



Fisheries & Conservation Science

SCIENCE UPDATE

Lobster tagging preliminary report: 11th November 2013

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LOBSTER TAGGING PRELIMINARY REPORT: 11th NOVEMBER 2013

To date almost 1000 lobsters have been tagged throughout Wales, with a large effort occurring off the tip of the Llŷn Peninsula. Re-capture of the tagged lobsters occurs very quickly after the tagging has taken place. To date there have been no observations of any infections in the tag sites either in wild recaptured lobsters or in the lobsters being kept in tanks at the school of Ocean Sciences. The tank kept lobsters were tagged in June and we have had no deaths to date.

The carapace length of tagged lobsters ranges from 56mm to 151mm but is skewed towards smaller animals lower than the MLS (Figure 1). The carapace length of re-caught lobsters ranges from 66mm to 105mm, suggesting that larger lobsters are less likely to be re-caught (Figure 2). There may be several reasons for this observation. Firstly a large proportion of the larger lobsters were tagged further offshore towards the end of the summer season. Since this time, autumn storms have prevented fishing in these more exposed locations. Secondly it is possible that they have been caught and landed, removing them from the experiment without us being informed. This should not be occurring in large numbers as the tagged lobsters have been v-notched making them illegal to land.

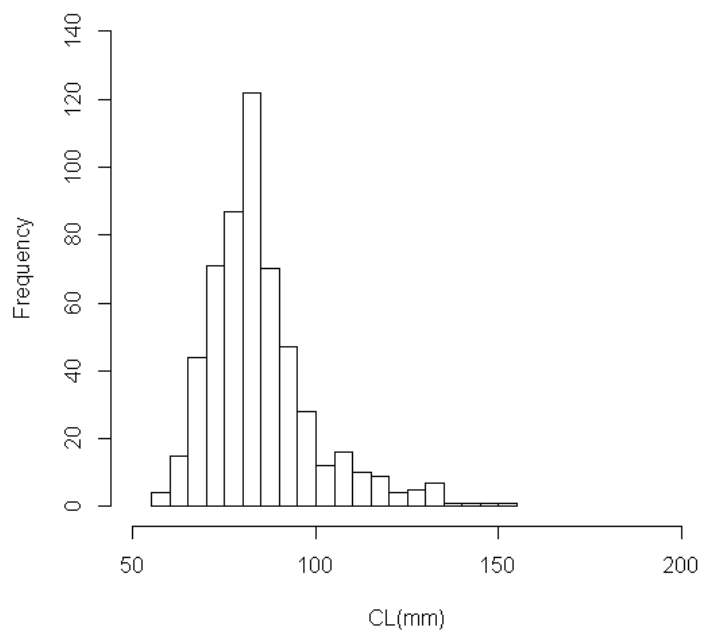


Figure 1. Histogram showing size range of tagged lobsters. CL = Carapace length.

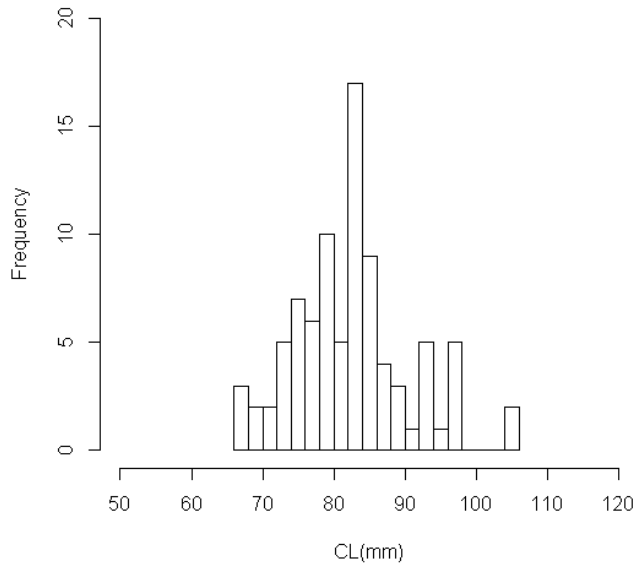


Figure 2. Histogram showing the size range of re-caught tagged lobsters. CL = Carapace length.

Plotting the GPS co-ordinates of tagged lobsters against the GPS co-ordinates of where they were re-caught shows that the majority of lobsters have moved less than 200m (Figure 3), with the mean distance moved being 274m and the median being 114m. A few individuals moved larger distances with the maximum distance observed being 3.6km. The smallest distance found between capture and re-capture locations was 6m.

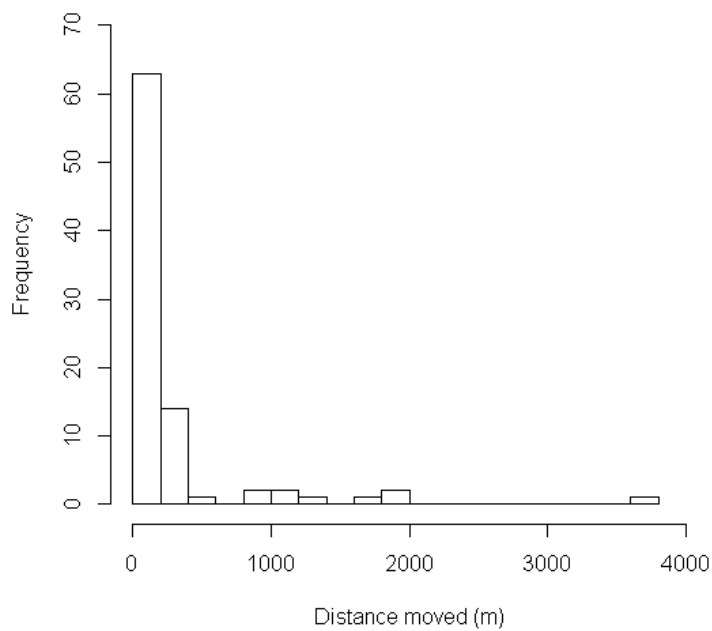


Figure 3. Histogram showing the distances between initial capture location and the re-capture location.

The tagged lobsters were returned to the sea at the same location as the pot was hauled in most cases. When this was not possible the location of where the lobster was caught as well as where it was released was recorded in case this had an impact on the distance moved by the animals. None of the lobsters which moved further than 1km had been released away from their capture location in the current dataset.

In addition we looked at the relationship between distance moved and the size of the lobster to see if larger lobsters tend to roam further than smaller lobsters. So far there is no evidence of this but the dataset is missing recaptures of larger lobsters as discussed above. We will revisit this hypothesis once we have recaptures spanning the whole size range.

These preliminary data agree with previous studies of movement in the European lobster, with most lobsters staying close to their initial capture location whilst a few lobsters range further afield. Although we still need to increase the geographic range of the study and to observe the behaviour of larger lobsters, the implications of this limited movement of adult lobsters from a fisheries management point of view is, that any management measures of adult stocks at the local scale should benefit the local population and local fishers, not distant populations. For example the voluntary program of v-notching berried females; with limited adult movement, when the v-notch grows out and the individual is able to be landed again, she is likely to still be in the same area and the local fishers who participated in the v-notching are likely to be the ones who re-capture her. Additionally it should be noted that this also means that populations are reliant on larval recruitment to ensure population persistence. Therefore if a local population is overfished and abundance declines then it would be dependent on settlement of larvae to re-populate rather than immigration of adults from elsewhere. Therefore local management of effort is important for sustainable stocks.