



SCIENCE UPDATE

Prawn: December 2014

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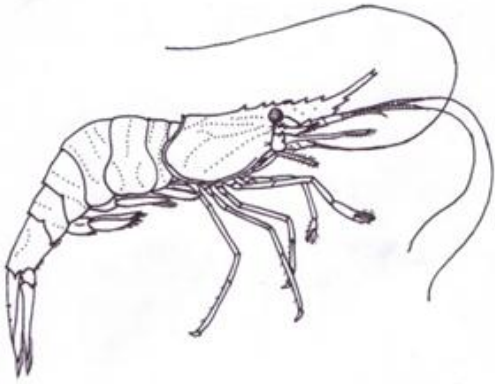


Y Gronfa Pysgodfeydd Ewropeaidd:
Buddsoddi mewn Pysgodfeydd Cynaliadwy
European Fisheries Fund:
Investing in Sustainable Fisheries



Llywodraeth Cymru
Welsh Government

Common prawn – *Palaemon serratus*



Preliminary results

We initially engaged four to five fishers across Wales to provide fisheries samples for 13 months. From this data we have some interesting trends over time which confirms that greater abundances are caught in winter (no surprise there). We did not find any variation in morphology, reproductive patterns or catch per unit effort between prawns from north, mid or south Wales. Prawns are sexually dimorphic in catches, meaning that on average males are smaller than females (**Figure 1**). Currently there is a market pressure for a certain sized prawn and this length corresponds to a 10 mm carapace width (the riddle size usually). This market demand is driving the fishery to select for mostly females (**Figure 2**). As females mature at a size of around 60 mm total length we can see that many of the berried females caught would be of a land-able size (**Figure 2**). The market driven selection for larger prawns protects the immature stocks, though would preferentially take females over males. We found that berried females can be found throughout the year and so the seasonal nature of the fishery may be allowing females to carry broods to term in months outside the fishery (this is good news).

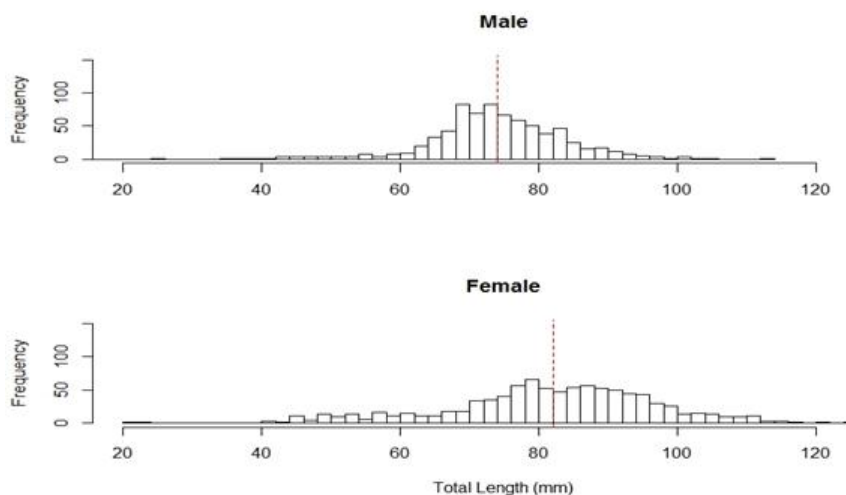


Figure 1. The frequency of each size of prawn caught over the period of the study. The red line indicates the mean value for both male (graph above) and female (graph below) *Palaemon serratus*.

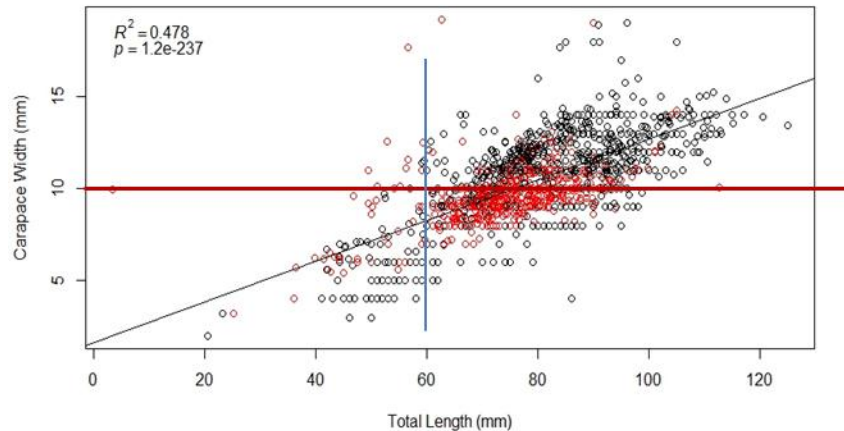


Figure 2. A scatterplot of the relationship between total length and carapace width for *Palaemon serratus* males (red dots) and females (black dots). The red line shows at what size a standard 10 mm riddle would select prawns (so anything above the red line would likely be landed). The blue line shows the size at which the smallest female (black dots) was carrying eggs (so every black dot to the right of the blue line is likely a mature female prawn).

Additionally we have spent a summer collecting near shore samples of juvenile *Palaemon serratus* to identify appropriate methods for a future recruitment survey to contribute valuable recruit information for future stock assessments. We identified three estuaries and multiple coastal rock-pool sites where juvenile prawns were abundant. Juvenile prawns arrive into different estuaries at different times and quickly grow throughout the summer. This is exciting research that will be linked with fisheries catch data in the future to enable an informed monitoring system for stock changes.