# Crustacean Landings Monitoring 2016

(20180314_CIFCA_2016_Crustacean_Landings_Monitoring)

Completed by: Cornwall Inshore Fisheries and Conservation Authority (Cornwall IFCA)

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# 1 Project Background

Cornwall Inshore Fisheries and Conservation Authority (IFCA) is responsible for managing both commercial and recreational fishing for crustacean species that occurs within the district. Under the Lobster, Crawfish and Crab Fishing Permit Byelaw 2016, permit holders must send monthly shellfish return forms to Cornwall IFCA (Annex 1). The analysis of the shellfish returns for 2016 has been completed and reported by Naylor *et al.,* 2016.

Cornwall IFCA undertake regular routine shellfish landings monitoring from approximately March/April each year until October. This sampling, alongside data from permit return forms aims to form stock assessments of shellfish within the district. The species included under shellfish are lobster (*Homarus gammarus*), edible crab (*Cancer pagurus*), spider crab (*Maja squinado*) and crawfish[1] (*Palinurus elephas*). This report details the findings of shellfish landings monitoring in 2016.

## 1.1 Aims

- To describe shellfish stocks within ICES sub-square based on estimated Landings Per Unit Effort (LPUE) and length frequency data.

## 1.2 Objectives

- Carry out shellfish landings surveys from ports across the district
- Analyse data by ICES rectangles and sub-squares
- Produce length/ width percentage frequency graphs for the following shellfish species; lobster (*Homarus gammarus*), edible crab (*Cancer pagurus*), spider crab (*Maja squinado*) and crawfish (*Palinurus elephas*)
- Compare results to permit returns statistics from 2016

# 2 Methodology

Landings monitoring was carried out by two CIFCA officers throughout the year, when possible. This involves estimating where landings will occur and liaising with shellfish transport companies to know what ports to visit and when. If weather conditions were not favourable, such as thundery warm and windy weather in summer months, no shellfish were sampled to avoid shellfish shooting their claws. Officers aimed to measure shellfish from a large number of ports, and not target the same ports and fishers repeatedly, in order to gather an even spread of data across the district. From each vessel surveyed, a proportion (sub-sample) of the total landed weight of shellfish was sampled. Officers estimated the weight of landings sampled and recorded the total landing weight of shellfish per vessel.

[1] Also known as spiny lobster

Using calibrated metal vernier callipers, measurements were made in accordance with *EC Council Regulation 850/98 – For the Conservation of Fishery Resources Through Technical Measures For The Protection Of Juveniles Of Marine Organisms* (see below). Each individual was sexed, checked for eggs and any other additional information was recorded on survey forms by hand (Annex 3).

Lobsters were measured parallel to the midline from the back of either eye socket to the distal edge of the carapace as shown by (a).

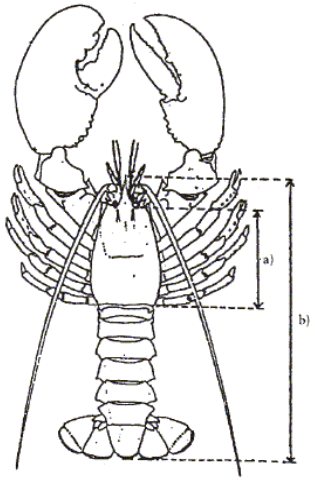


**Figure 1: Lobster (*Homarus gammarus*) measurements**

Edible crabs were measured across the broadest part of the shell, perpendicular to the midline.

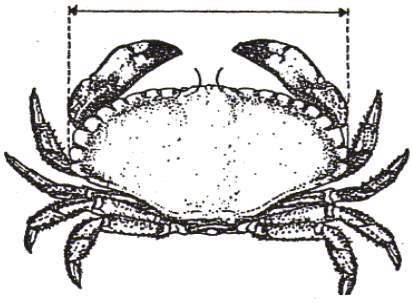

**Figure 2: Edible crab (*Cancer pagurus*) measurement**

Spider crabs were measured along the midline of the shell from the edge of the carapace between the rostrums to the posterior edge of the carapace.

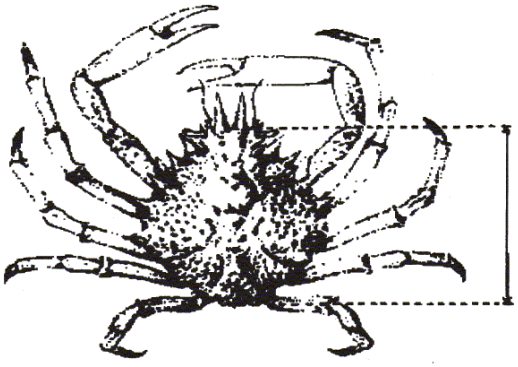

Figure 3: Spider crab (*Maja squinado*) measurement

Crawfish were measured from the tip of the central rostral spine along the midline to the midpoint of the distal edge of the carapace.

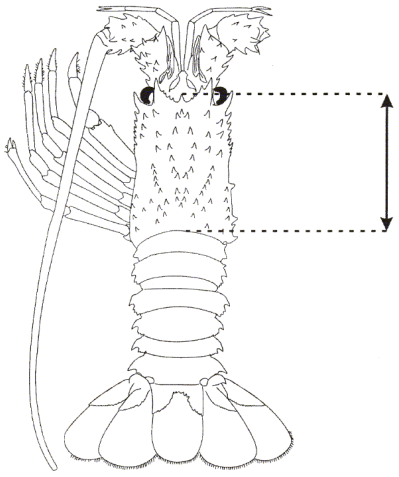

Figure 4: Crawfish (*Palinurus elephas*) measurement

The shellfish were handled with care, especially when removing individuals from bongos, basket or trays and placing them back. The data collected from routine shellfish landings monitoring is sent annually to the Centre for Environment, Fisheries and Aquaculture Science (CEFAS).

## 2.1 Geographic Area

All analysis was conducted using ICES statistical rectangles and sub-squares. The areas have also been grouped by north coast and south coast, with the boundary defined as 29E42 and 29E43, north of Cape Cornwall (Annex 2 – Cornwall IFCA District Map). Fishers were asked to identify where the shellfish landed had been caught from by identifying the area on a district map with ICES Statistical Rectangles.

## 2.2 Data Handling

All data collected was input into a Microsoft Excel worksheet and submitted into a Microsoft Access Database. Data was then exported to MS Excel where the records associated with area codes which were not recorded or outside of the District were removed, before the remaining data was analysed. There was limited data for crawfish (21 individuals) and consequently not analysed further. The percentage frequency of each species was

analysed by length for each ICES rectangle and sub square using a combined five point moving average (running mean). A five point moving average was applied to smooth the data and remove random fluctuations to enable more meaningful peaks or modes to become noticeable (King, 1995).

MapInfo Version 15.2 was used to thematically map the percentage of species per ICES statistical sub-square and number of visits to each landing port.

## 2.3 Seasonality

Analysis over the entire year was split by four quarters (Table 1) to correspond with Naylor *et al.* (2017).

**Table 1: Months related to each year quarter of 2016.**

| Quarter 1 | | | Quarter 2 | | | Quarter 3 | | | Quarter 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January | February | March | April | May | June | July | August | September | October | November | December |

## 2.4 Personal Protective Equipment (PPE)

Steel toe capped, waterproof boots and waterproofs were worn while recording on the quay. Thick, waterproof gloves provided protection while handing species and antibacterial hand gel was available.

# 3 Results

In 2016 a total of 100 port visits were undertaken covering 42 different vessels. A total of 1,545 lobsters, 2,470 edible crabs and 467 spider crabs were sampled. Table 2 shows the percentage of port visits per quarter and percentage of species sampled per quarter. Port visits were fairly evenly distributed between the last three quarters. The distribution of landing port visits can be seen in Figure 5, 11 different ports were visited in 2016.

**Table 2: Percentage of species recorded and visits per quarter of 2016.**

| 2016 Quarters | Percentage of visits | Percentage of Lobster | Percentage of Edible Crab | Percentage of Spider Crab |
|---|---|---|---|---|
| **Quarter 1** | 13% | 8% | 3% | 27% |
| **Quarter 2** | 33% | 58% | 20% | 39% |
| **Quarter 3** | 26% | 22% | 37% | 16% |
| **Quarter 4** | 28% | 13% | 40% | 17% |

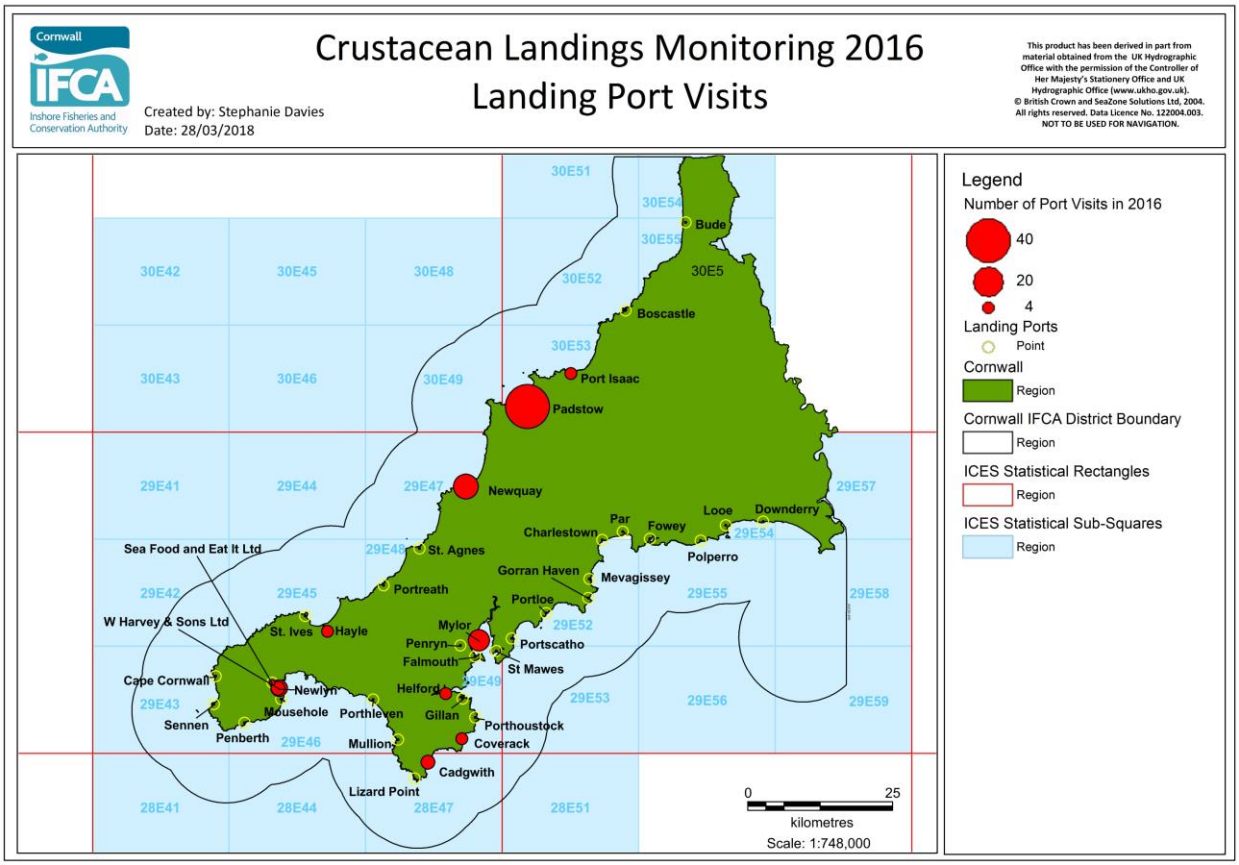


Figure 5: Landings monitoring port visits during 2016.

For each vessel the proportion of weight sampled from the total landed weight per species was recorded and Table 3 shows these results as a percentage. Total landing weight information was not recorded for 21 landings and the total sample weight was not recorded for 12 landings, therefore Table 3 so does not represent the full landings dataset. Table 3 also contains the total landed by pots and nets within Cornwall IFCA district from the 2016 permit returns statistics (Naylor *et al.,* 2017).

Table 3: Weight (kg) of each species sampled during shellfish landings in 2016 and total weight (kg) landed from 2016 permit returns statistics for pots and nets (Naylor *et al.* 2017).

| Weight (kg) | Lobster | Edible Crab | Spider Crab |
|---|---|---|---|
| **Total landed** | 1,367.98 | 11,395.80 | 904.00 |
| **Total sampled** | 849.11 | 1,238.97 | 342.90 |
| **Percentage sampled** | 62% | 11% | 38% |
| **Returns total landed (pots)** | 148,444.68 | 1,504,792.93 | 91,666.06 |
| **Returns total landed (nets)** | - | 40,113.63 | 44,467.52 |
| **Returns total landed (all gear)** | 148,444.68 | 1,544,906.56 | 136,133.58 |

## 3.1 Lobster

The data summary for all lobsters, males, females and ICES Statistical Rectangles can be seen in Table 4. The size range of lobsters sampled was from 85mm to 160mm. Out of 1,545 individuals, the mode for all lobsters in 2016 was 91mm.

Table 4: Data analysis for lobsters overall and split by males, females, and ICES Statistical Rectangles.

| Lobster Categories | n | Mean | Mode | Max | Min | Var | SD |
|---|---|---|---|---|---|---|---|
| **Males** | 784 | 97.87 | 91 | 138 | 86 | 72.19 | 8.50 |
| **Females** | 761 | 97.85 | 90 | 160 | 85 | 77.42 | 8.80 |
| **Combined (M&F)** | 1,545 | 97.86 | 91 | 160 | 85 | 74.72 | 8.64 |
| **28E4** | 6 | 106.17 | - | 126 | 93 | 221.77 | 14.89 |
| **28E5** | 0 | - | - | - | - | - | - |
| **29E4** | 497 | 97.26 | 90 | 130 | 86 | 66.78 | 8.17 |
| **29E5** | 24 | 99.96 | - | 119 | 89 | 66.91 | 8.18 |
| **30E4** | 393 | 96.21 | 91 | 160 | 86 | 57.95 | 7.61 |
| **30E5** | 348 | 98.34 | 91 | 133 | 87 | 80.95 | 9.00 |

The length frequency plot for all lobsters sampled in 2016 (Figure 6) demonstrates that the majority of lobsters landed fall into the 90mm to 96mm range.

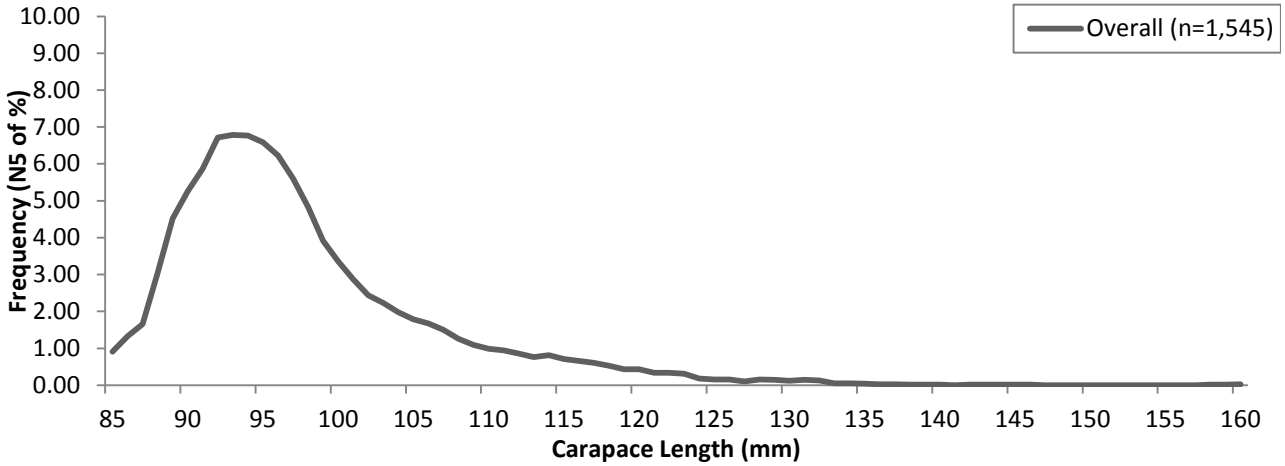


Figure 6: Lobster carapace length percentage frequency distribution for all lobsters (5 point moving average) in 2016.

The length frequency plots for male and female lobsters sampled (Figure 7) both follow a fairly similar trend, with minimal difference between sexes.

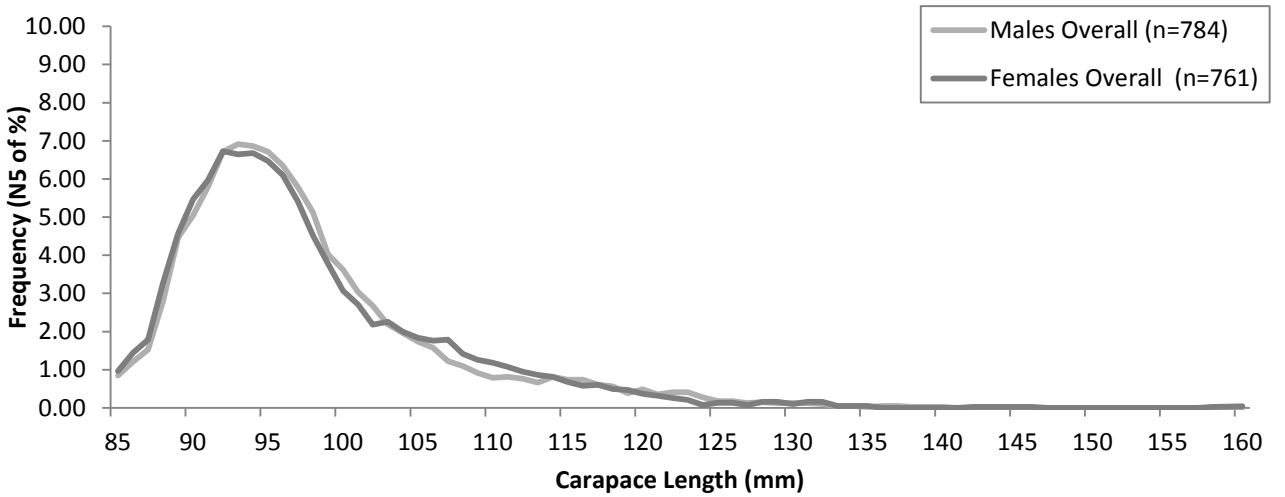


Figure 7: Lobster carapace length percentage frequency distribution for all males and females (5 point moving average) in 2016.

The length frequency plots for ICES Statistical Rectangles 30E4, 30E5 and 29E4 can be seen in Figure 8, Figure 9, and Figure 10 respectively. The ICES Statistical Rectangles 29E5, 28E4 and 28E5 and Sub-Squares 28E41, 28E44, 28E47, 28E51, 29E42, 29E43, 29E45, 29E46, 29E48, 29E49, 29E52, 29E53, 29E54, 29E55, 29E56, 29E57, 29E58, 29E59, 30E48, 30E51, 30E54 and 30E55 were not able to be displayed due to limited dataset.

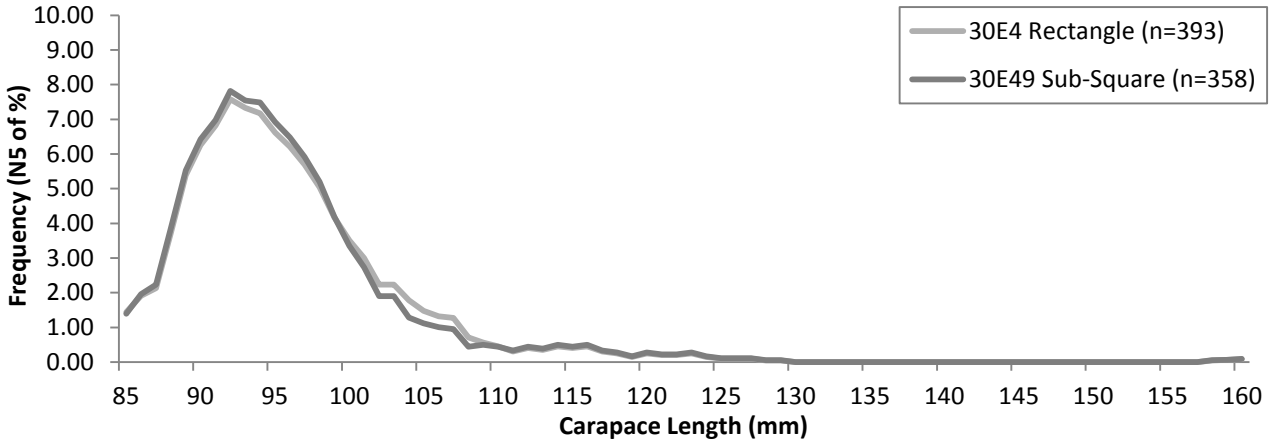


**Figure 8: Lobster carapace length percentage frequency distribution for ICES Statistical Rectangle 30E4 & corresponding Sub-Squares (5 point moving average) in 2016.**

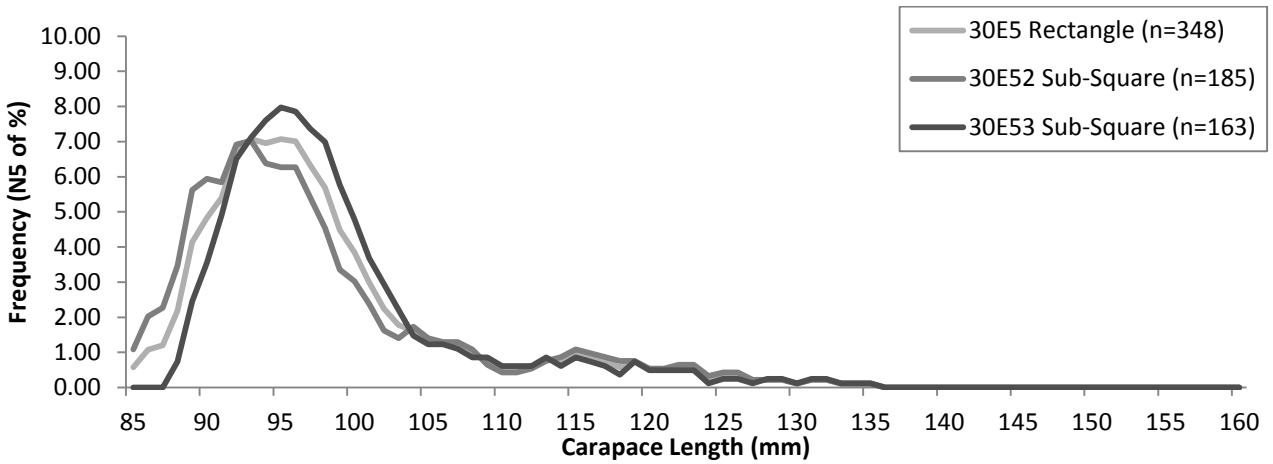


**Figure 9: Lobster carapace length percentage frequency distribution for ICES Statistical Rectangle 30E5 & corresponding Sub-Squares (5 point moving average) in 2016.**

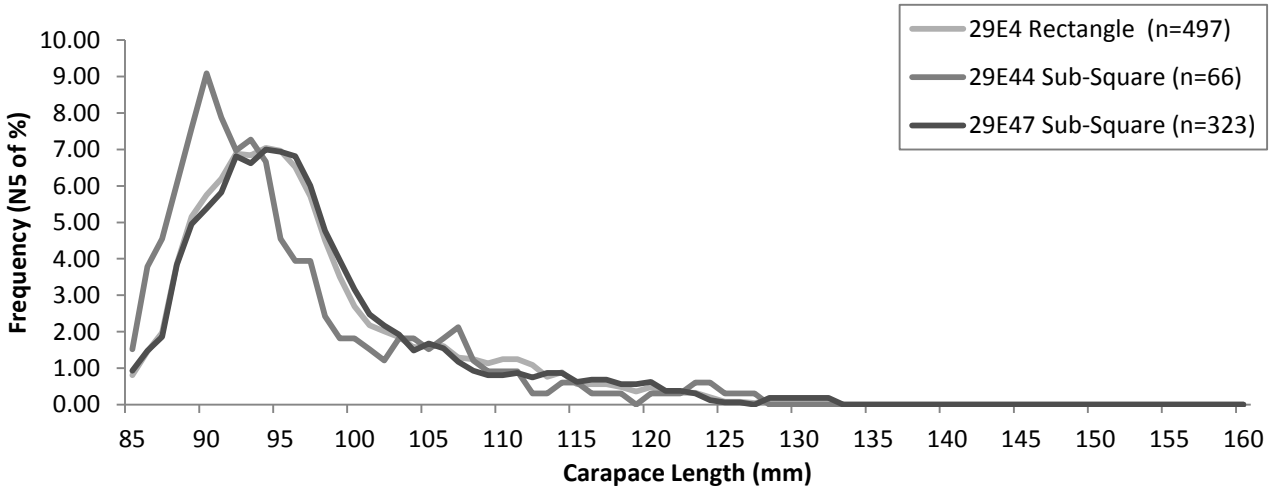


**Figure 10: Lobster carapace length percentage frequency distribution for ICES Statistical Rectangle 29E4 & corresponding Sub-Squares (5 point moving average) in 2016.**

The percentage of lobsters sampled can be seen in Figure 11. The majority of lobsters sampled were from the north coast, between Perranporth (29E47) and Boscastle (30E52).

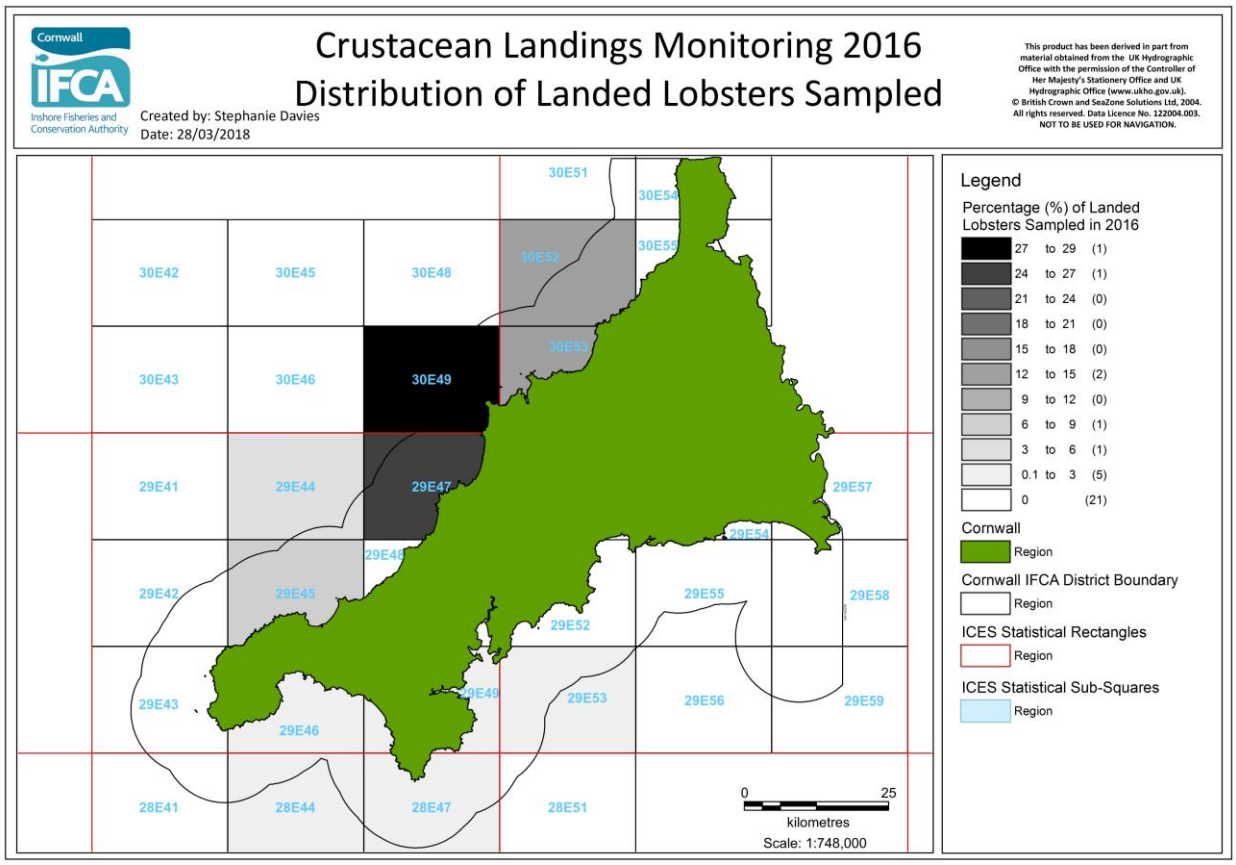


**Figure 11: Distribution of landed lobsters sampled per ICES Statistical Sub-Square as a percentage (%) of the total amount.**

## 3.2 Edible crab

The data summary for all edible crab, males, females and ICES Statistical Rectangles can be seen in Table 5. The size range of edible crab sampled was from 145mm to 230mm. Out of 2,470 individuals, the mode for all edible crab in 2016 was 160mm.

**Table 5: Data analysis for edible crab overall and split by males, females, and ICES Statistical Rectangles.**

| Edible Crab Categories | n | Mean | Mode | Max | Min | Var | SD |
|---|---|---|---|---|---|---|---|
| **Males** | 206 | 178.24 | 165/ 176 | 230 | 151 | 257.43 | 16.04 |
| **Females** | 2264 | 168.74 | 160 | 222 | 145 | 156.81 | 12.52 |
| **Combined (M&F)** | 2470 | 169.53 | 160 | 230 | 145 | 172.00 | 13.11 |
| **28E4** | 269 | 178.78 | 186 | 230 | 146 | 282.24 | 16.80 |
| **28E5** | 0 | - | - | - | - | - | - |
| **29E4** | 752 | 171.06 | 160/ 164 | 220 | 146 | 168.36 | 12.98 |
| **29E5** | 175 | 131.11 | 161 | 201 | 149 | 5223.80 | 72.28 |
| **30E4** | 468 | 165.74 | 156 | 205 | 146 | 116.04 | 10.77 |
| **30E5** | 735 | 166.81 | 160 | 230 | 148 | 134.24 | 11.59 |

The length frequency plot for all edible crabs sampled in 2016 (Figure 12) shows that the majority of edible crabs landed fall into the 156mm to 176mm range.

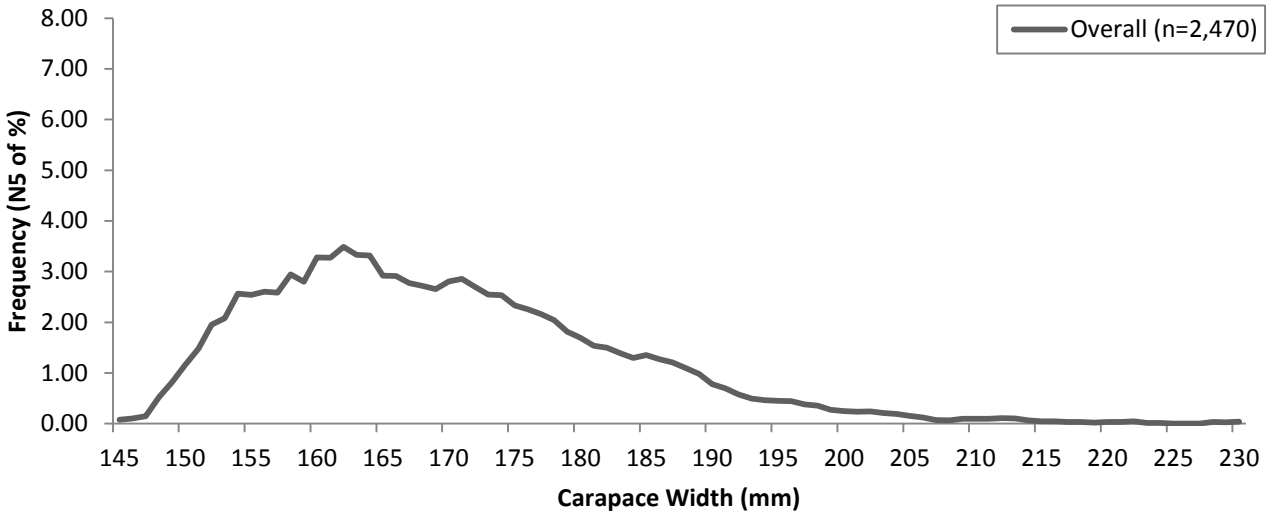


**Figure 12: Edible crab carapace width percentage frequency distribution for all edible crab (5 point moving average) in 2016.**

The length frequency plot for male and female edible crabs sampled in 2016 (Figure 13) shows the majority of the catch were females (92%).

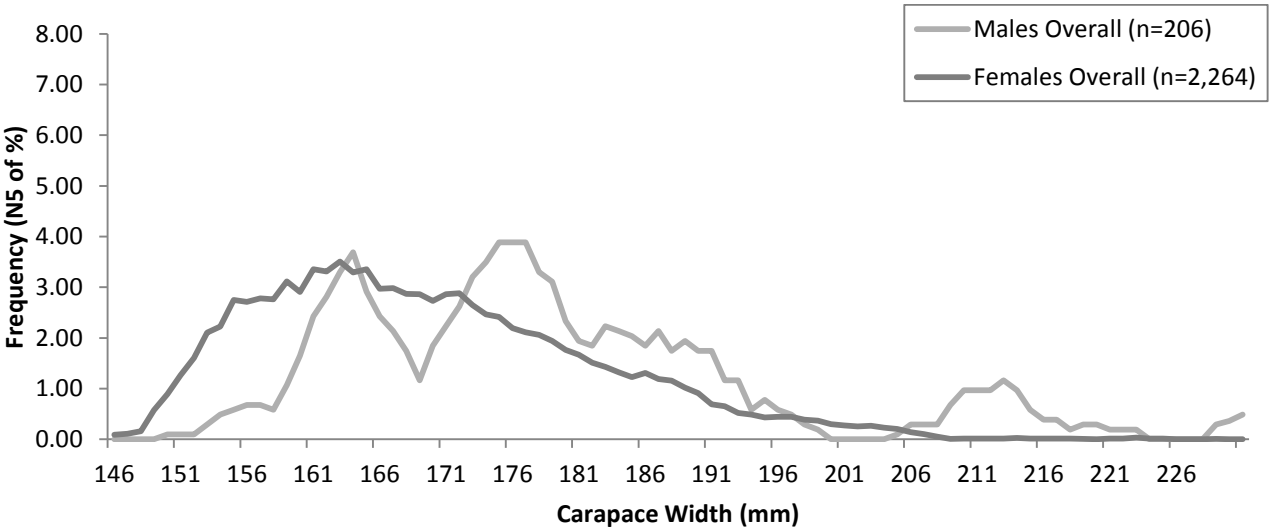


**Figure 13: Edible crab carapace width percentage frequency distribution for all males and females (5 point moving average) in 2016.**

The length frequency plots for ICES Statistical Rectangles 30E4, 30E5, 29E4, 29E5 and 28E4 can be seen in Figure 14, Figure 15, Figure 16, Figure 17, Figure 18 and Figure 19 respectively. The ICES Statistical Rectangle 28E5 and Sub-Squares 28E41, 28E44, 28E47, 28E51, 29E43, 29E46, 29E48, 29E49, 29E52, 29E54, 29E55, 29E56, 29E57, 29E58, 29E59, 30E48, 30E51, 30E54 and 30E55 were not able to be displayed due to limited dataset.

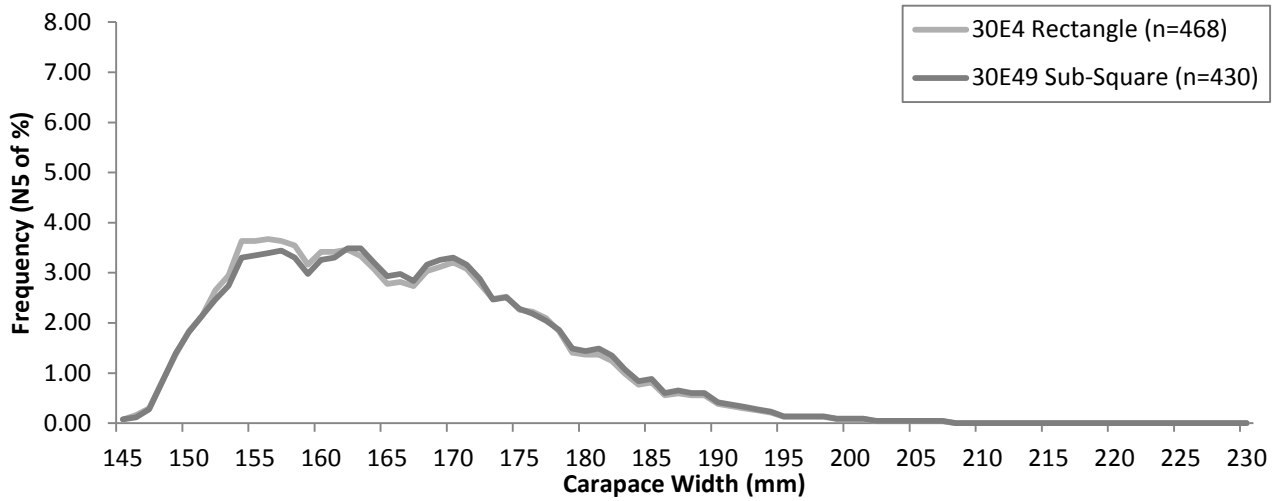


**Figure 14: Edible crab carapace width percentage frequency distribution for ICES Statistical Rectangle 30E4 & corresponding Sub-Squares (5 point moving average) in 2016.**

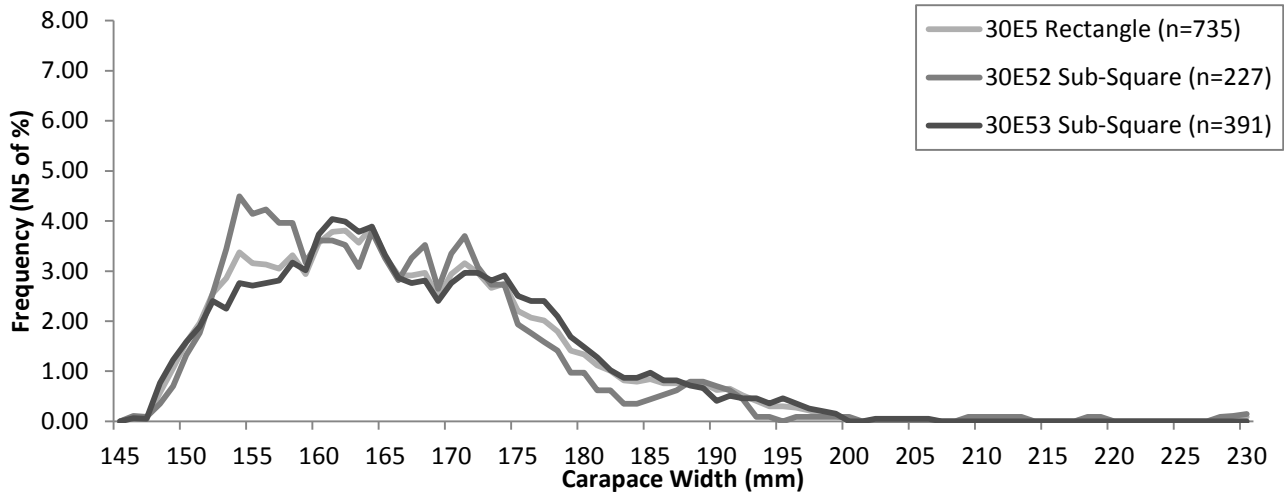


**Figure 15: Edible crab carapace width percentage frequency distribution for ICES Statistical Rectangle 30E5 & corresponding Sub-Squares (5 point moving average) in 2016.**

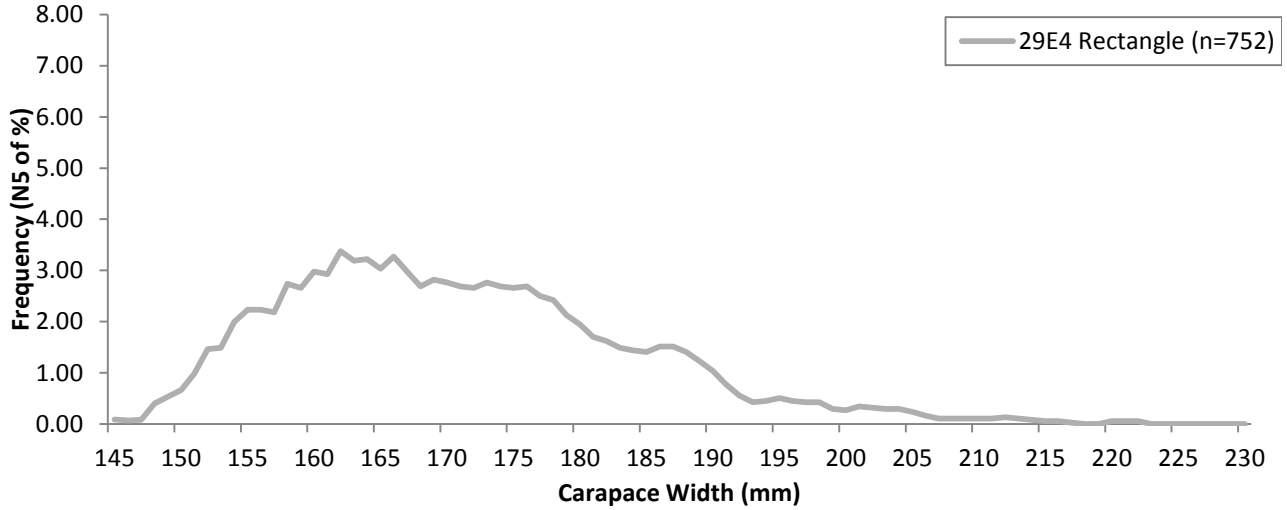


**Figure 16: Edible crab carapace width percentage frequency distribution for ICES Statistical Rectangle 29E4 & corresponding Sub-Squares (5 point moving average) in 2016.**

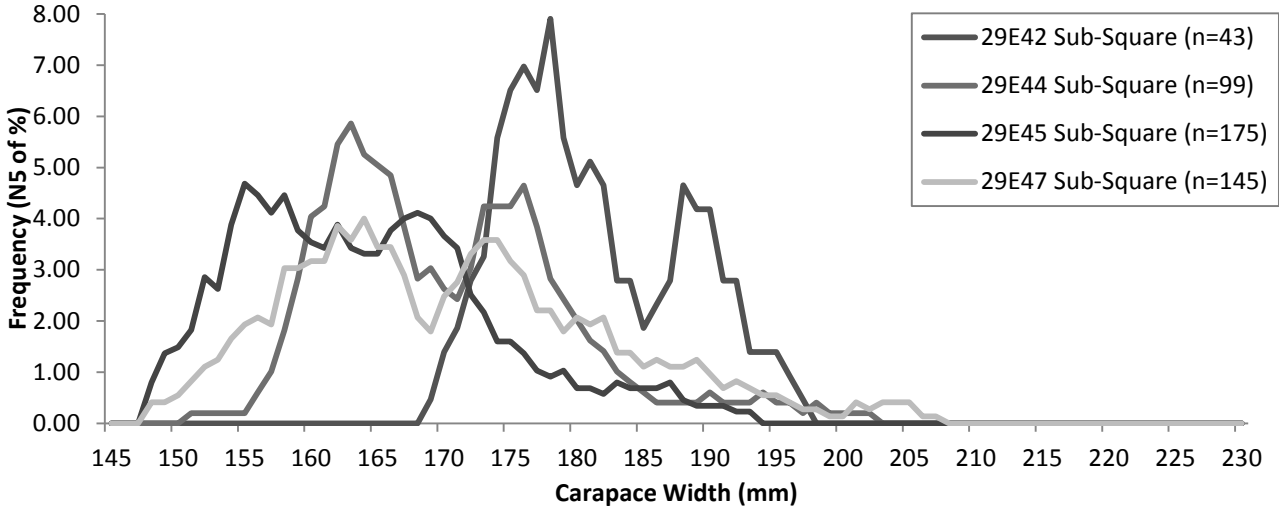


**Figure 17: Edible crab carapace width percentage frequency distribution for ICES Statistical Sub-Squares for Rectangle 29E4 (5 point moving average) in 2016.**

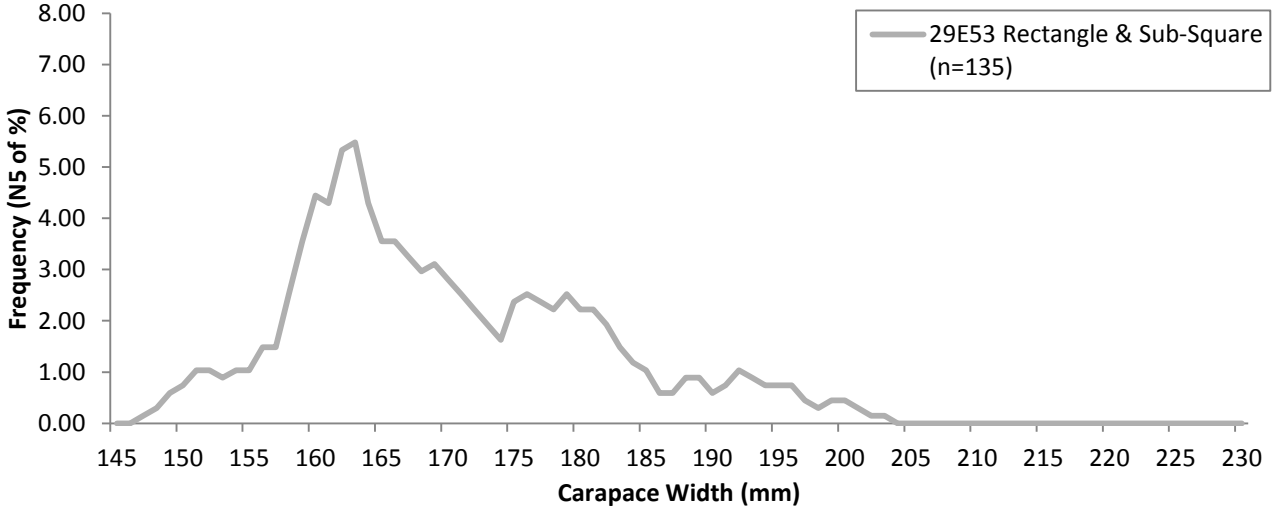


**Figure 18: Edible crab carapace width percentage frequency distribution for ICES Statistical Rectangle 29E5 & corresponding Sub-Squares (5 point moving average) in 2016.**

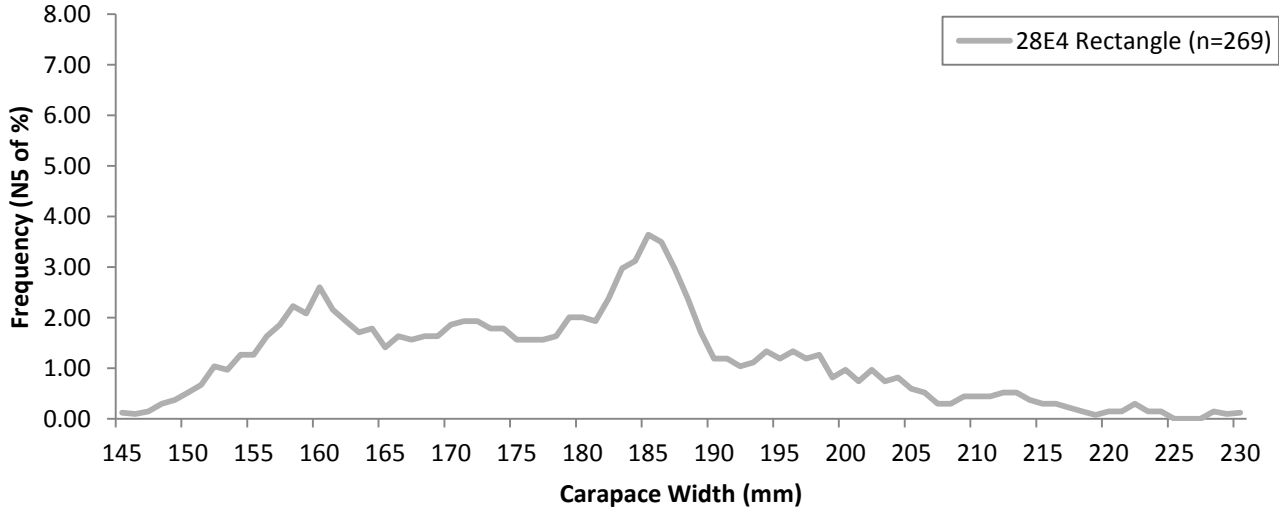


**Figure 19: Edible crab carapace width percentage frequency distribution for ICES Statistical Rectangle 28E4 (5 point moving average) in 2016.**

The percentage of edible crab sampled can be seen in Figure 20. Most of the edible crabs sampled were from the north coast, particularly around Trevose Head (30E49) and the rest were from the Lizard peninsula (29E49, 28E47 and 29E53).

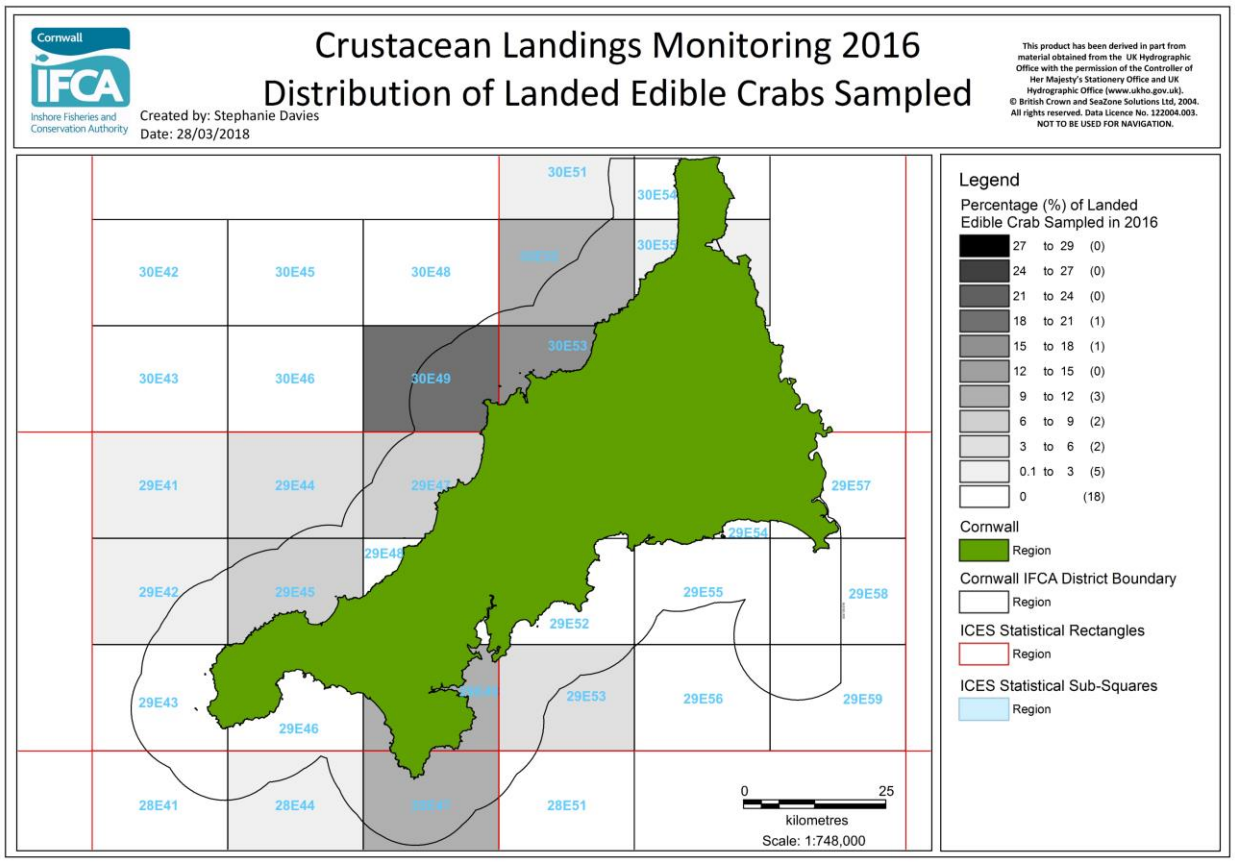


**Figure 20: Distribution of landed edible crabs sampled per ICES Statistical Sub-Square as a percentage (%) of the total amount.**

## 3.3 Spider crab

The data summary for all spider crabs, males, females and ICES Statistical Rectangles can be seen in Table 6. The size range of spider crab sampled was from 121mm to 186mm. Out of 467 individuals, the mode for all edible crab in 2016 was 130mm.

**Table 6: Data analysis for spider crab overall and split by males, females, and ICES Statistical Rectangles.**

| Spider Crab Categories | n | Mean | Mode | Max | Min | Var | SD |
|---|---|---|---|---|---|---|---|
| **Males** | 265 | 141.05 | 130 | 186 | 125 | 96.91 | 9.84 |
| **Females** | 202 | 139.00 | 136 | 165 | 121 | 74.61 | 8.64 |
| **Combined (M&F)** | 467 | 140.16 | 130 | 186 | 121 | 88.11 | 9.39 |
| **28E4** | 58 | 145.05 | 130 | 171 | 130 | 113.31 | 10.64 |
| **28E5** | 0 | - | - | - | - | - | - |
| **29E4** | 143 | 141.84 | 130 | 166 | 127 | 72.52 | 8.52 |
| **29E5** | 0 | - | - | - | - | - | - |
| **30E4** | 0 | - | - | - | - | - | - |
| **30E5** | 134 | 135.04 | 135 | 152 | 120 | 44.19 | 6.65 |

The length frequency plot for all spider crabs sampled in 2016 (Figure 21) demonstrates that the majority of spider crabs landed fall into the 130mm to 142mm range.

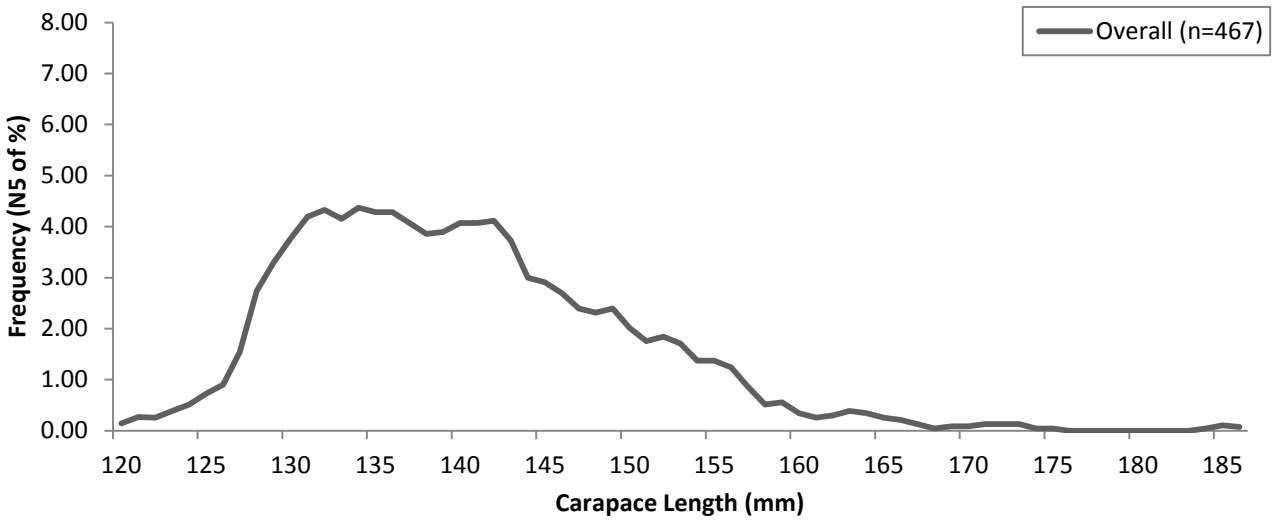


**Figure 21: Spider crab carapace length percentage frequency distribution for all spider crabs (5 point moving average) in 2016.**

The length frequency plot for male and female spider crabs sampled in 2016 (Figure 22) demonstrate differences between the sexes. The majority of female spider crabs fall into 134mm to 141mm range, whereas males have a wider and more sporadic range between 130mm to 145mm.

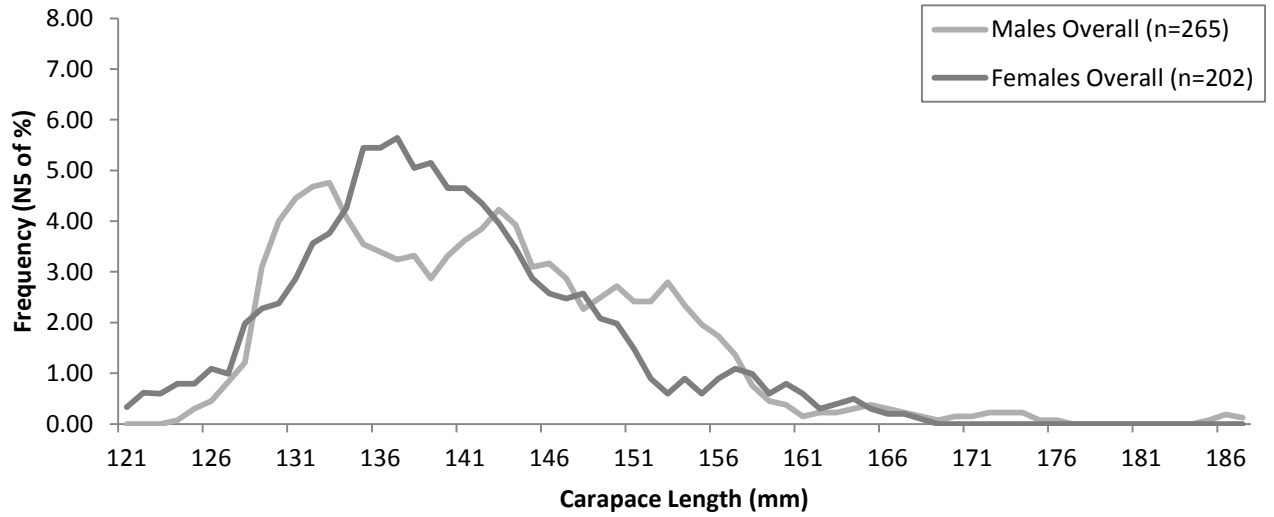


**Figure 22: Spider crab carapace length percentage frequency distribution for all males and females overall (5 point moving average) in 2016.**

The length frequency plots for ICES Statistical Rectangles 30E5, 29E4 and 28E4 can be seen in Figure 23, Figure 24, Figure 25 and Figure 26 respectively. The ICES Statistical Rectangle 30E4, 29E5, 28E5 and Sub-Squares 28E41, 28E44, 28E47, 28E51, 29E43, 29E48, 29E49, 29E52, 29E53, 29E54, 29E55, 29E56, 29E57, 29E58, 29E59, 30E48, 30E49, 30E51, 30E54 and 30E55 were not able to be displayed due to limited dataset.

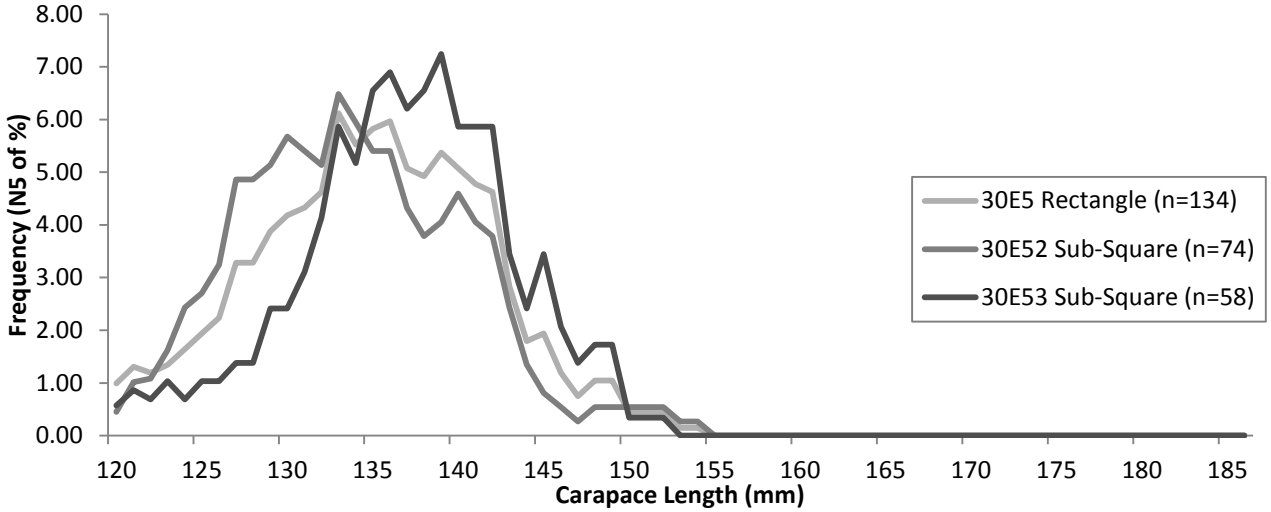


**Figure 23: Spider crab carapace length percentage frequency distribution for ICES Statistical Rectangle 30E5 & corresponding Sub-Squares (5 point moving average) in 2016.**

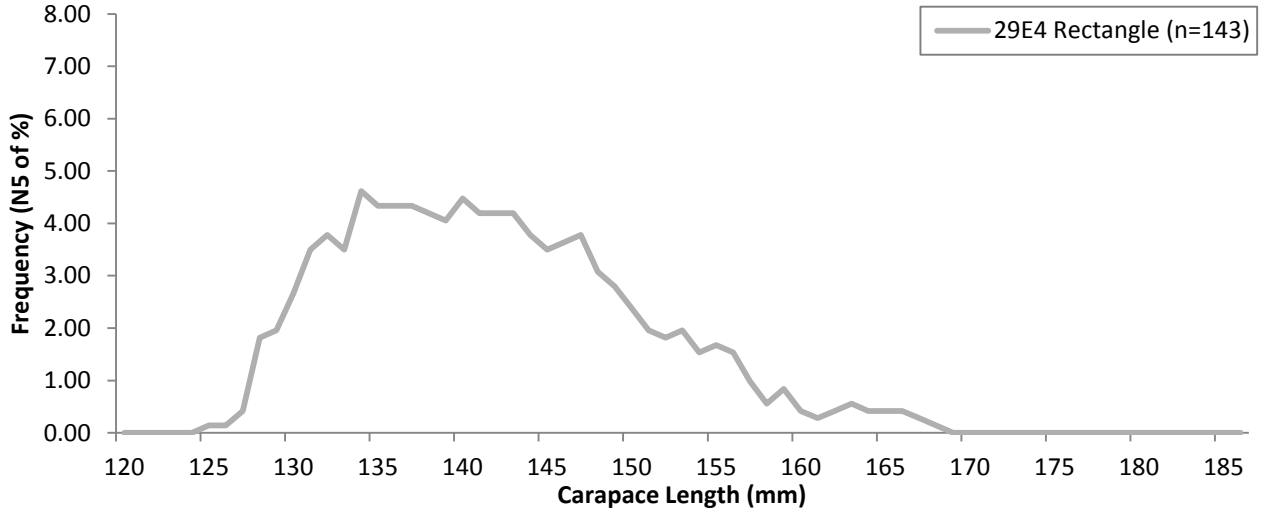


**Figure 24: Spider crab carapace length percentage frequency distribution for ICES Statistical Rectangle 29E4 (5 point moving average) in 2016.**

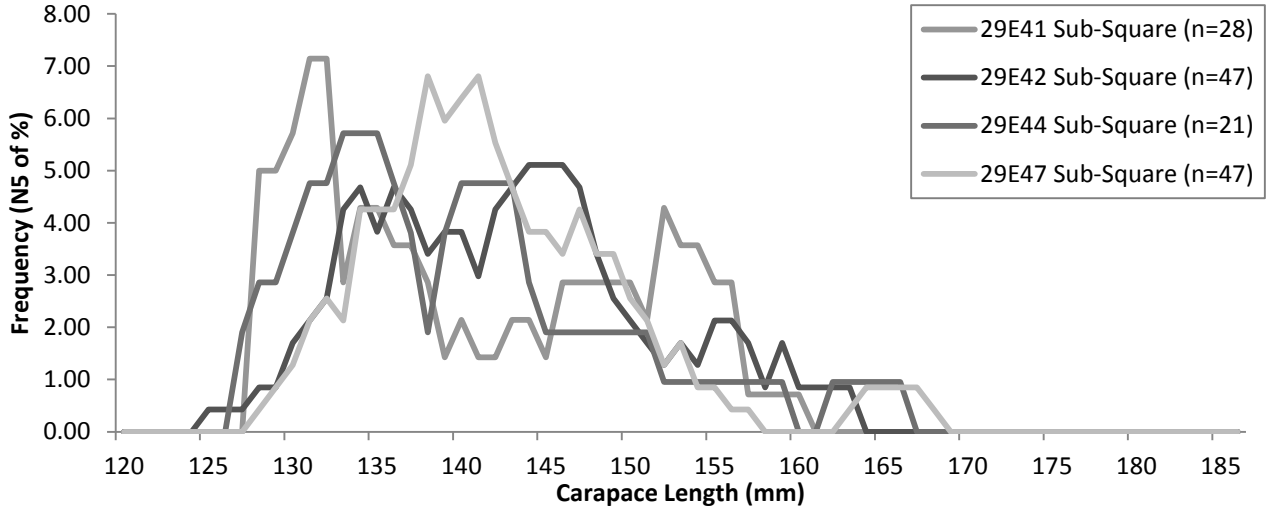


**Figure 25: Spider crab carapace length percentage frequency distribution for ICES Statistical Rectangle 29E4 Sub-Squares (5 point moving average) in 2016.**

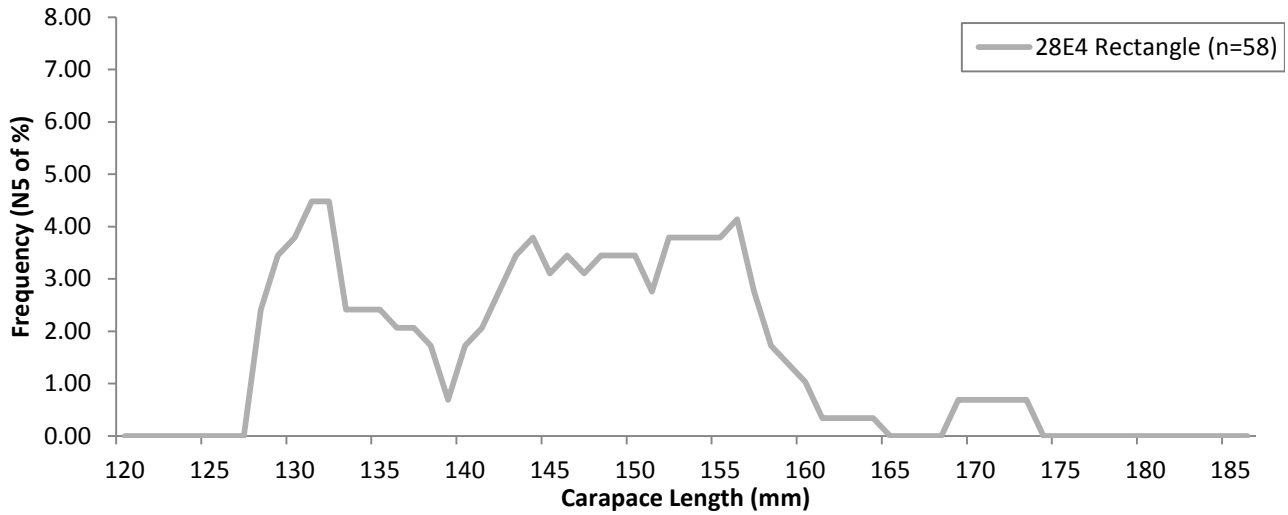


**Figure 26: Spider crab carapace length percentage frequency distribution for ICES Statistical Rectangle 28E4 (5 point moving average) in 2016.**

The percentage of spider crabs sampled can be seen in Figure 27. The majority of spider crabs sampled were from the north coast, with only one ICES Statistical Sub-Square sampled on the south coast (28E47).

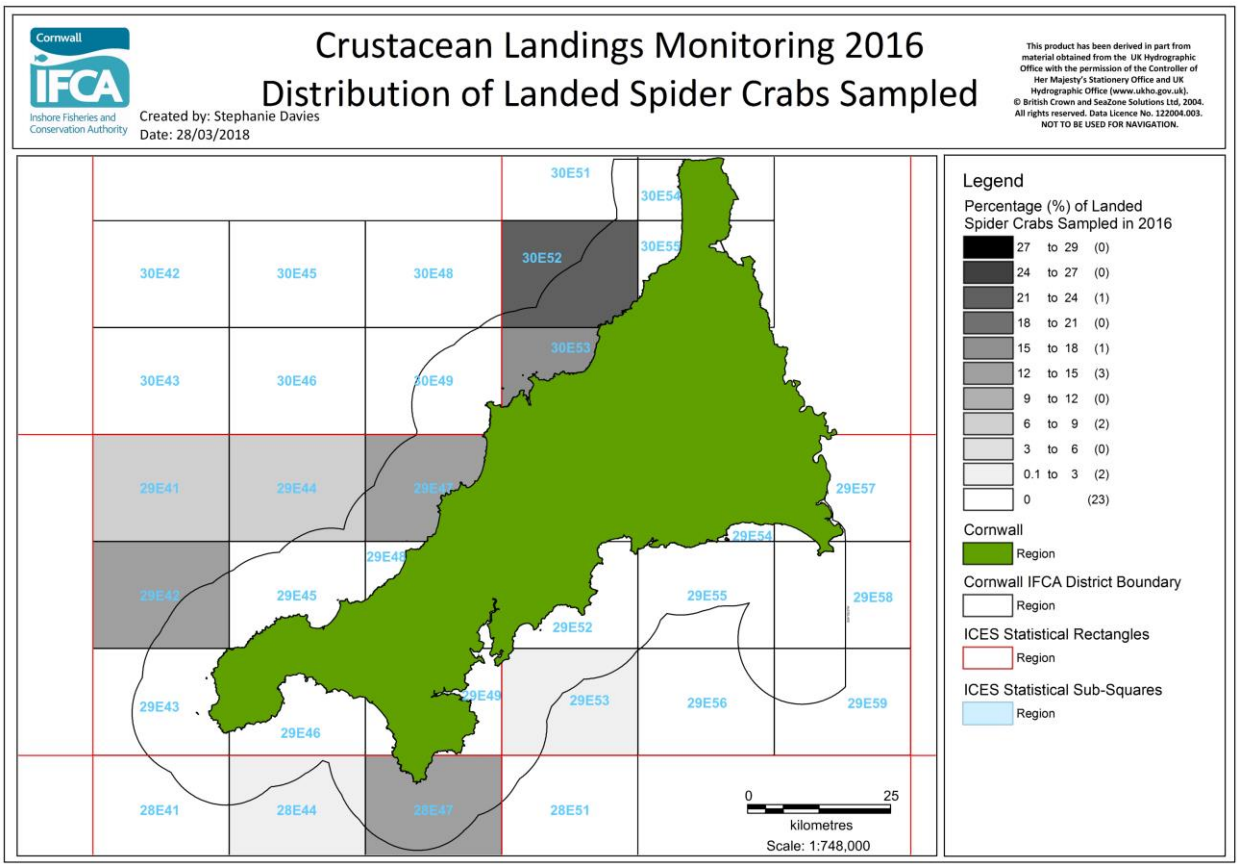


**Figure 27: Distribution of landed spider crabs sampled per ICES Statistical Sub-Square as a percentage (%) of the total amount.**

# 4 Discussion

The proportions of landing visits by port were fairly equal between the last three quarters. However there were half the amount of visits during the first quarter and this may relate to the reduced level of fishing effort during that period (Naylor *et al.,* 2016) and the seasonality of fishing.

The number of visits by port showed the data was skewed to landings on the north coast (Figure 5), particularly from Padstow (40 trips) and Newquay (15 trips). It should be noted that landings are more regular and predictable at those ports which is why they were visited more frequently. As a result, the percentage of shellfish species sampled was highest on the north coast with 95.6% of lobsters, 71% of edible crabs and 81.8% of spider crabs from the north coast.

A total of 277 lobsters, 110 edible crabs and 131 spider crabs had no data attributed to the ICES Rectangles and so were not able to be used in further analysis for areas. Of this, sampling at W Harvey and Son Ltd. resulted in 40 lobsters and 37 spider crabs without vessel details as well as ICES Rectangles. The catch at W Harvey and Son Ltd. is already landed and sorted into tanks and finding out vessel information associated to the sample is sometimes difficult. There was limited data on crawfish, so the species was not included in the results, and out of 21 samples, only five individuals had corresponding information on vessel and ICES Rectangle details.

Lobster carapace length frequency (Figure 6) had a clear size distribution with the majority of lobsters landed within the 90mm-96mm range, similar to that in 2009 (CSFC, 2010). The Minimum Conservation Reference Size (MCRS) for lobster in Cornwall IFCA is 90mm. The mean carapace length for lobsters was 97.9mm for both males and females and the modal size was 91mm for males and 90mm for females. In 2009, the mean carapace length on the north coast was 99.6mm for males and 99.05mm for females and mode 94mm for males and 95.5mm for females (CSFC, 2010). The mean for both males and females in 2016 has dropped by 1.7mm and 1.1mm respectively since 2009 (Figure 28). The mode for both males and females in 2016 has also dropped, by 3mm and 5.5mm respectively, since 2009 (Figure 28).

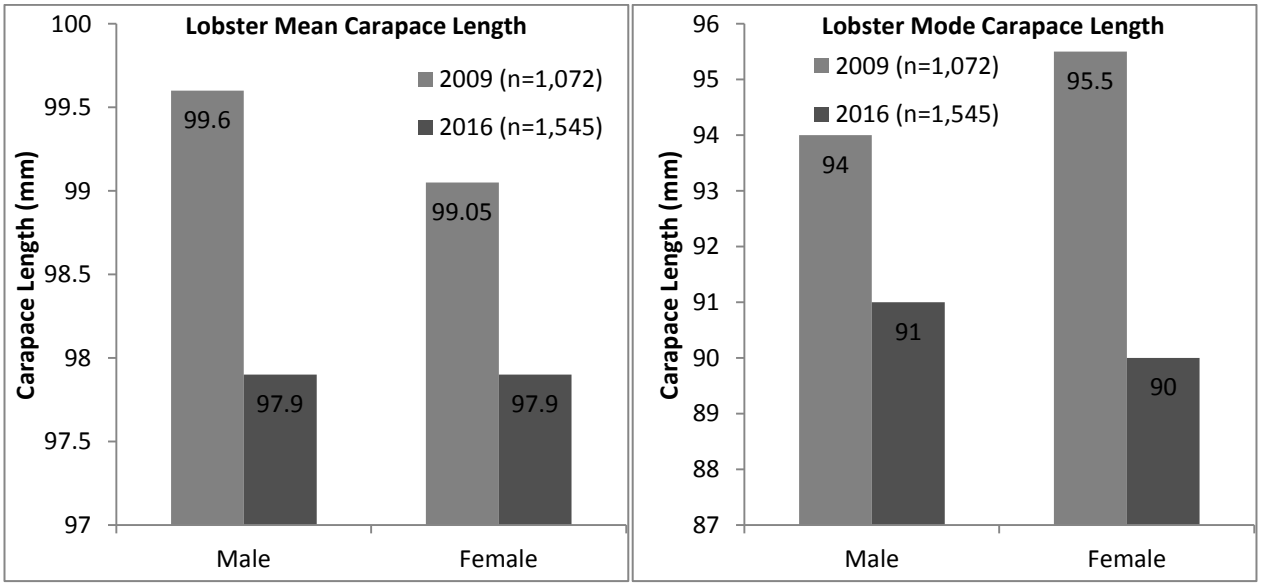


**Figure 28: Lobster mean and mode carapace length (mm) in 2009 (CSFC, 2010) and 2016**

Edible crab carapace width frequency (Figure 12) follows a similar distribution to that found in 2009 with the majority of landings being between 159mm to 172mm (CSFC, 2010). The MCRS for edible crab in Cornwall IFCA is 150mm for female and 160 for male. The mean carapace length for edible crabs was 178.2mm for males and 168.7mm for females and the modal size was 165/176mm for males and 160mm for females. In 2009, the mean carapace width was 172.3mm for males and 168.2mm for females and mode 171mm for males and 165mm for females (CSFC, 2010). With the fishery being selective towards females, the sample size of males is too small to form conclusions (Figure 29). However, for females mean size has stayed the same since 2009 (0.5mm difference, Figure 29) but the modal size has reduced by 5mm in 2016.

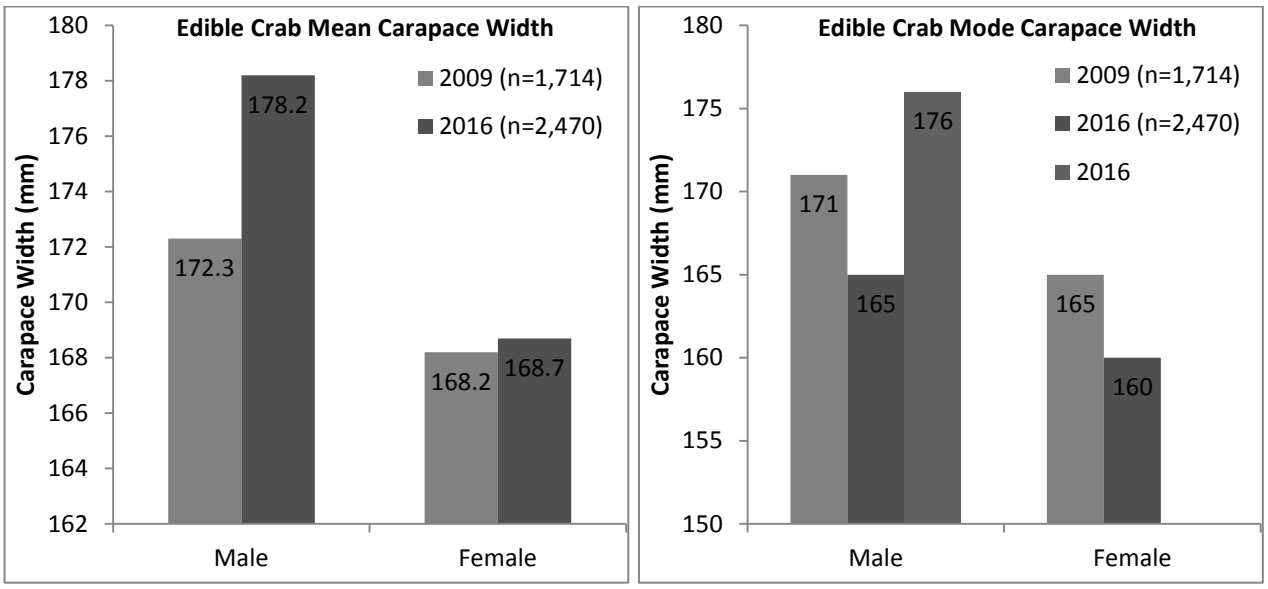


**Figure 29: Edible crab mean and mode carapace width (mm) in 2009 (CSFC, 2010) and 2016**

Spider crab had the lowest numbers sampled, with 467 individuals. The MCRS for spider crab (*Maja* spp.) in Cornwall IFCA is 130mm and the majority of spider crab landed was between the MCRS and 142mm (Figure 21). The lack of data meant the carapace length frequency distributions for the ICES Statistical Rectangles contained too few data to compare size distributions between areas. No data was available from 2009 to compare to 2016.

The length frequency graphs for all shellfish species varied depending on the available data for each ICES Statistical Rectangle and Sub-Square. Lobster and spider crab had data for three out of six ICES Statistical Rectangles and edible crab had five. The majority of the ICES Statistical Sub-Squares for all species were missing data and therefore not able to be presented.

The percentage of landings sampled compared to the total landings from 2016 permit returns statistics (Table 3) represents just 0.006% of lobster, 0.001% of edible crab and 0.003% of spider crab landed in Cornwall IFCA district. In order have a thorough stock assessment of shellfish within Cornwall IFCA district a larger quantity of data needs to be collected for all species, and in each ICES Rectangle and Sub-Square which will require a higher quantity and a more even distribution of port visits around the coast.

# 5 Recommendations

- Data collection to coincide with Cornwall IFCA Monthly Shellfish Statistics area codes, namely, the belts (A and B) representing 0-3 and 3-6 nautical miles.
- Ensure sampled shellfish has attributing details of ICES Statistical Rectangles and Sub-Squares.
- Collect a wider spread of port visits throughout the district to ensure landings data is not skewed to certain areas.
- Improve the recording of the total sample weight (kg) and the total landed weight (kg) per species by vessel. Scales could help the accuracy of recording the sampled weight. A key of approximate weight of each shellfish species per bongo and fish box could be provided for officers to work out the total weight of landed shellfish.
- There was limited data for crawfish resulting in no analysis being undertaken. As crawfish are a feature of Padstow Bay and Surrounds Marine Conservation Zone (MCZ) and Manacles MCZ within the district, more information would be valuable.

# 6 References

Cornwall IFCA Byelaws. Available from: http://www.cornwall-ifca.gov.uk/Byelaws_Regulations [Accessed 19/03/18].

Cornwall Sea Fisheries Committee (CSFC) 2010. Annual Research and Monitoring Report 2009. Research Report R201001

EC Council Regulation 850/98 of 30 March 1998. For the Conservation of Fishery Resources Through Technical Measures For The Protection Of Juveniles Of Marine Organisms. Available from: http://extwprlegs1.fao.org/docs/pdf/eur18268.pdf [Accessed 12/04/2018]

King, M. 1995. Fisheries biology, assessment and management. Fishing News Books, Oxford, 341.

Naylor, H., Street, K., Jenkin, A. and Trundle, C. 2017. Cornwall IFCA Analysis of 2016 Fishing Activity Returns. Cornwall Inshore Fisheries and Conservation Authority (Cornwall IFCA), Hayle.

# 7 Appendices

## Annex 1 – Cornwall IFCA Monthly Shellfish Statistics

**Cornwall IFCA Monthly Shellfish Statistics**

*These return forms are required every month and are to be submitted to the Authority by the 15th day of the following month*

**Name of Vessel:** ---------- **Reg No:** ---------- **Permit No:** ----------

(main berthing port)
**Base Port:** ---------- **Month:** ---------- **Year:** ----------

| Day | Area Code: Main area fished each day (eg 29 E4 7 A) | Gear: No. Pots hauled | Gear: Metres Nets hauled | Other methods (advise) (T) Trawling (S) Scalloping | Species (estimated weights in kilos): Edible Crab Cocks | Edible Crab Hens | Spider Crab | Lobster | Crawfish | Velvet Crab | Green Crab | Crab Claws Edible | Crab Claws Spider |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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Comments: If you wish to provide extra information for byelaw/research purposes, please tick this box and write in the comments box overleaf ☐

**A SHELLFISH RETURN MUST BE MADE EVERY MONTH, TO ARRIVE AT THE CORNWALL IFCA OFFICE NO LATER THAN THE 15TH OF THE FOLLOWING MONTH**

If there has been 'nil' shellfishing in the Cornwall IFCA District this month, please tick the "no fishing" box and give a reason for this. e.g. outside 6 mile limit, boat re-fit, holiday, illness etc.

**No shellfishing in District this month** ☐

**Reason** ----------

**IF THIS IS YOUR LAST STATS RETURN FOR A WHILE**

For example, gear brought in. Please advise the month you expect to re-commence fishing. Statistics will be due again from that month.

**I have stopped fishing** ☐

**I plan to re-start** (advise month) ----------

*I certify that the information I have provided is correct to the best of my knowledge and belief.*

**Signature of Owner or Representative:** ---------- **Date:** ----------

For office use only. Please do not write below this line

Sc ☐ S/S ☐ Ent ☐ Sh: Received date

v.2
Jan 2017

**Comments**

**Data Protection**

The information you supply is covered by the Data Protection Act 1998. The data is processed by Cornwall IFCA in accordance with the data protection principles contained within the Act. The information you provide will be used by us for fisheries management purposes in order to process your permit and will be shared with the Marine Management Organisation so that your permit can be validated through proof of a valid fishing licence and registration. Only the minimum amount of information is asked for. Cornwall IFCA complies with Schedule 2 of the processing conditions, in that the data subject (the signatory of this document) has consented to the processing of the data and because information is processed in order to fulfil a function imposed by legislation.

**REMINDERS BEFORE SUBMITTING**

Have you advised the full six-figure area code for the main area fished each day?

- ICES rectangle, sub-rectangle and belt (A or B) is required.
- Cornwall IFCA do not require stats for shellfish caught outside the 6 mile limit.

Have you advised the gear hauled each day?

Have you estimated in kgs your catch for each species each day?

Don't forget to sign the form overleaf before sealing the envelope.

If posting the form, please ensure the correct postage is paid.

Please return the completed form to:

Cornwall IFCA
Chi Gallos
Hayle Marine Renewables Business Park
North Quay
Hayle
Cornwall TR27 4DD

**ENQUIRIES**
*tel:* 01736 336842
*e-mail:* enquiries@cornwall-ifca.gov.uk
*website:* www.cornwall-ifca.gov.uk

*This form has been designed to fit into a window envelope.*
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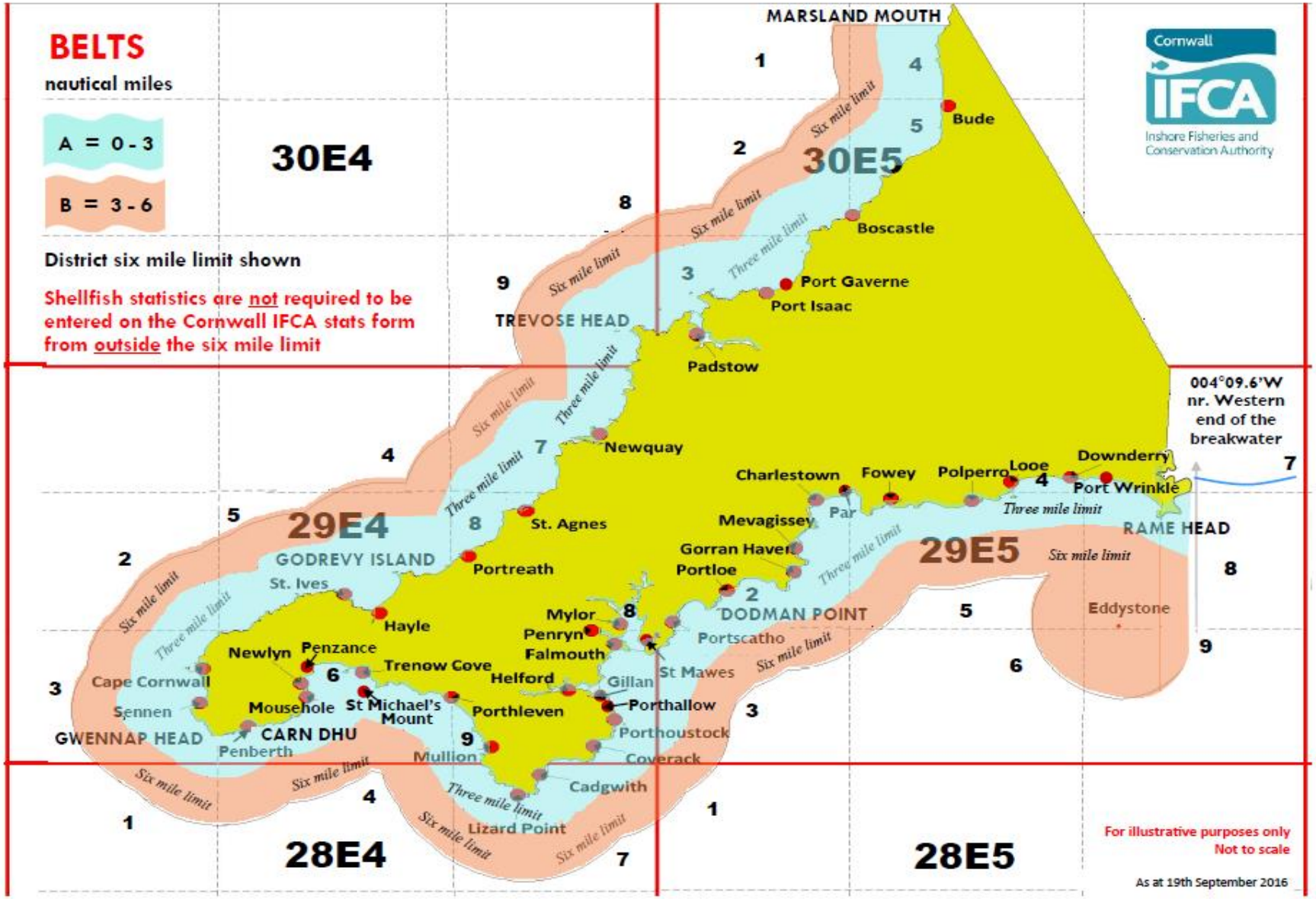
## Annex 2 – Cornwall IFCA District Map



## Annex 3 – Survey Input Sheet

Date: **Cornwall IFCA Data Recording Sheet** Sample..... of .....
Sampled at: **2016** *(For port visit)*

| Species: | | Vessel: | | | | | | | Sample weight: | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Grade: | | Area Fished: | | | | | | | Total landed weight: | | |
| | MALE | FEMALE | Berried | | MALE | FEMALE | Berried | | MALE | FEMALE | Berried |
| 85 | | | | 134 | | | | 183 | | | |
| 86 | | | | 135 | | | | 184 | | | |
| 87 | | | | 136 | | | | 185 | | | |
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| 132 | | | | 181 | | | | 230 | | | |
| 133 | | | | 182 | | | | 231 | | | |

**Recored by:** ***Database***
**Measured by:** *Input date/Initials:*
**Caliper ID:** *Vessel Inspection ID:*