

By: Lead Scientific & Conservation Officer  
To: Kent & Essex IFCA – 30 January 2018  
Subject: **Whelk Permit Byelaw Update**  
Classification Unrestricted

**Summary:**

This paper will provide Members with an analysis of whelk landings data, feedback from the industry, results of research undertaken so far and an update of future whelk research planned for 2018.

**Recommendations:**

Members are asked to **AGREE** that the pot limit, the riddle size and the number & size of escape holes REMAIN set at:

Pots – 300 for category 1 permits and 10 for category 2 permits  
Riddle – 25mm spacing between bars  
Escape holes – 10 @ 25mm per pot

and to **APPROVE** the issuing of a final 14 day warning letter to all permit holders that have not completed catch returns since the beginning of September 2017, explaining that the next step would be KEIFCA pursuing legal action in the form of Fixed Administrative Penalties (FAPs) or a prosecution.

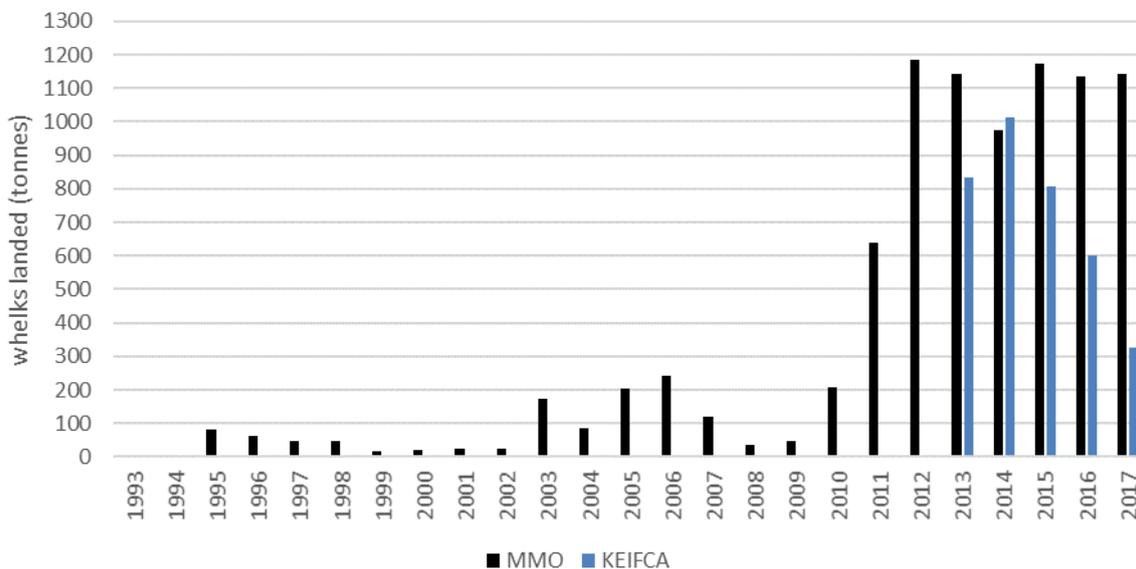
**Review of management**

The whelk fishery permit byelaw states that technical permit requirements will be reviewed by KEIFCA no less than every 3 years. The first 3 year review was conducted in early 2016 when a technical panel met and, after considering all the information presented to them, put forward recommendations to the Authority to increase the riddle size and size & number of escape holes. However, at the January 2016 meeting several options were discussed yet a decision was not reached, so existing management continued for another year.

The revised technical measures agreed by the Authority at the meeting held on 23 January 2017 of an increase in riddle bar spacing from 22mm to 25mm and an increase in the number & size of escape holes from 2 @ 22m to 10 @ 25mm became effective 3 April 2017.

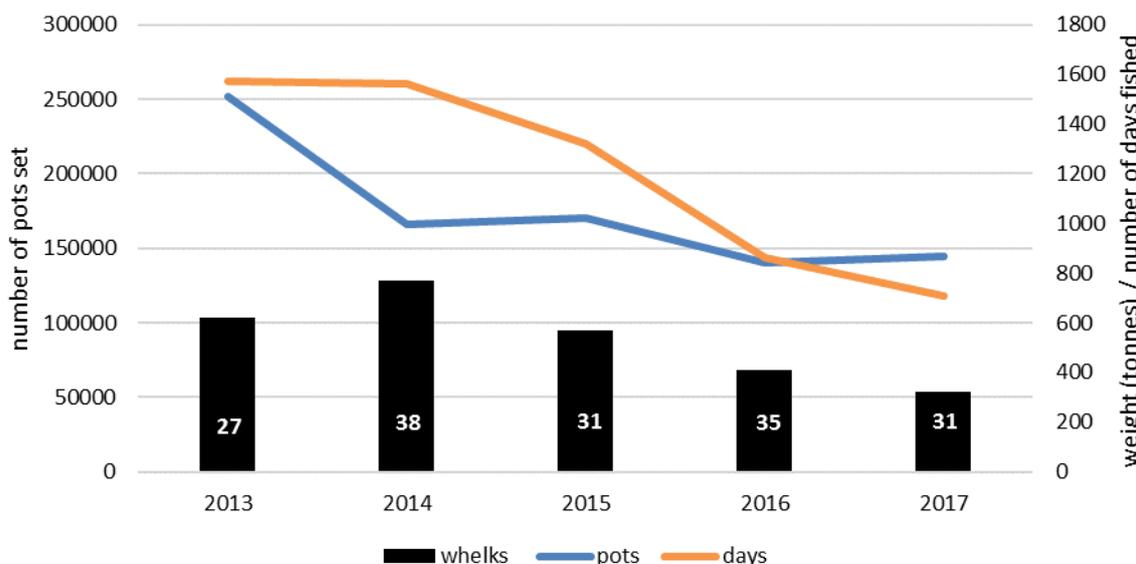
## Review of landings data

The long term picture of MMO landings data (recorded landings in KEIFCA district ports, from vessels fishing inside and outside our district) shows continued and relatively consistent high levels of landings compared to landings prior to 2010 (Fig. 1).



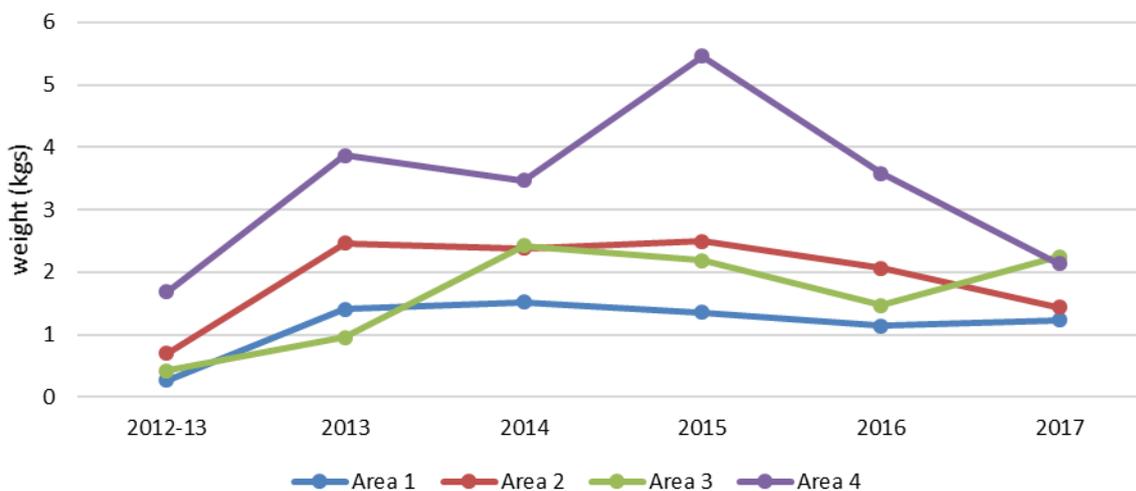
**Fig. 1, MMO whelk landings data for KEIFCA district 1993-2017 with KEIFCA’s landings data shown for 2013-2017**

Analysis of KEIFCA whelk permit data shows whelk landings from within the district are continuing to reduce year-on-year. During April-November 2017 more pots were set, but fewer days were fished and fewer whelks were landed than in the same period the previous year. The total number of permits issued has remained similar over the past 3 years (Fig. 2).

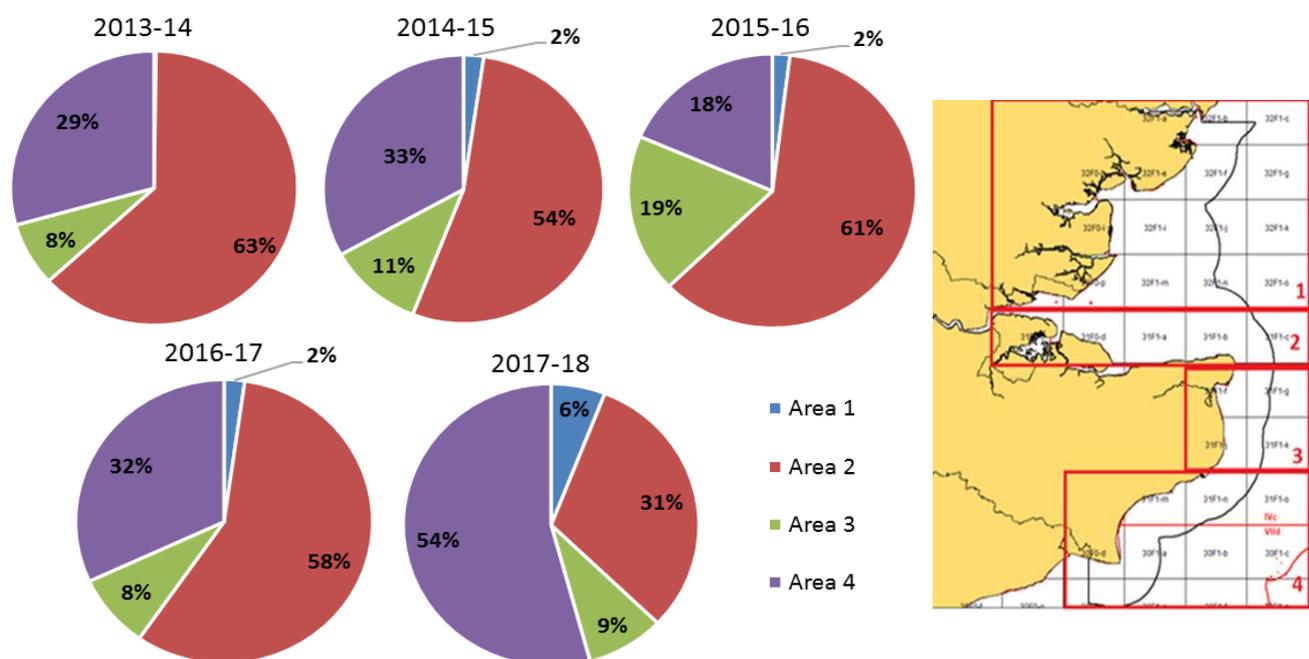


**Fig. 2, total weight (tonnes) of whelks landed, the total number of pots set and the total number of days fished during the period April-November in each year from 2013-2017. The white number inside each black bar represents the number of permits issued for that year.**

Despite the year-on-year decrease in landings and fishing effort, the catch per unit effort (CPUE) figures have remained relatively stable over the past 5 years across the district, with the exception of area 4 where the CPUE rose sharply in 2015 then reduced over the past 2 years (Fig. 3). However, as can be seen from Fig. 4 area 4 has had more activity this year than in any other year since the byelaw was introduced.

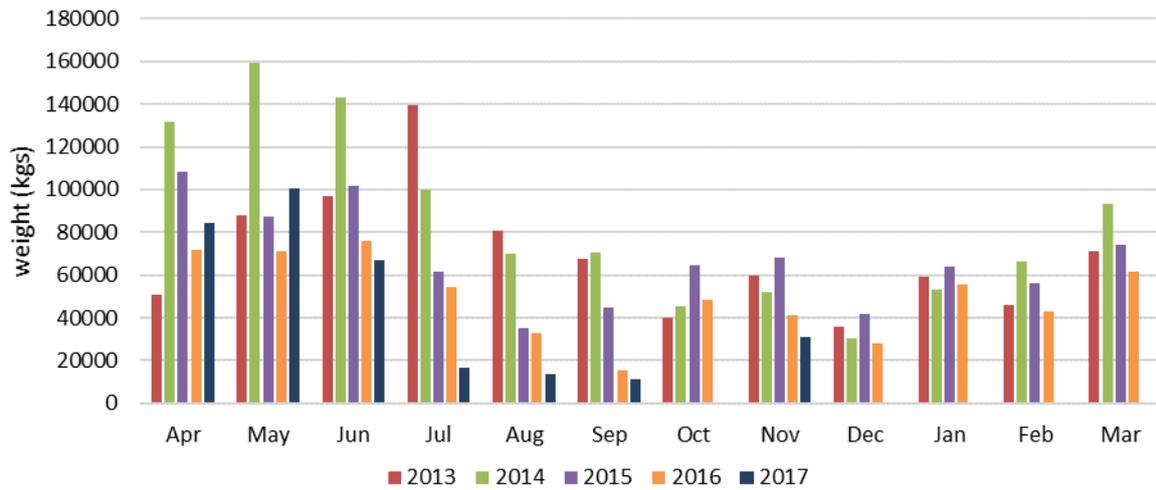


**Fig. 3, annual mean weight (kg) of whelks per pot in each of the 4 KEIFCA whelk fishing areas 2013-2017**

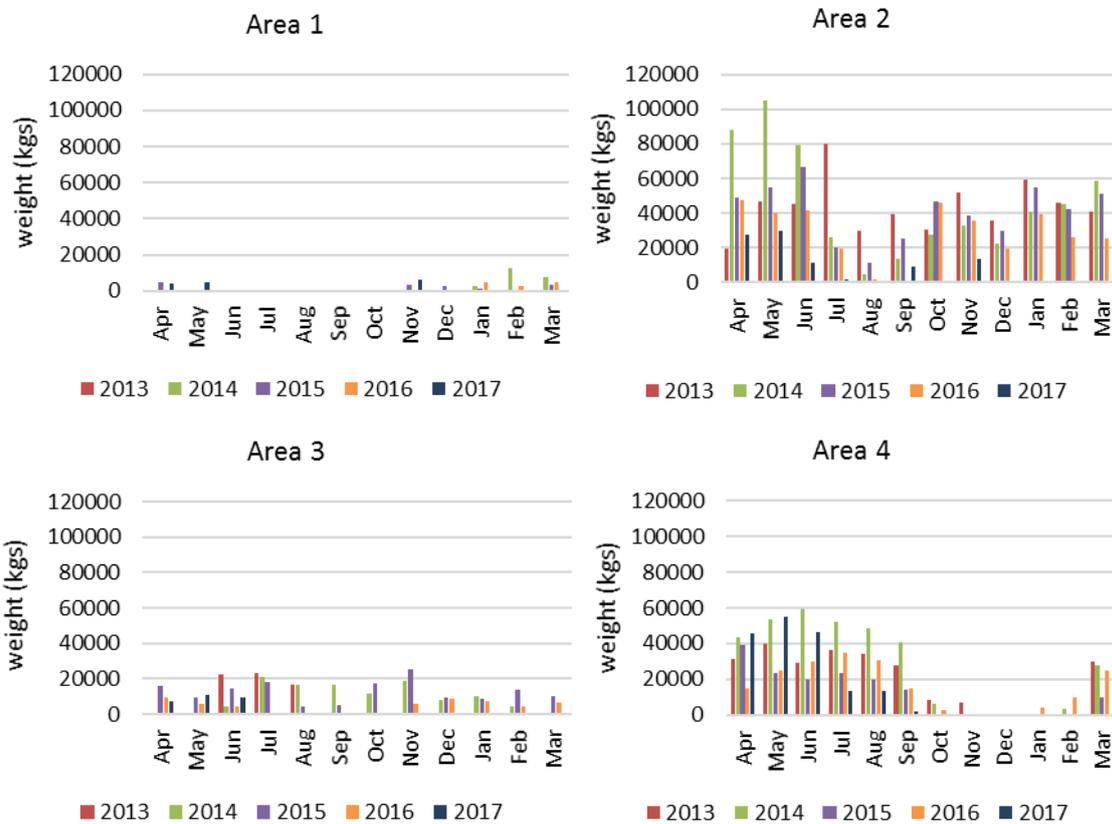


**Fig. 4, percentage distribution of whelks landed in the 4 KEIFCA whelk fishing areas 2013-2017**

As can be seen from Fig. 5 and Fig. 6 overleaf, the monthly whelk landings data shows that 2017 began well with higher landings in April & May than in the previous year, but high temperatures in June led to warm waters and reduced landings throughout the summer across all parts of the district. However, many permit holders are reporting high numbers of juveniles which is encouraging for the future of the fishery.



**Fig. 5, total weight (kg) of whelks landed in the KEIFCA district each month 2013-2017**

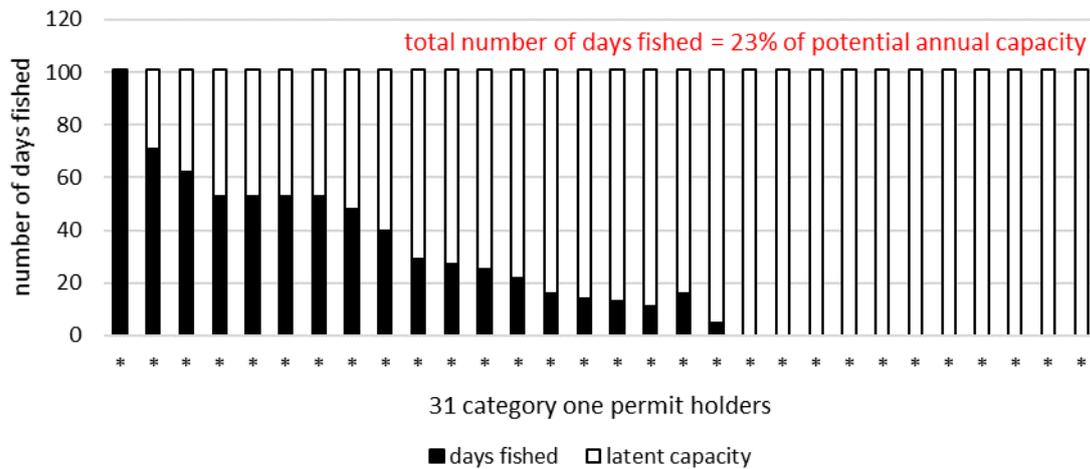


**Fig.6, total weight (kg) of whelks landed in the 4 KEIFCA areas from 2013-2017**

### Analysis of Latent Capacity

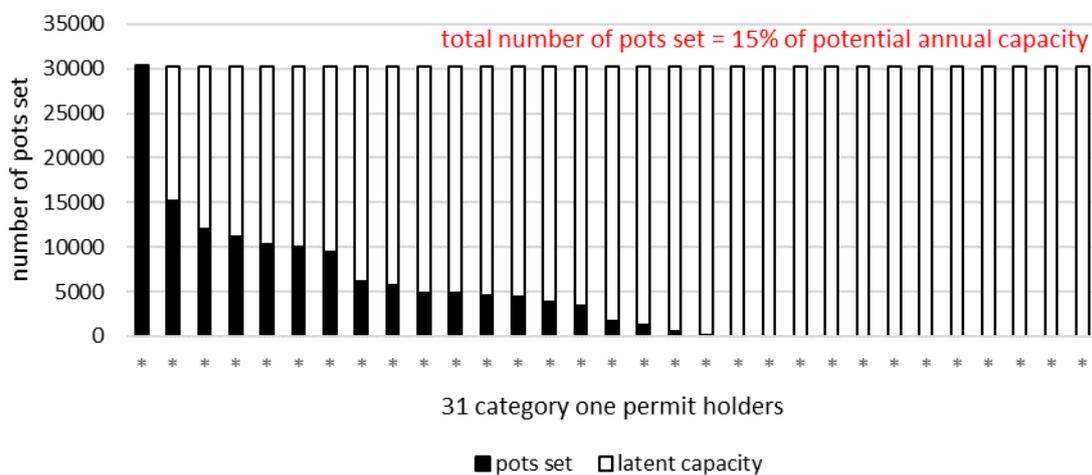
The issue of latent capacity, i.e. permit holders not fishing for the greatest number of days that is practically possible nor using the maximum permitted number of pots, was first highlighted at the January 2016 Technical Panel meeting. Analysis of the monthly catch return data reveals that latent capacity remains at high levels for both elements of the fishery. The most days fished by a 2017 permit holder is 99; assuming that all permit holders could have fished

for this number of days there is 77% latent capacity, as shown in Fig. 6. As in previous years approximately one third of the permits issued in 2017 have not been used at all. To calculate the latent capacity using just the 19 permit holders who have fished, the latent capacity is reduced to 63%.



**Fig.6, total number of days fished in 2017 by all KEIFCA whelk permit holders**

Similarly, the total number of pots set is far less than it potentially could be. The byelaw allows for 300 pots to be set by each permit holder for each fishing trip. Taking the maximum number of days fished as 99 (as detailed above) and multiplying this by 300 gives the potential maximum number of pots that each permit holder could set in 2017 (Fig.7). For this element of the fishery the latent capacity is even greater at 85%. As with the number of days fished, if we consider just the 19 permit holders who have set pots this year the latent capacity decreases to 76%.



**Fig. 7, total number of pots set in 2017 by all KEIFCA whelk permit holders**

### Results of research undertaken in 2017

In June 2017 a whelk sampling project was conducted with 4 KEIFCA whelk permit holders and Dr Phil Hollyman of Bangor University. The aim of the project was to look at differences in size at maturity and the growth rates of populations from the 4 whelk areas in the Kent & Essex district.

Full results of the whelk sampling project will be presented to the meeting by Dr Hollyman. A summary of the project results is given below and was included in a stakeholder information document (Annexe A to this report) which was sent to over 100 stakeholders at the end of October 2017.

### **Summary of Dr Hollyman Research Project**

- The size at maturity for whelks from all areas ranged between 45.3 and 56.1 mm shell length (or 21.17 – 26.28 mm shell width).
- The increased riddle size of 25 mm does a much better job of protecting the populations based on the size at maturity.
- It takes between 2.7 and 3 years for the whelks to reach maturity, it takes them slightly longer to reach a riddle size of 25 mm (2.5 – 4 years).
- The number of mature whelks drastically increases from Year 2 to Year 3 and again from Year 3 to Year 4.
- Although at Year 3 the animals may be mature, they will likely have not reproduced if they are caught before the breeding season.
- By waiting until Year 4, 50 – 78% of the whelks will have had the opportunity to reproduce. The size at Year 4 is also very similar to the new 25 mm riddle size. Meaning it is much more effective at protecting immature whelks and animals which have not reproduced.

### **Feedback from the local industry**

A brief tick box based questionnaire is sent to all permit holders in December each year and the responses are evaluated. This year's response rate was 42% which is the highest ever received and more than twice that of last year's which at 20% was the lowest ever received. In all previous years the response rate was between 33% - 39%.

The responses from the questionnaires generally support the landings analysis above and suggest that fishing has generally been poorer this year than last with the increased riddle size being the main reason given for this. Most report that prices have been good this year and that there are high or very high numbers of juveniles on the ground.

A summary of the full results is given in Appendix B.

### **Enforcement of the whelk fishery**

The seasonal whelk enforcement campaign is underway, although landings have been slow to pick up in October and November and are now, post-Christmas, remaining steady rather than good. Three visiting vessels have been operating from Ramsgate since October, but have concentrated their fishing effort well outside the 6nm district limit. Compliance inspections have found their whelks have been well over the EU minimum size of 45mm, with the largest measured at 78mm.

Within the district, levels of compliance have been good to date. Effective riddling by crew is essential for compliance with byelaws, particularly after poor weather and further landing inspections are planned to ensure this is taking place.

Disappointingly an unfortunate trend is emerging of a group of permit holders who are failing to fill in and send in their catch returns. Timely completion and submission of the catch returns are a key component of the byelaw and help provide accurate data to inform management decisions, whilst providing a level of tractability. The byelaw states:

*Catch Log Book*

*24) The holder of a whelk permit shall submit to KEIFCA, no later than the 5th day of the month following, such information in regard to catches and fishing effort for the previous month as KEIFCA may require. This information shall be entered onto a form provided by KEIFCA and will include accurate information regarding the weight of whelks and other species taken by the holder of the permit's whelk pots from the District during the preceding calendar month, together with the number of pots used and area fished.*

A group of 10 vessels have consistently failed to supply catch returns since they renewed their permits in April, failing to send in any returns for the 9 months to date. A warning letter has been sent to all the permit holders concerned in July 2017, however this has failed to reach the desired outcome. Whilst we want to work closely and collaboratively with the industry, and would generally try to apply a degree of flexibility, we have reluctantly come to the conclusion that we are going to have to start progressing these issues further, and if required start issuing Fixed Administrative Penalties (FAPs) or taking legal action.

**Recommendation:** Issue final 14 day warning letter to all permit holders that have not completed catch returns since the beginning of September 2017, explaining that the next step would be KEIFCA pursuing legal action in the form of Fixed Administrative Penalties (FAPs) or a prosecution.

## **Planned future projects**

### Whelk Population Study

This is a two-year project running from January 2018 until December 2019. The project is funded via an EMFF grant and aims to give a much greater detail of the whelk population within the Kent & Essex district. Samples will be taken each month over a two-year period, which will be analysed for gender, size and sexual maturity. From this data it will be possible to ascertain gender ratios of harvested whelks over the course of the year, and relating the data back to Dr Hollyman's earlier work, an increased understanding of age at maturity and size at maturity will be gained. This will serve to strengthen the knowledge base which underpins the whelk minimum landing size within the district, and will lead to higher confidence in a sustainable whelk fishery.

### Whelk Genetics Study

This project is currently awaiting funding confirmation from NTFLAG and EMFF. It is a 1 year project that will identify whether whelk populations across, and outside, the district are genetically homogenous, or distinct from each other. Whelks will be harvested from 4 sites within the 6nm district boundary, and 4 sites from between the 6nm and 12nm zone. Genetic analysis of these whelks

will highlight the geographical extent of distinct populations (if genetic differences are present), and whelks will also be compared to 2 sites further removed from the district. These out sites have not yet been selected but are likely to be distant UK or European waters. If any genetic differences are discovered between whelk populations within the Kent & Essex district, this knowledge will allow the option of targeted management of whelks.

#### Working with other IFCA's to develop a national whelk policy document

Working through the Association of IFCA's, an agreement has been reached to develop a national IFCA whelk policy paper reflecting the importance of healthy whelk stocks to the inshore fishing industry. The policy document would look to outline the current scientific knowledge and data gaps for this stock as well as discuss principles of management and future potential management measures. Due to the regional variation in whelk stocks and size of maturity, there is a lot of scope for effective regional management and developing such an approach could help integrate regional whelk management into a national approach. It is suggested that a meeting including IFCA staff from around the coast could be held in February to start the process of developing the paper. If successful this approach could be used by IFCA's to help coordinate the future management of other stocks.

#### **Recommendations:**

Members are asked to **AGREE** that the pot limit, the riddle size and the number & size of escape holes REMAIN set at:

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