



Inshore Fisheries and
Conservation Authority

Agenda Item B3

By: Chief Inshore Fisheries Officer/Lead Scientific and Conservation Officer

To: Kent & Essex Inshore Fisheries and Conservation Authority
– 28 January 2025

Subject: **Whelk Permit Byelaw Update**

Classification Unrestricted

Summary:

This paper will provide Members with an overview of whelk fisheries markets, analysis of KEIFCA whelk landings data over the year 2024 and an update of national whelk management and what it means for KEIFCA whelk fishery management.

Recommendations:

1. 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

Fisheries Management Plans – brief update

Following the whelk FMP published by DEFRA in December 2023, KEIFCA has been engaging with the Whelk Working Group (WWG) headed by Seafish, who are developing the national-level strategic management for the UK whelk fishery. Seafish have:

- 1.) reviewed existing measures used to manage whelk fisheries,
- 2.) identified knowledge gaps and from this presented two key management strategies and
- 3.) explored opportunities to improve the science and data behind the fishery's management

Within the whelk FMP objectives that are being pursued, KEIFCA, along with Seafish, funded an ICES workshop held at Bangor University in which key biological attributes of whelks required for stock management were discussed and

presented on. Key takes from the workshop were that more very little and very large whelks were required to understand whelk growth rates better and this would provide greater confidence on Size at Onset Maturity (SOM) upon which Minimum Conservation Reference Size (MCRS) management are based. In this discussion, senior scientists from America reaffirmed the value of MCRS to protect stocks in the absence of detailed stock knowledge. Secondly, stock delineation approaches were discussed. KEIFCA's existing management areas are a very valuable starting point and the fact that catch return data report to a significantly finer scale, provides us with a spatial resolution that would allow for enhanced stock management strategies should finer scale management become necessary. A further refinement could be based on morphological differences between whelks, be it driven environmentally or genetically. This would represent in laymen's terms such as descriptions used for the differences between our whelks, such as when they refer to "green demons" or "tinnies" that may well provide a practical basis for classification of "stocklets" within our management areas. This work requires further development before any decisions are furthered. KEIFCA will remain actively engaged in the conversation and stay abreast of the developments in research feeding into FMPs.

KEIFCA's Annual Whelk Fishery Review

The Market

As in previous years, most whelks landed in KEIFCA waters during 2024 were sold to Lynn Shellfish Ltd, with Chapmans of Folkestone buying most of the rest. Lynn Shellfish advised that whelk prices this year were around £100 per tonne higher than in 2023 at £1,400 per tonne for most of 2024 and increased to £1,500 per tonne by the end of the year. According to the Kings Lynn based shellfish processor, the main market is still South Korea but there are also good EU sales as well as the home market.

MMO Landings Data

The long-term picture of annual MMO landings data (recorded landings in KEIFCA district ports, from vessels fishing inside and outside our district showed relatively consistent high levels of landings in recent years compared to landings prior to 2010, as can be seen in Figure 1. However, landings in 2023 were 53% lower than those in 2022 and this year's figures are almost identical to that of 2023. MMO data on whelk fishing effort (pots hauled and days fished) was not available at the time of writing this report.

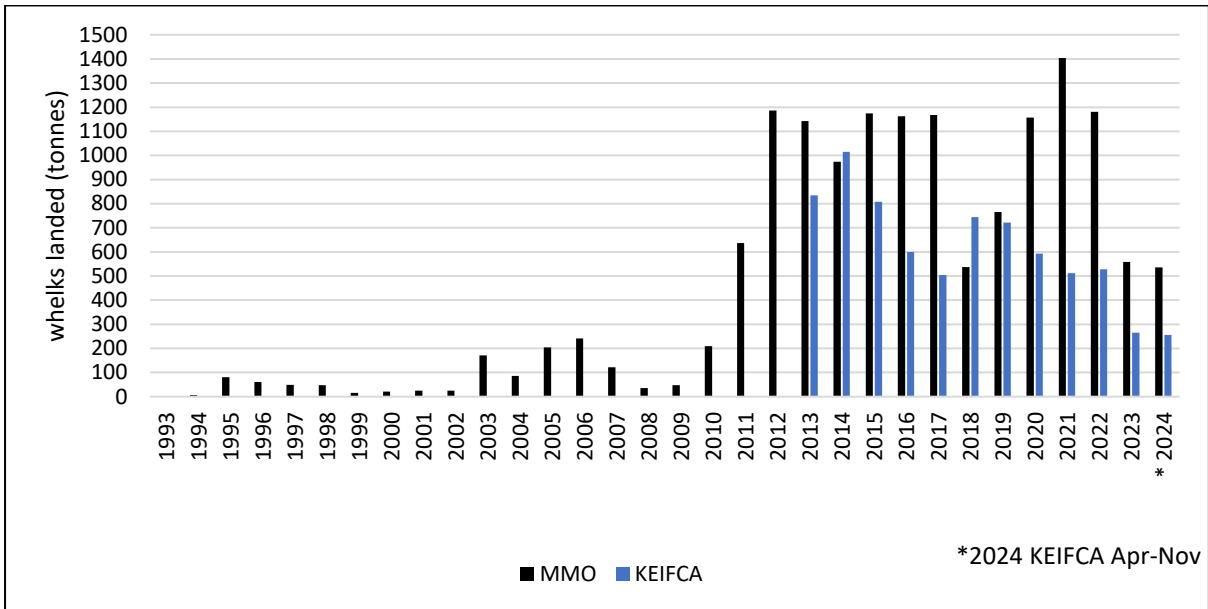


Figure 1. MMO whelk landings inside the KEIFCA district and out to 12NM offshore 1993-2023 alongside KEIFCA’s landings data shown for 2013-2024 inside 6NM.

KEIFCA district landings

Annual Landings

All aspects of whelk fishing effort and landings in 2024 have been in line with last year, when a significant reduction on previous years was reported. Figure 2 shows that the total number of days fished, pots set and permits issued are very similar as in 2023, with a slight increases in landings and days fished.

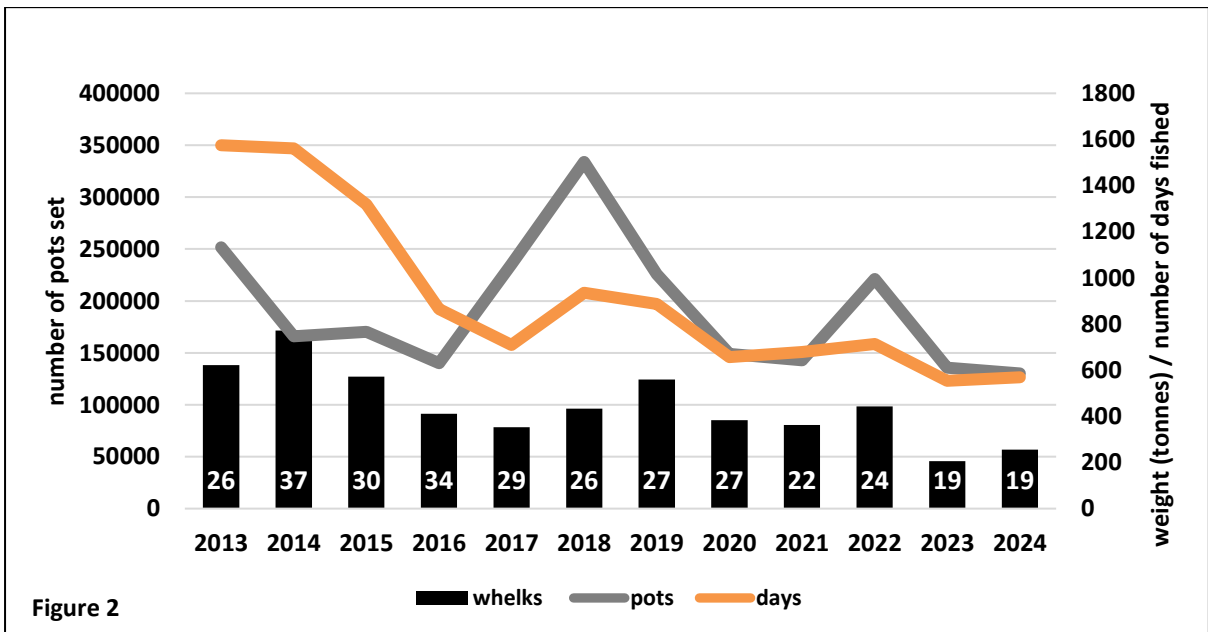


Figure 2

Figure 2. Total weight (tonnes) of whelks landed (black bars in relation to right hand y-axis values), the total number of pots set (grey) and the total number of days fished (orange) during the period April-November in each year from 2013-2024. The white number inside each black bar is the number of commercial (Category One) permits issued for that year.

Long-Term Monthly Landings

Figure 3 below shows the comparison monthly whelk landings of April–November 2024 (light blue) against that of 2023 (grey), 2022 (yellow) and the long term average (here 2013–2021, in dark blue). The graph shows the strong seasonal signal with highest landings consistently reported between April and June and lowest during the late summer (Jul and Aug). Whelk landings in 2024 were lower than the long-term average for all months included in the report. This has been the case for recent years, other than May and June 2022, which were abnormally high. Encouragingly, whelk landings were slightly higher in 2024 from start of April to end of July (main fishing season), than in 2023, which may suggest a slow recovery from the significant mass mortality event on the north Kent Coast. (Members will recall that during August 2022 a significant mass mortality event was reported, coinciding with the most severe marine heatwave in the Thames Estuary since water temperature records began at Cefas.)

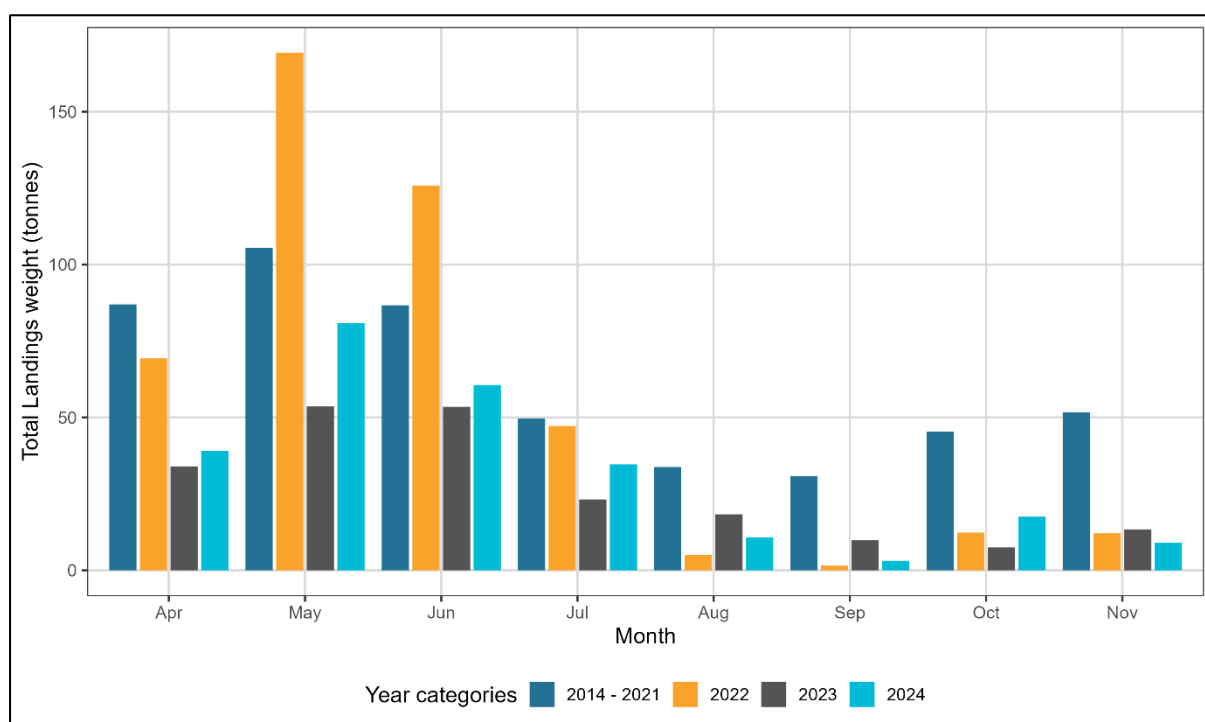


Figure 3. Long-term mean monthly total weights (tonnes) of whelks landed Apr–Nov 2014–2021 (black) compared to the total monthly weights (tonnes) landed Apr–Nov 2022 (orange), 2023 (grey) and light blue (2024).

Geographical distribution of catches

Overleaf, the map shows the total weight (tonnes) of whelks landed between 2024 (Apr–Nov) from each of the Whelk Fishing Areas (WFAs) (See Figure 4). The majority of whelks landed (by weight) came from WFA-4 in 2024, whereas catches from WFA-2 were lower than previous years (Figure 5). Following the marine heatwave in August 2022, whelk catches particularly from WFA-2 were significantly decreased and have still not fully recovered to pre-heatwave levels.

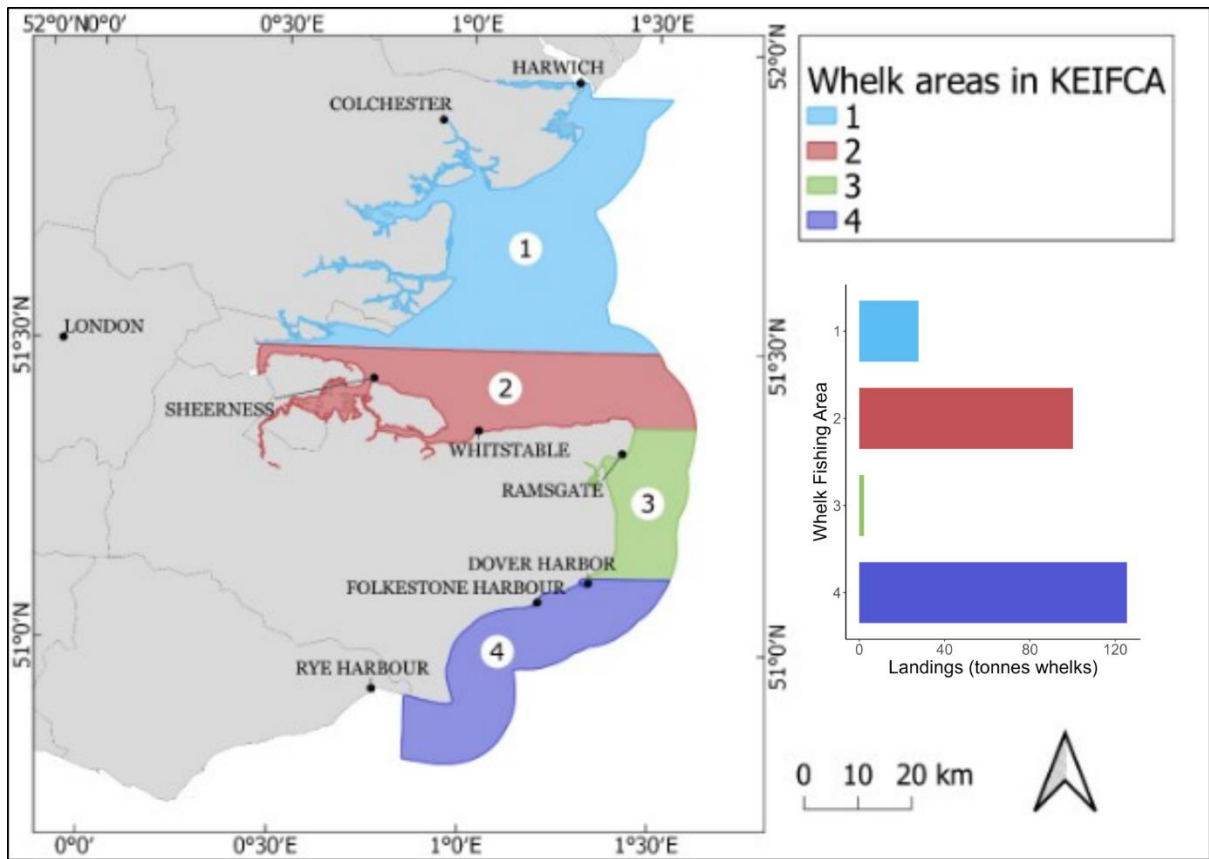


Figure 4. The four Whelk Fishing Areas (WFAs) in the KEIFCA district, showing the total annual landings for each area on the right-middle panel.

The long-term spatial variation of whelk landings is shown in Figure 5 below as the proportional contribution of each of the four WFAs to the total whelk landings per year from 2014-2024. In 2024 the total landings of whelk increased overall from 2023, and was mainly as a result of increased landings from WFA-2.

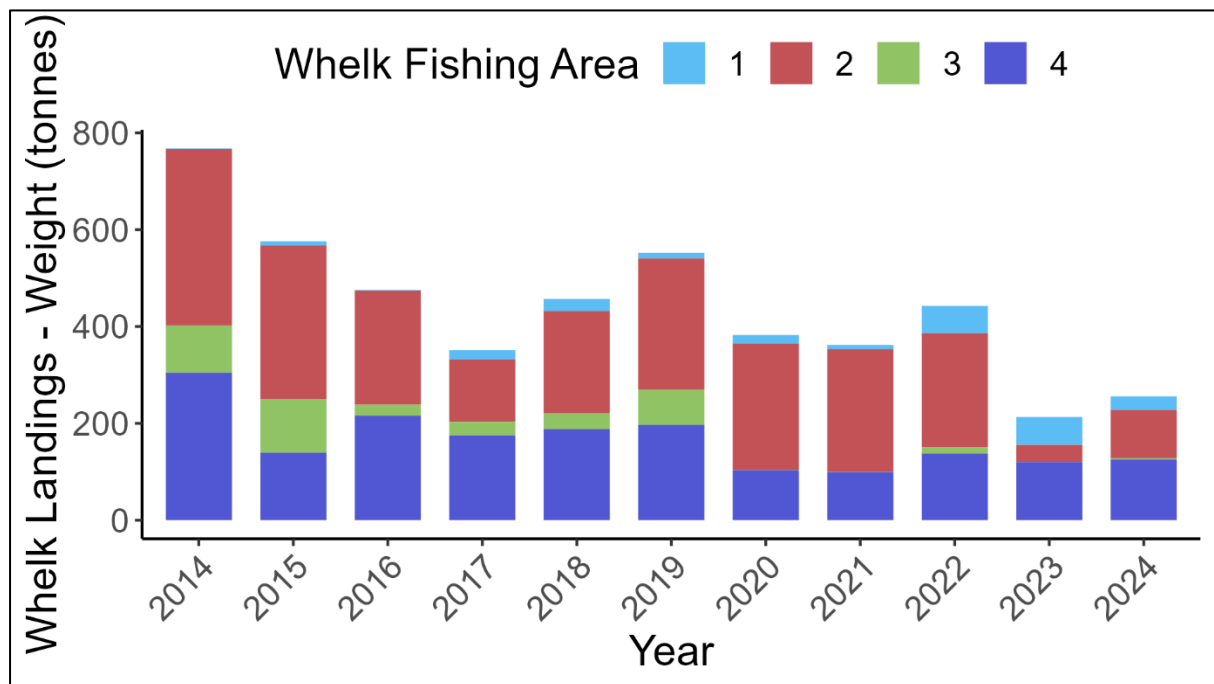


Figure 5. Total weight (tonnes) of whelks landed each year 2014 – 2024 in each of the 4 Whelk Fishing Areas in the KEIFCA district. (Note all landings are compiled from period April – November only).

Catch Per Unit Effort

Catch per unit of effort (CPUE, sometimes reported as Landings per unit of effort) i.e. the total weight of whelks caught per pot per fishing trip, is a key metric for in addition to the total weight of landings. This is particularly important when the fishery has experienced a reduction in landings as a reduced CPUE could indicate that the stocks have been fished at an unsustainable level.

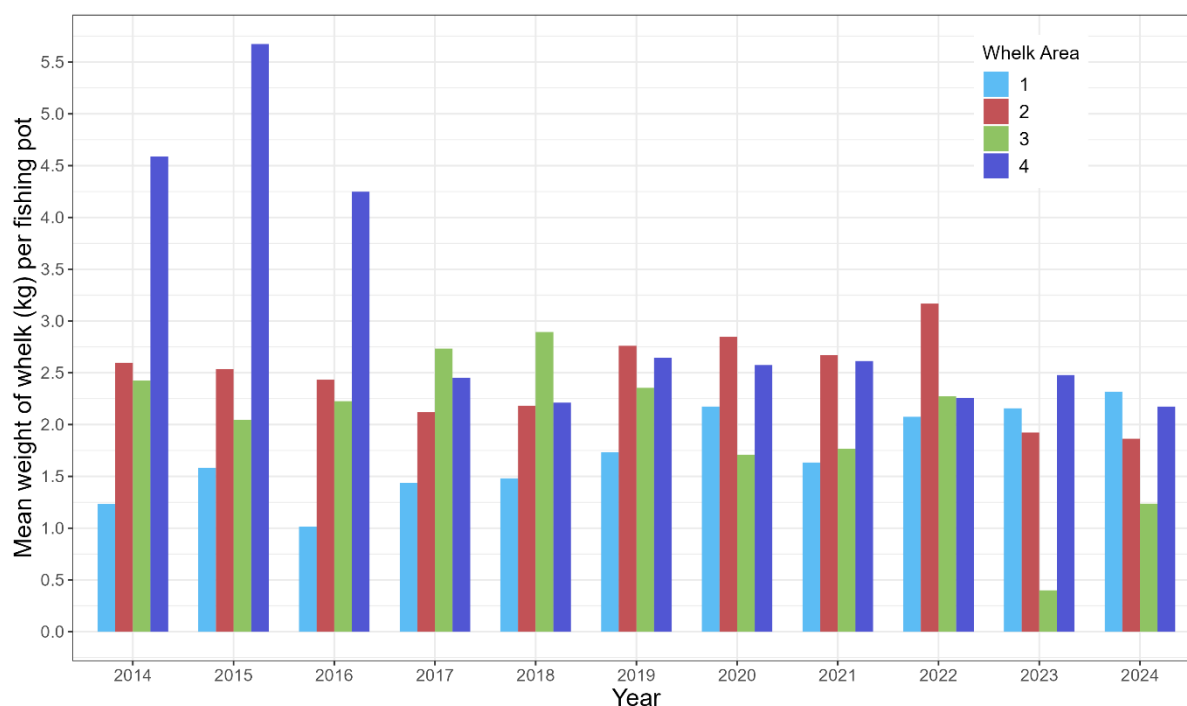


Figure 6 below shows that in 2024 CPUE for this fishery was similar to 2023, and both years were below the long-term average. Record high catch rates (CPUE) were reported from WFA-1 on the Essex Coast, but total landings from WFA-1 was still relatively low. In 2023 we reported a low level of fishing effort in WFA-3 and suspected it to be a consequence of the relatively few fishers working the area switching over to different fisheries in 2023. In 2024 we recorded a significant uplift of CPUE rates in WFA-3, but still below historical rates. The relative stability of CPUE suggests that stock levels are relatively stable however the reduction in overall effort is concerning with more fishers exiting the fishery (see below).

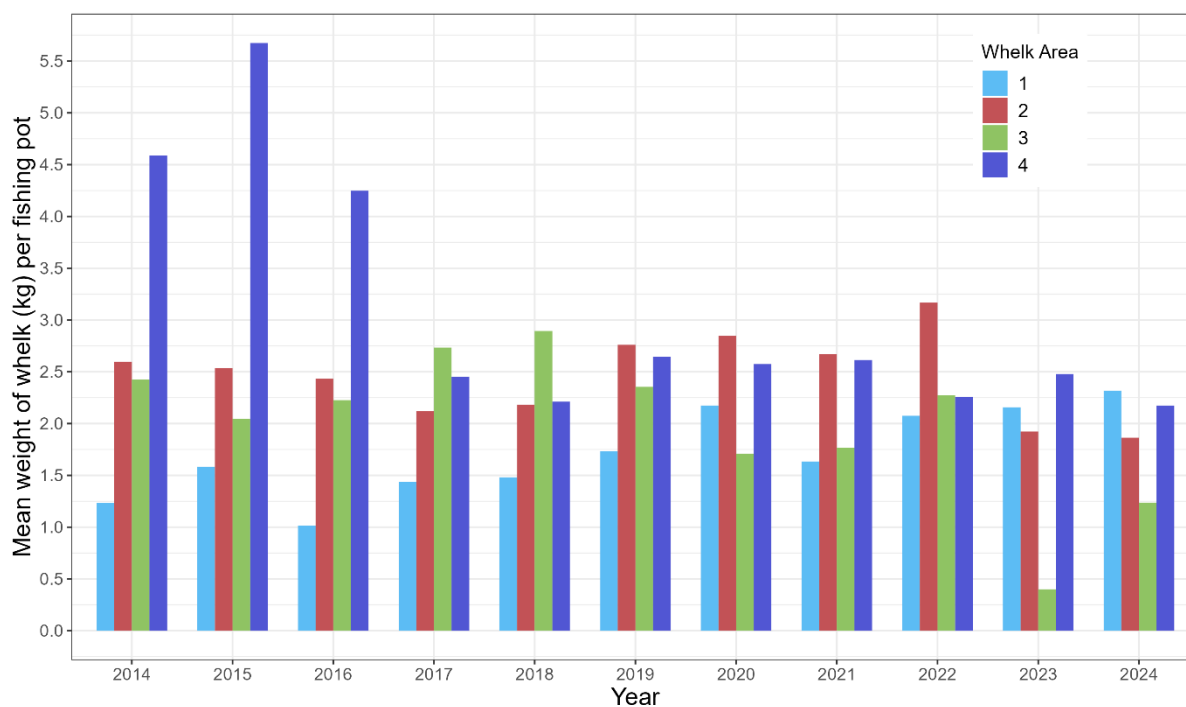


Figure 6. Mean annual CPUE levels for the 4 whelk fishing areas in the KEIFCA district 2014-2024

Fishing permits

Eight commercial whelk permits are in place this year in Area 2, with 39% of total landings coming from the north Kent coast, which is an increase of 15% on the same time period in 2023.

Almost 50% of the entire district's landings were fished off the south Kent coast and were caught by 4 of the 7 commercial whelk permit holders in Area 4.

Landings from Area 1 (Essex coast) account for 11% of the total whelks landed from April - November in 2024 despite no permits being issued to Essex fishers. A Whitstable based fisher worked this area for the first 3 months of the permit year, before moving back to his usual fishing grounds (in Area 2) in June.

As in previous years, Area 3 has had the least whelk fishing activity, with just 12 days of whelk fishing equating to 1% of all whelks landed in 2024.

The table below shows the number of permits issued, the total weight of whelks landed, the number of pots set and number of days fished in each of the four fishing areas:

2024	Area 1	Area 2	Area 3	Area 4
permits issued	0	8	4	7
tonnes landed	27803	100178	2225	125535
pots set	12000	54205	1800	62205
days fished	40	227	12	290

Whelk compliance

Consistent enforcement of the whelk permit byelaw is a seasonal priority on the KEIFCA Compliance Risk Register, with most effort between autumn to spring each year. Patrol teams monitor activity and gather intelligence, concentrating on any report or instance of non-compliance with the permit byelaw. The current intelligence picture informs bi-weekly Tactical Coordination Group (TCG) meetings where whelk enforcement taskings are assigned.

In 2024 officers were tasked with boarding and gear hauling inspections at sea, and landing inspections on shore. Following best available intelligence to target non-compliance, KEIFCA enforcement teams conducted 24 inspections of whelk fishing vessels in 2024. A total of 5 offences were detected during these inspections, resulting in an overall compliance rate of 79%.

Of the five offences detected, three were minor infringements for retaining small quantities of undersize whelks which were dealt with by means of verbal warnings. The other offences were more serious, including a larger quantity of undersized whelks being landed well in excess of the 5% tolerance in addition to a significant proportion of whelks that were under the statutory minimum size, resulting in a Financial Administrative Penalty being issued to the master of the vessel. The second more serious offence was detected following a gear hauling inspection where 49 whelk pots were found to have been set in breach of the permit byelaw, with no permit tags and incorrect escape holes – this case remains under investigation by KEIFCA.

Neighbouring IFCA district comparisons

Sussex IFCA has a substantially larger whelk fishery than KEIFCA with 50 shellfish permits with allocation for whelk fishing, compared to our 19, and landing as much as 600 000 kg per year in recent years. Sussex IFCA also report lower than long term average landings in the district in the last two years compared to the five years preceding that (2017 – 2022), like KEIFCA, especially during 2023, with fishers limiting the netting period to winter and spring owing to lower reported incidence of whelk, suspected to be related to elevated water temperatures. Compliance levels were reported to be relatively good, comparable to that in KEIFCA.

Seasonal landings patterns are remarkable similar to that recorded in KEIFCA and Sussex IFCA – with higher fishing effort in winter and spring, months and lowest levels during late summer and early autumn. Sussex IFCA report lower levels of whelk landings in 2022, 2023, and 2024 than the 5 years preceding that (2017 – 2021), however the LPUE ratio has remained relatively stable.

Eastern IFCA reported lower landings in 2024 and 2023 than in 2022, but these values were still within the acceptable range and similar to landings during 2021 and prior to 2018. Eastern IFCA have expressed a mild level of concern over potential overfishing in the Wash with sustained below average catch rates.

See Annex for respective reports from Sussex and Eastern IFCAs.

Whelk study partnership with Essex University

KEIFCA have partnered with Essex University in December 2022, to study the effects of water temperature on whelks, specifically assessing the stress in the animals including mortality, effects on egg laying and respiration and oxygen consumption at different temperatures. (Following the whelk mortality event in 2022, and in addition to work already reported on as detailed in the 2022 November & 2023 January Authority papers. The experiments showed that there were higher levels of mortality, suppression in egg laying and clear differences in oxygen consumption at higher temperatures. The results suggested that complete metabolic breakdown takes place, and that animals exposed to prolonged elevated water temperatures above 18° C were unable to metabolise normally even after water temperatures returned to normal (13° C). The experiments have been expanded, and we now have two students, one working more detailed analysis of the effects on egg laying in terms of numbers, weight and composition, and another investigating the effects of elevated water temperatures on filtration rates of Manila clams.

KEIFCA Management recommendations

After considering the most recent landings and catch data, the current assessment of market demand, and the benefit to the industry of continuity, it is recommended that the current measures are maintained for the 2024/25 permit.

Current technical management measures:

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

Recommendations:

1. 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.

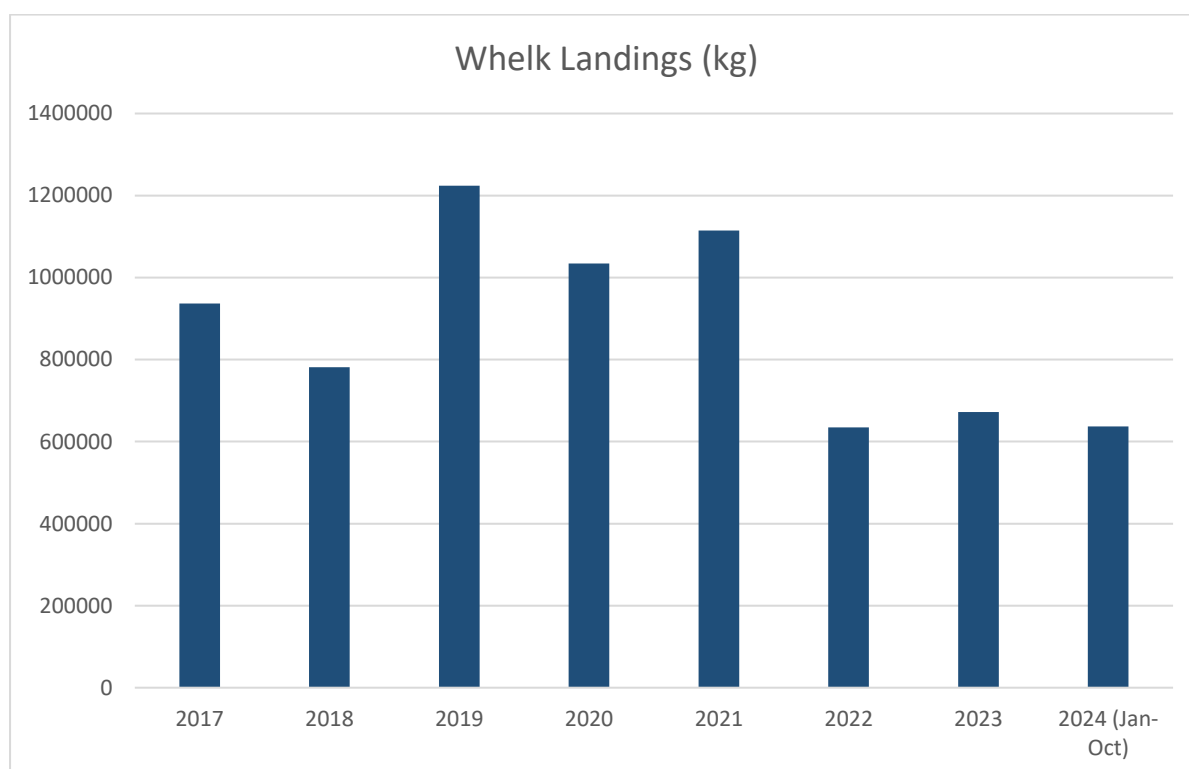
Escape holes – 10 @ 25mm per pot

Annex 1: Neighbouring IFCA district reports on landings

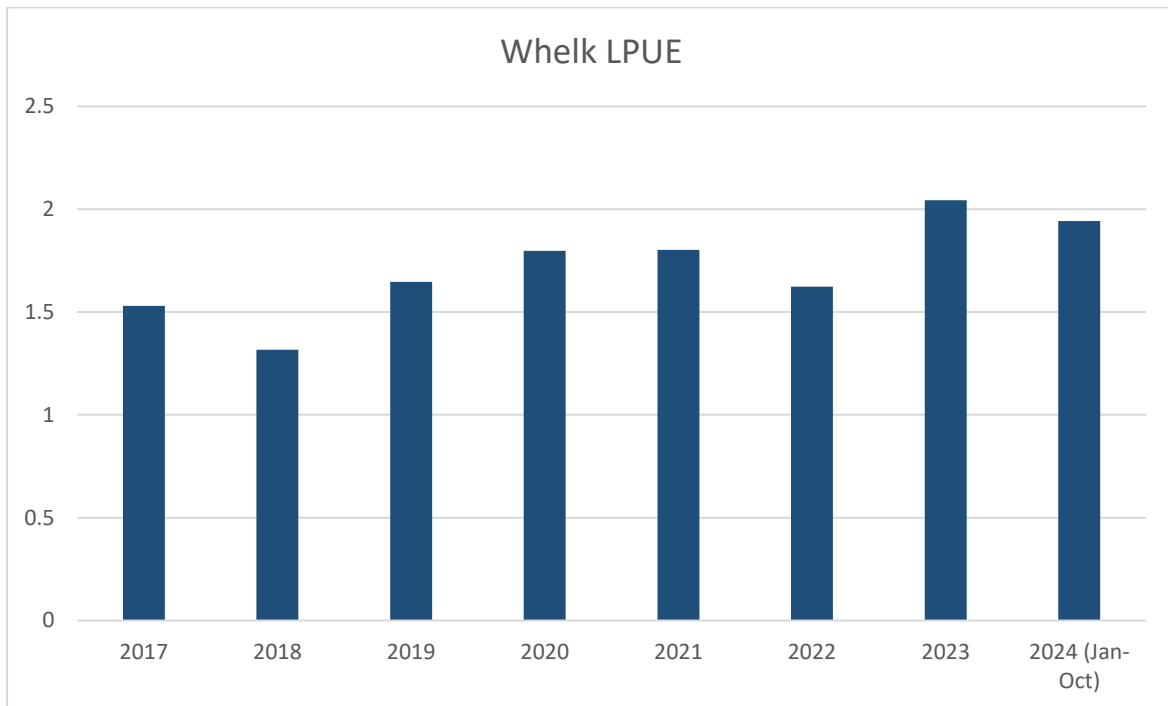
Sussex IFCA Whelk Report 2024

1. Landings, fishing effort and number of fishers

There are currently 97 active shellfish permits (69 commercial and 28 recreational), of which 50 have an allocation of whelk tags (48 commercial and 12 recreational – of which some have both commercial and recreational licenses). Total landings (tonnes) and total effort (pots) from the commercial fleet in Sussex were down in 2022 and 2023 compared to 2021, and this trend looks set to continue for 2024, as landings in November and December are generally modest.



Landings per unit of effort (LPUE) may have decreased from 2023, from 2.04 kg/pot in 2023 to 1.94 kg/pot in 2024. However, it is important to note that the 2024 dataset is incomplete as we are awaiting the submission of landings data for November and December, and the seasonality of LPUE (lower in November and December) will likely bring this average down.



2. Fishing Behaviour

Many of the regular inshore whelk fleet who net during the summer months continued netting inshore well into the autumn and winter months, whereas others have decided to continue to pot outside the district. Anecdotally this is due to the decreased incidence of whelk on the inshore ground.

3. Compliance

In 2024, Sussex IFCA issued two warnings to fishers for gear related offences – undersize riddle (23mm) and using pots without valid tags. There were no offences reported relating to Minimum Conservation Reference size (MCRS) at sea, with six boardings on whelk potting vessels conducted in the year. Landing inspections on potting vessels and market inspections also saw no issues with MCRS (45 mm). Warnings issued for catch return submissions have stabilised, with the majority of fishers now completing and sending in returns.

Eastern IFCA

Overall, the trend for the whole district seems to be similar to 2023. Landings still seem to be on a slight downward trend, but still remaining within the range which Eastern IFCA would consider sustainable. Seasonally, the effort was similar to previous years, with a peak in winter and spring and lower levels in the summer and early autumn. We have identified that the whelk fishery within the Wash could be at higher risk of over-fishing, as the LPUE has recovered only marginally since the decline in 2021/22.

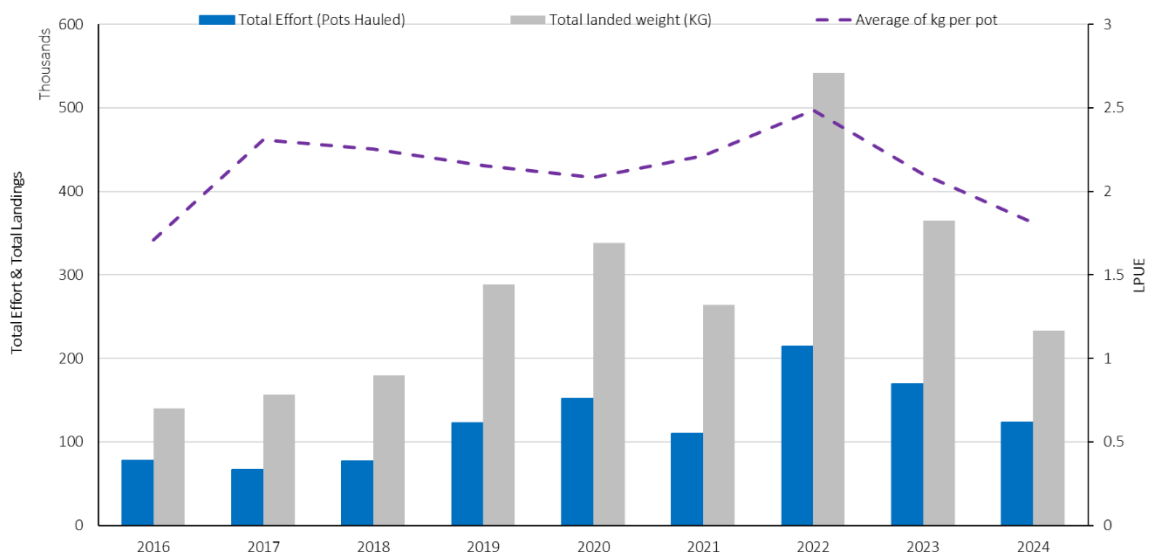


Figure 7. Total annual whelk landings (weight in kgs, grey bars), total number of pots hauled (effort, in blue bars) and mean average weight (kgs) of whelks per pot (LPUE, purple dashed line) for 2016 – 2024.

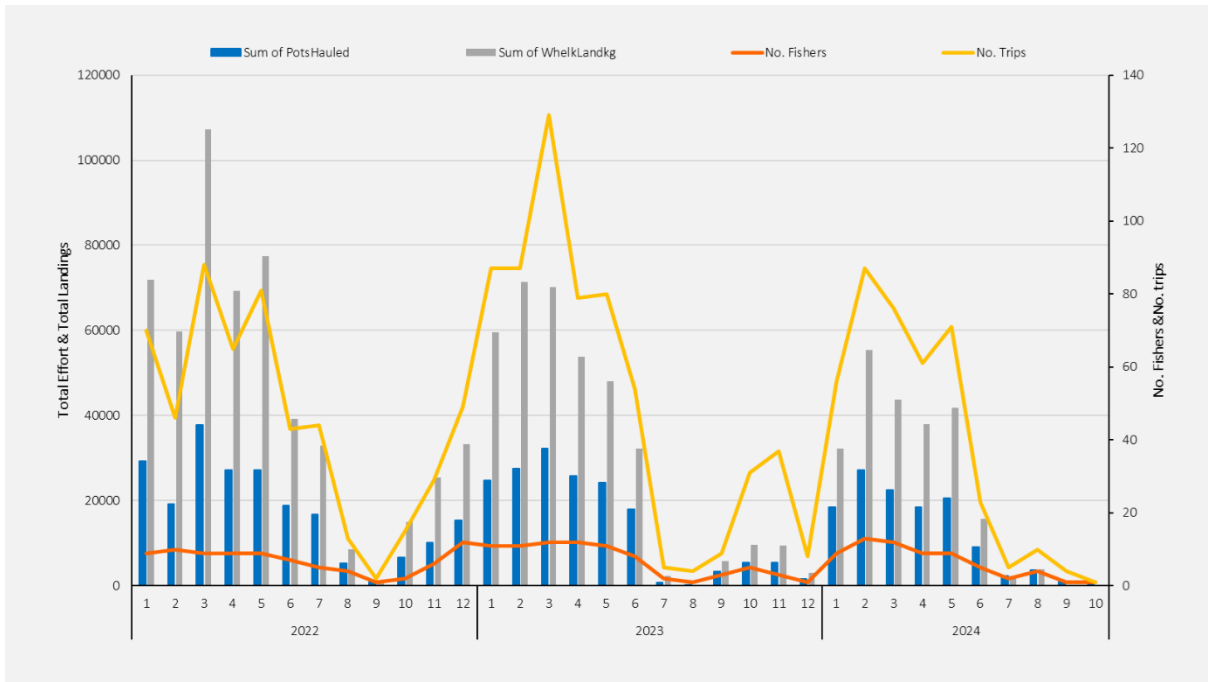


Figure 8. Time series of total landings (kgs, grey), pots hauled (blue bars), effort (no. of trips, yellow) and number of fishers (orange) in the Eastern IFCA district in 2022, 2023 and 2024.