for males, in combination with the implied increasing biomass is due to landings of males increasing and their mean size increasing. Landings and effort have been increasing since 2010, although this could be an artefact from the inclusion of MSAR data from 2010.

There is a seasonal pattern to fishing activity with an inshore focus on lobster through the summer-autumn with a more offshore (4-30 miles) focus on crab during winter-spring. Boats will fish 5-6 days per week in summer, dropping to 2-3 in winter.

Within the Northumberland IFCA there are around 115 permit holders, of which ~80% are active during the summer and ~65% during the winter. The number of available licences has not changed recently and the ban on vessels >12m within the district has excluded larger nomadic operations. There is a pot limit within the District waters of 800 per vessel. Those fishing outside beyond the 6 mile limit typically deploy a further 200-1000 additional pots per vessel. There is little gear conflict reported between mobile and potting outfits within the Northumberland IFCA district. Within this district there is a spatial gradient in reported size distributions with smaller individuals dominating in the south (North Shields – Newbiggin-by-the-Sea) compared to the northerly Amble-Berwick section.

Within the NEIFCA district improved landings have been noted since the mandatory inclusion of escape gaps, accompanied by anecdotal reports of increased pre-recruit density on the grounds from 2013 onwards. Active vessel numbers have remained stable, as have pots hauled and pot numbers. Animal sizes are still highly constrained, although a more prominent new shelling period was noted on the main fishing grounds.

Fishery Management measures.

- EC legislation sets a minimum landing size of 87mm for lobster in the UK and prohibits the landing of parts of lobsters.
- National legislation restricts the number of shellfish licences available in the UK and also prohibits the landing of berried lobsters and those with a v-notch in their tail fan.
- Local IFCA legislation varies and is detailed in the table below.

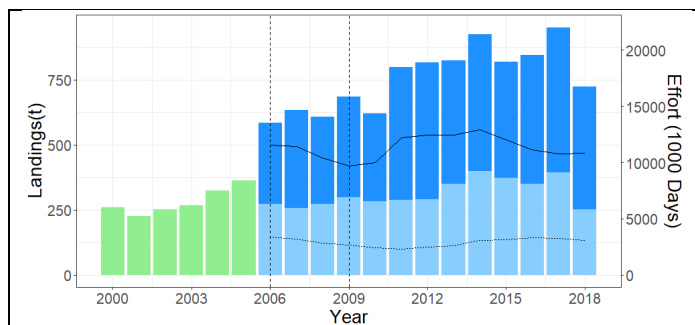
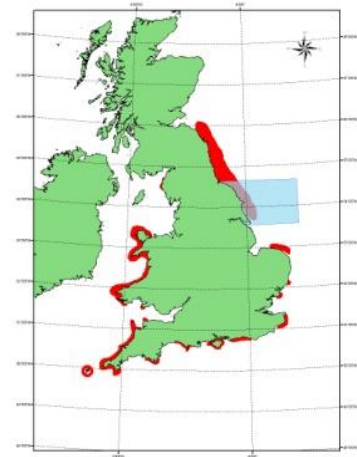
Table 1. Regional byelaws on Northumberland & Durham lobster fisheries.

Title of Byelaw	Northumberland	North Eastern
Shellfish Permits	Yes	Yes
Minimum Landing Size	As EU	As EU
Maximum Pot Limit	Yes - 800	No
Escape Gaps	No	Yes
Maximum Vessel Length	Yes - 12m	Yes – 10/14m (some areas)
Towed Gear Restrictions	No	No
Prohibits the Removal of Parts of Lobsters	Yes	Yes

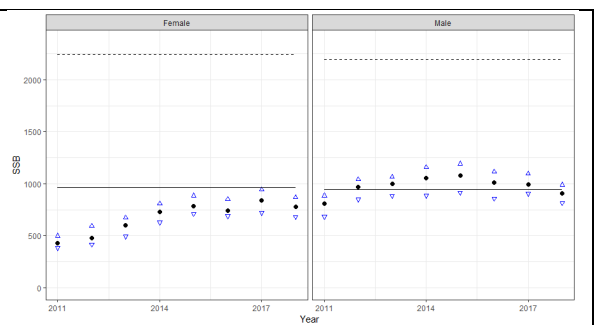
Cefas Stock Status 2019: European lobster (*Homarus gammarus*) in Yorkshire Humber

Sustainability Status

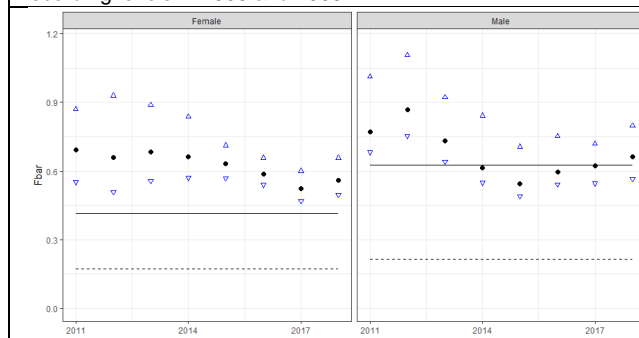
Minimum Landing Size	At the MLS applied in this region around 99% of males and 86% of females should be mature.
Discarding	High discard survival assumed to be > 90%.
Stock size	Around minimum reference point for males and females.
Exploitation rate	High, above the maximum reference point limit for both males and females.



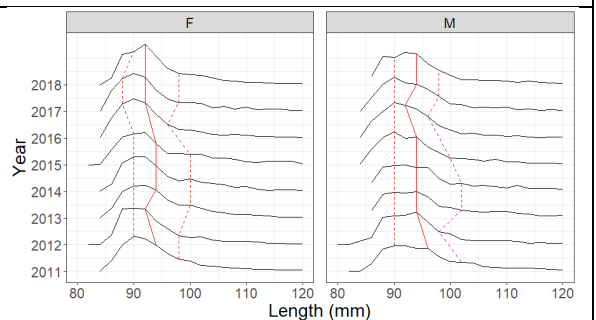
a) Landings (bars) and effort (lines) for $\leq 10\text{m}$ fleet (dark blue/solid line) and $> 10\text{m}$ fleet (light blue/dashed line): Note: Changes in recording levels in 2006 and 2009



b) Time series of biomass estimates and MSY target (dashed) and minimum reference point limit (solid).



c) Fishing mortality time series with FMSY target (dashed) and maximum reference point limit (solid).



d) Size distributions for the last 8 years.

The exploitation status of the stock of lobster in Yorkshire is high, above the level required for maximum sustainable yield for both sexes. The fishing pressure is particularly high on animals around the Minimum Landing Size. The biomass status of both sexes is low, close to the minimum reference point limit but is stable for females. The status of the stock is unchanged from the previous assessment in 2017.

Sampling levels

. Table 1. Sample numbers used in the Northumberland and Durham assessment for the last three years, collected by Cefas and IFCA's

Year	Samples used	No. animals sampled
2016	162	9,047
2017	87	5,448
2018	81	5,447

Table 2. Sample numbers collected Yorkshire Humber during the last three years

	2016	2017	2018
Fleet size < =10m / >10 m	156/30	136/30	143/34

Fishery overview and developments

Reported landings and fishing effort increased substantially following the introduction of Buyers and Sellers legislation and the Restrictive Shellfish License Scheme in 2006. Since this period fishing activity data are thought to be generally more reliable but the integrity of the time series, especially fishing effort, is uncertain.

Since 2010 the fishery has expanded to offshore grounds. An increase in offshore vivier vessels has been seen and a lot of vessels have increased their pot numbers (North Eastern IFCA, *pers. comm.*). This expansion of the fishery and change in fishing habits may be exploiting previously unfished populations with larger animals, which could explain the apparent decrease in F and increase in biomass in 2013-15, and the wider spread in length distributions in those years. Abnormally cold temperatures in early spring 2018 caused mass mortalities of lobster that were found washed up on the north east coast.

NEIFCA data sources indicate that landings have continued to increase, following a trend established in the fishery since the early 1990's. The number of pots hauled has remained stable across the fishery, although accompanied by a reported increase in overall pot numbers. Displacement of gear has occurred within the Holderness fishery due to two offshore wind farm developments, pipeline works and associated surveys. Additionally oil & gas exploration also caused temporary displacement of some offshore operators. Vessel upgrades have also allowed for some operators to expand their fishing grounds into some areas that were previously lightly exploited.

Fishery Management Measures

North Eastern IFCA byelaws apply between the River Tyne and the River Tees (part of their area) and extend to 6nm out from coastal baselines.

- EC legislation sets a minimum landing size of 87mm for lobster in the UK and prohibits the landing of parts of lobsters.
- National legislation restricts the number of shellfish licences available in the UK and also prohibits the landing of berried lobsters and those with a v-notch in their tail fan.
- Local IFCA legislation varies and is detailed in the table below.

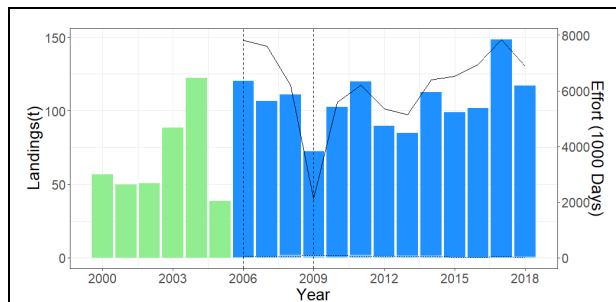
Table 1. Regional byelaws on Yorkshire Humber lobster fisheries.

Shellfish Permits	Yes*
Minimum Landing Size	As EU
Maximum Pot Limit	No
Escape Gaps	Yes
Maximum Vessel Length	Yes - 16m
Towed Gear Restrictions	No
Prohibits the Removal of Parts of Lobsters	Yes

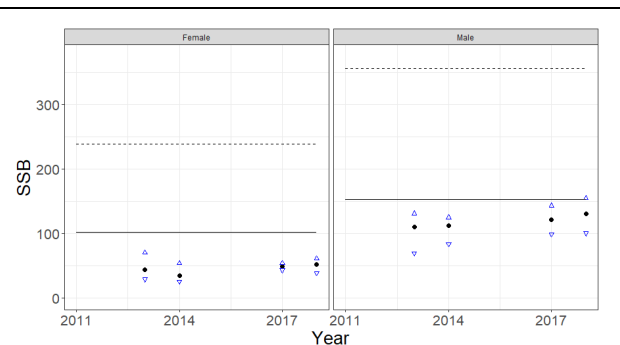
Cefas Stock Status 2019: European lobster (*Homarus gammarus*) in East Anglia

Sustainability Status

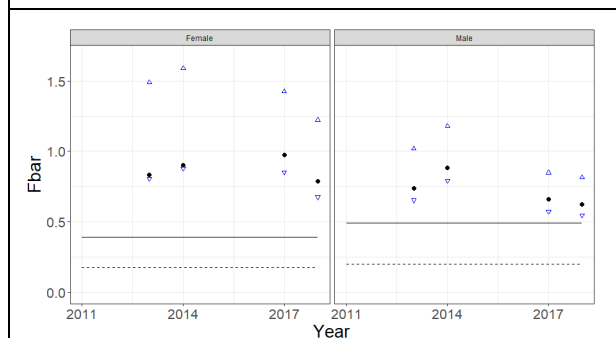
Minimum Landing Size	At the MLS's applied in this region between 99-100% of the males and 86-92% of the females should be mature
Discarding	High discard survival assumed to be > 90%
Stock size	Low, below minimum reference point for males and females
Exploitation rate	High, above minimum reference point for males and females



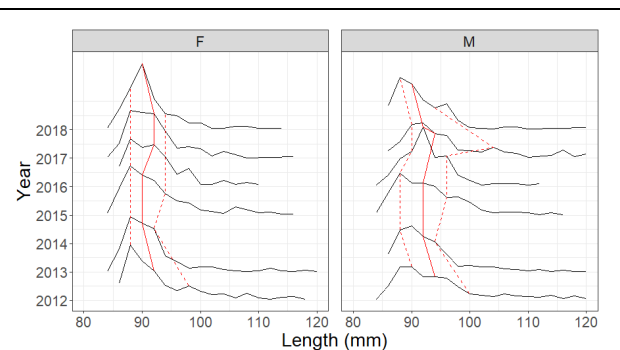
a) Landings (bars) and effort (lines) for $\leq 10\text{m}$ fleet (dark blue/solid line) and $> 10\text{m}$ fleet (light blue/dashed line): **Note: Changes in recording levels in 2006 and 2009**



b) Time series of biomass estimates and MSY target (dashed) and minimum reference point limit (solid). **Note insufficient data for estimates for 2011, 2012, 2015 & 2016.**



c) Fishing mortality time series with FMSY target (dashed) and maximum reference point limit (solid). **Note insufficient data for estimates for 2011, 2012, 2015 & 2016.**



d) Size distributions for the last 8 years. **NOTE: Insufficient data for 2011 & 2014.**

The exploitation status of the stock of lobster in East Anglia is high, above the maximum reference point limit for both sexes, although decreasing since 2017. Fishing pressure is particularly high around the Minimum Landing Size. The spawning stock biomass of both sexes is low, below the minimum reference point limit. Low sampling levels make the uncertainty on stock status high for this stock. No assessment is presented for 2015–2016 due to insufficient sampling.

Sampling levels

. Table 1. Sample numbers used in the Northumberland and Durham assessment for the last three years, collected by Cefas and IFCA's

Year	Samples used	No. animals sampled
2016	13	274
2017	30	898
2018	27	1,464

Table 2. Sample numbers collected for East Anglia during the last three years.

	2016	2017	2018
Fleet size < =10m / >10 m	123/2	115/2	128/2

Fishery overview and developments

Reported landings and fishing effort increased substantially following the introduction of Buyers and Sellers legislation and the Restrictive Shellfish License Scheme in 2006. Since this period fishing activity data are thought to be generally more reliable but the integrity of the time series, especially fishing effort, is uncertain.

Fishing mortality (F) is above the maximum reference point limit for both sexes but appears to be decreasing. Biomass level is below the minimum reference point limit for both sexes. Length samples were sparse in 2011-12, 2014 and 2016. Consequently, no assessment was presented for 2011, 2012, 2015 and 2016, as the assessment is based on the latest 3 years of length data.

Fishery Management measures.

Eastern IFCA byelaws apply between the Wash and the River Stour (part of their area) and extend to 6nm out from coastal baselines. Kent & Essex IFCA byelaws apply between the River Stour and the eastern end of Rye Bay and extend to 6nm out from coastal baselines, which, due to drying sandbanks, extends up to 15 miles offshore in some places.

- EC legislation sets a minimum landing size of 87mm for lobster in the UK and prohibits the landing of parts of lobsters.
- National legislation restricts the number of shellfish licences available in the UK and also prohibits the landing of berried lobsters and those with a v-notch in their tail fan.
- Local IFCA legislation varies and is detailed in the table below.

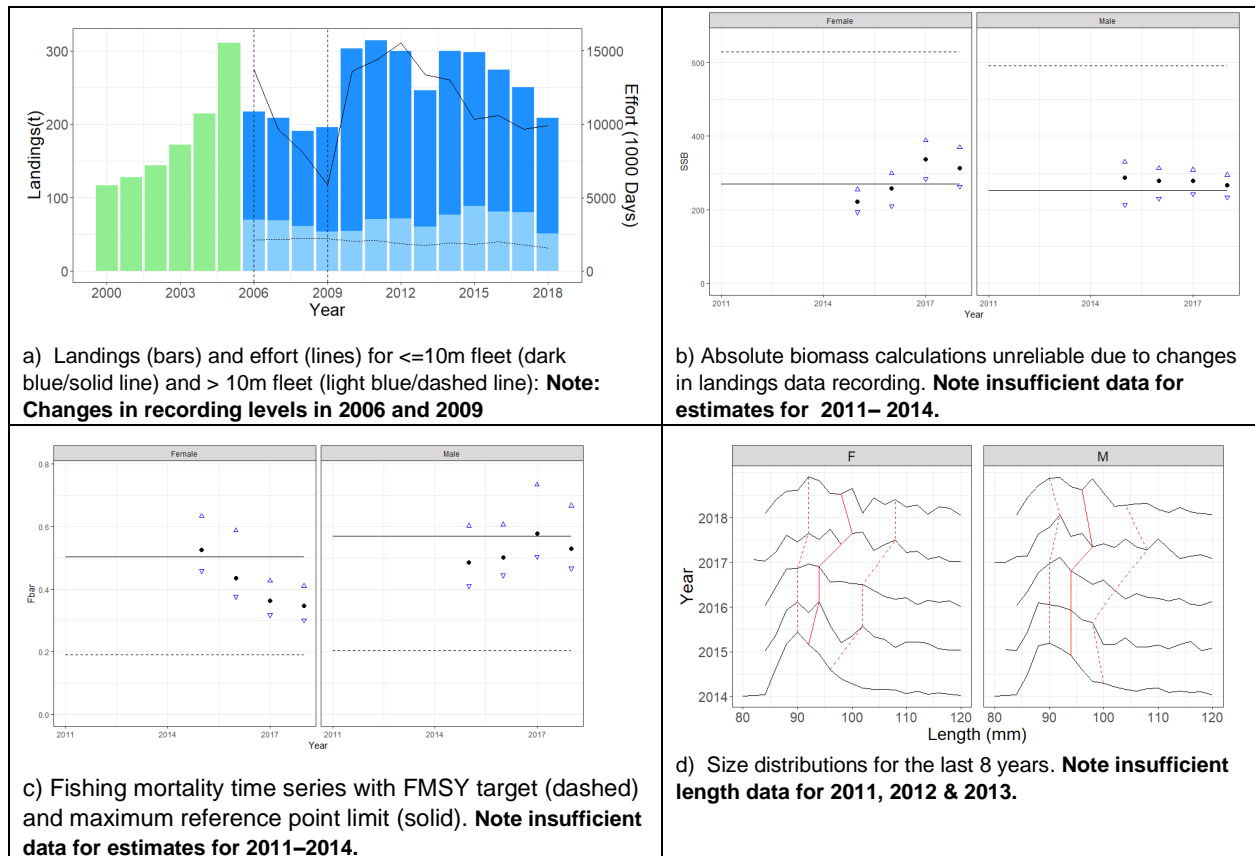
Table 1. Regional byelaws on East Anglia lobster fisheries.

Title of Byelaw	Eastern	Kent & Essex
Shellfish Permits	No	Yes
Minimum Landing Size	As EU	As EU
Maximum Pot Limit	No	No
Escape Gaps	No	Yes
Maximum Vessel Length	No	Yes - 17M
Towed Gear Restrictions	No	No
Prohibits the Removal of Parts of Lobsters	Yes	Yes (some areas)

Cefas Stock Status 2019: European lobster (*Homarus gammarus*) in Southeast South Coast

Sustainability Status

Minimum Landing Size	At the MLS's applied in this region between 99-100% of the males and 86-92% of the females should be mature
Discarding	High discard survival assumed to be > 90%
Stock size	Around the minimum reference point limit for males, between limit and target for females.
Exploitation rate	Moderate. Above rates consistent with MSY but below maximum reference point limit for males and females.



The status of the stock of lobster in Southeast South Coast is moderate. The exploitation level is just below the maximum reference point limit for males, and between the limit and target for females. The fishing pressure is high around the Minimum Landing Size Biomass is around the minimum reference point limit for males and just above the limit and target for females. Data are insufficient for assessing the stock status between 2011-2014. The status of the stock in relation to the fishing rate reference points has improved from the previous assessment in 2017 although fishing pressure remains above the MSY target.

Sampling levels

. Table 1. Sample numbers used in the Northumberland and Durham assessment for the last three years, collected by Cefas and IFCA

Year	Samples used	No. animals sampled
2016	28	1,167
2017	32	894
2018	21	876

Table 2. Sample numbers collected for Southeast South Coast during the last three years.

	2016	2017	2018
Fleet size < =10m / >10 m	247/20	217/20	223/21

Fishery overview and developments

Reported landings and fishing effort increased substantially following the introduction of Buyers and Sellers legislation and the Restrictive Shellfish License Scheme in 2006. Landings have decreased steadily since 2015. Since this period fishing activity data are thought to be generally more reliable but the integrity of the time series, especially fishing effort, is uncertain.

Fishing effort is below the limit, and biomass close to the limit for both sexes. Biomass has been increasing and fishing effort decreasing for females since 2015. Length samples were sparse in 2011–2013, consequently no assessment was presented for 2011–2014, as the assessment is based on the latest 3 years of length data.

Fishery Management measures.

Kent & Essex IFCA byelaws apply between the River Stour and the eastern end of Rye Bay and extend to 6nm out from coastal baselines, which, due to drying sandbanks, extends up to 15 miles offshore in some places.

Sussex IFCA byelaws apply between the eastern end of Rye Bay and Hayling Island and extend to 6nm out from coastal baselines.

Southern IFCA byelaws apply between the Devon/Dorset border to the west and the Hampshire/Sussex border to the east including Portland and the Isle of Wight.

- EC legislation sets a minimum landing size of 87mm for lobster in the UK.
- National legislation restricts the number of shellfish licences available in the UK and also prohibits the landing of berried lobsters and those with a v-notch in their tail fan.
- Local IFCA legislation varies and is detailed in the table below.

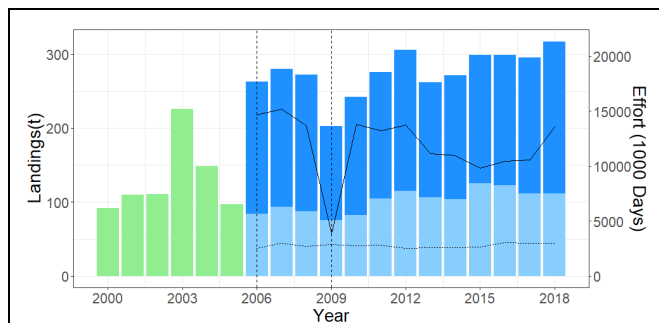
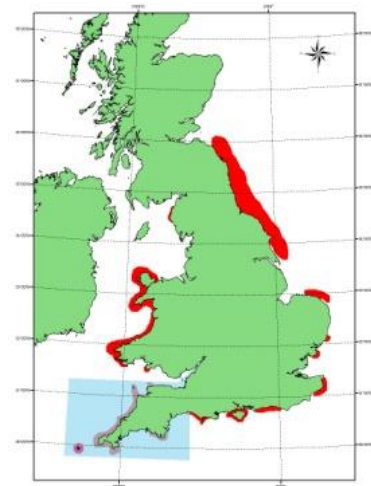
Table 1. Regional byelaws on South East South Coast lobster fisheries.

Title of Byelaw	Sussex	Southern	Kent & Essex
Shellfish Permits	Yes	No	Yes
Minimum Landing Size	As EU	As EU	As EU
Maximum Pot Limit	Yes-300<3m, 600<6m	No	No
Escape Gaps	Yes	No	Yes
Maximum Vessel Length	Yes -14m	Yes- 12m	Yes - 17M
Towed Gear Restrictions	No	No	No
Prohibits the Removal of Parts of Lobsters	No	No	Yes (some areas)

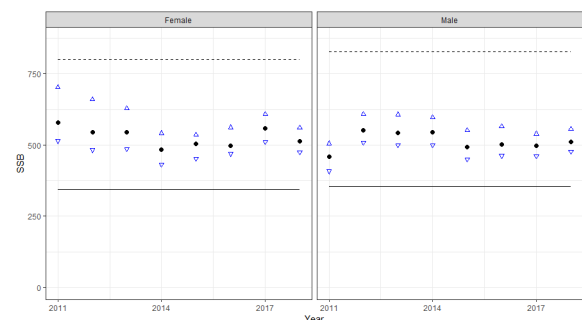
Cefas Stock Status 2019: European lobster (*Homarus gammarus*) in the Southwest

Sustainability Status

Minimum Landing Size	At the MLS's applied in this region between 99-100% of the males and 86-92% of the females should be mature
Discarding	High discard survival assumed to be > 90%
Stock size	Above minimum reference point limit but below MSY target for males and females
Exploitation rate	Moderate. Above rates consistent with MSY but below maximum reference point limit for males and females.



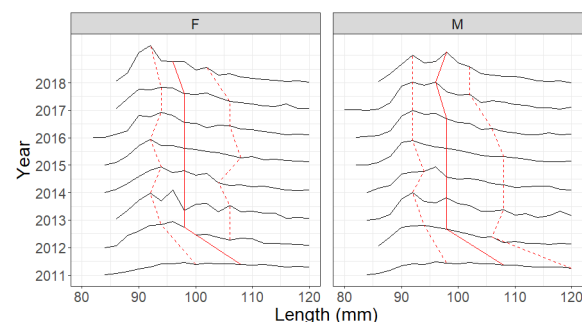
a) Landings (bars) and effort (lines) for $\leq 10\text{m}$ fleet (dark blue/solid line) and $> 10\text{m}$ fleet (light blue/dashed line): Note: Changes in recording levels in 2006 and 2009



b) Time series of biomass estimates and MSY target (dashed) and minimum reference point limit (solid).



c) Fishing mortality time series with FMSY target (dashed) and maximum reference point limit (solid).



d) Size distributions for the last 8 years.

The status of the stock of lobster in the Southwest area is moderate. The exploitation level is between MSY target level and the maximum reference point limit for both sexes. Spawning biomass levels are between the minimum reference point limit and the level associated with MSY and appear stable. The status of the stock in relation to the fishing rate reference points has not changed since the last assessment in 2017.

Sampling levels

. Table 1. Sample numbers used in the Northumberland and Durham assessment for the last three years, collected by Cefas and IFCA

Year	Samples used	No. animals sampled
2016	91	2,384
2017	58	1,980
2018	66	2,560

Table 2. Sample numbers collected for the southwest during the last three years.

	2016	2017	2018
Fleet size <= 10m / >10 m	323/40	309/40	307/42

Fishery overview and developments

Reported landings and fishing effort increased substantially following the introduction of Buyers and Sellers legislation and the Restrictive Shellfish License Scheme in 2006. Since this period fishing activity data are thought to be generally more reliable but the integrity of the time series, especially fishing effort, is uncertain.

Officially reported landings have remained consistent from 2013-17 with a notable increase in 2018, whilst effort has increased since 2015. Fishing mortality and Spawning stock biomass (SSB) have remained relatively stable between the target and limit reference points for both males and females in recent years.

Devon and Severn IFCA estimate the number of <10m vessels actively fishing in their district during 2013 was unchanged from previous years but the official data indicate a change in practice (fewer vessels generating sales notes). D&S IFCA also report no significant change in fishing effort (pots fished).

Fishery Management measures.

Devon & Severn IFCA jurisdiction applies between Lyme Regis and the River Tamar on the south coast and between Marsland Mouth and the Welsh border on the north coast and extend to 6nm out from coastal baselines. Cornwall IFCA jurisdiction applies between the River Tamar (including the western shore) and Marsland mouth, and extend to 6nm out from coastal baselines. Isles of Scilly IFCA byelaws apply to the 6nm boundary around the Isles of Scilly.

- EC legislation sets a minimum landing size (MLS) of 87mm for lobster in the UK, however, Devon & Severn, Cornwall, and Isles of Scilly IFCAs all enforce an MLS of 90mm. EC legislation also prohibits the landing of parts of lobsters
- National legislation restricts the number of shellfish licences available in the UK and also prohibits the landing of berried lobsters and those with a v-notch in their tail fan.
- Local IFCA legislation varies and is detailed in the table below. Devon & Severn IFCA (D&S) enforce a total fishing ban in the No Take Zone on the east coast of Lundy Island inside the Marine Protected Area (SAC and MCZ designation).

Table 1. Regional byelaws on southwest lobster fisheries.

Title of Byelaw	Devon & Severn	Cornwall	Isles of Scilly
Shellfish Permits	Yes	Yes	No
Minimum Landing Size	Yes – 90mm	Yes – 90mm	Yes – 90mm
Maximum Pot Limit	No	No	No
Escape Gaps	Yes	No	No
Maximum Vessel Length	Yes - 15.24M	Yes - 16.46M	Yes - 11M
Towed Gear Restrictions	Inshore Potting Agreement Area	No	Yes
Prohibits the Removal of Parts of Lobsters	No	No	No

Glossary

Cefas	Centre for Environment, Fisheries and Aquaculture Science.
IFCA	Inshore Fisheries and Conservation Authority.
F	Fishing Mortality.
FMSY	The fishing effort which will produce Maximum Sustainable Yield.
M	Natural Mortality.
MCZ	Marine Conservation Zone
MMO	Marine Management Organisation
MSY	Maximum Sustainable Yield, the maximum landings which can be regularly taken while avoiding stock collapse.
SAC	Special Area of Conservation
SpR	Spawner per Recruit