

## **Pilling Sands Cockle Survey 10-07-23**

Officers present: AG, GE, AP, GG  
Tides: LW 12:03 1.9m (Liverpool tides)

Survey method - Jumbo and 0.5m<sup>2</sup> quadrat

80 stations were sampled from a 500m grid. The majority of the cockle is between 15-20mm in length from a 2022 cockle settlement. Size cockle is relatively low in density across the bed. There is evidence of a 2023 cockle settlement across a number of survey stations.

### **Means**

Means were calculated from all stations with zero counts on the edge of the bed removed. Less than 5mm cockle was not used in the undersize figures due to the high variable survivability of cockle at this small size but has been included as a separate figure.

Mean number of size cockle	6 per m <sup>2</sup>	(min 0, max 28)
Mean number of undersize cockle	140 per m <sup>2</sup>	(min 0, max 3000)
Mean number of 0-5mm cockle	5 per m <sup>2</sup>	(min 0, max 106)
Mean weight of size cockle kg/m <sup>2</sup>	0.055 kg/m <sup>2</sup>	(min 0, max 0.250)
Mean number of undersize cockle kg/m <sup>2</sup>	0.326 kg/m <sup>2</sup>	(min 0, max 7.090)

### **Maps**

Maps were created showing the overall survey area, density of size cockle, density of undersize cockle (excluding cockles in the 0-5mm size range, the frequency of size classes, the size of the pie chart indicates the total density of cockles present, and the weight of undersize and size cockle.

### **Biomass**

	<b>Area (ha)</b>	<b>Size Cockle (tonnes)<sup>1</sup></b>	<b>Undersize Cockle (tonnes)<sup>2</sup></b>
<b>Pilling Sands</b>	<b>1475</b>	<b>800</b>	<b>4800</b>

<sup>1</sup>In regards to biomass size cockle defined as cockle which will not pass through a square gauge 20 x 20mm in size.

<sup>2</sup>The biomass of undersize cockle does not include any estimates of cockle less than 5mm due to the high variability of survival of this size class.

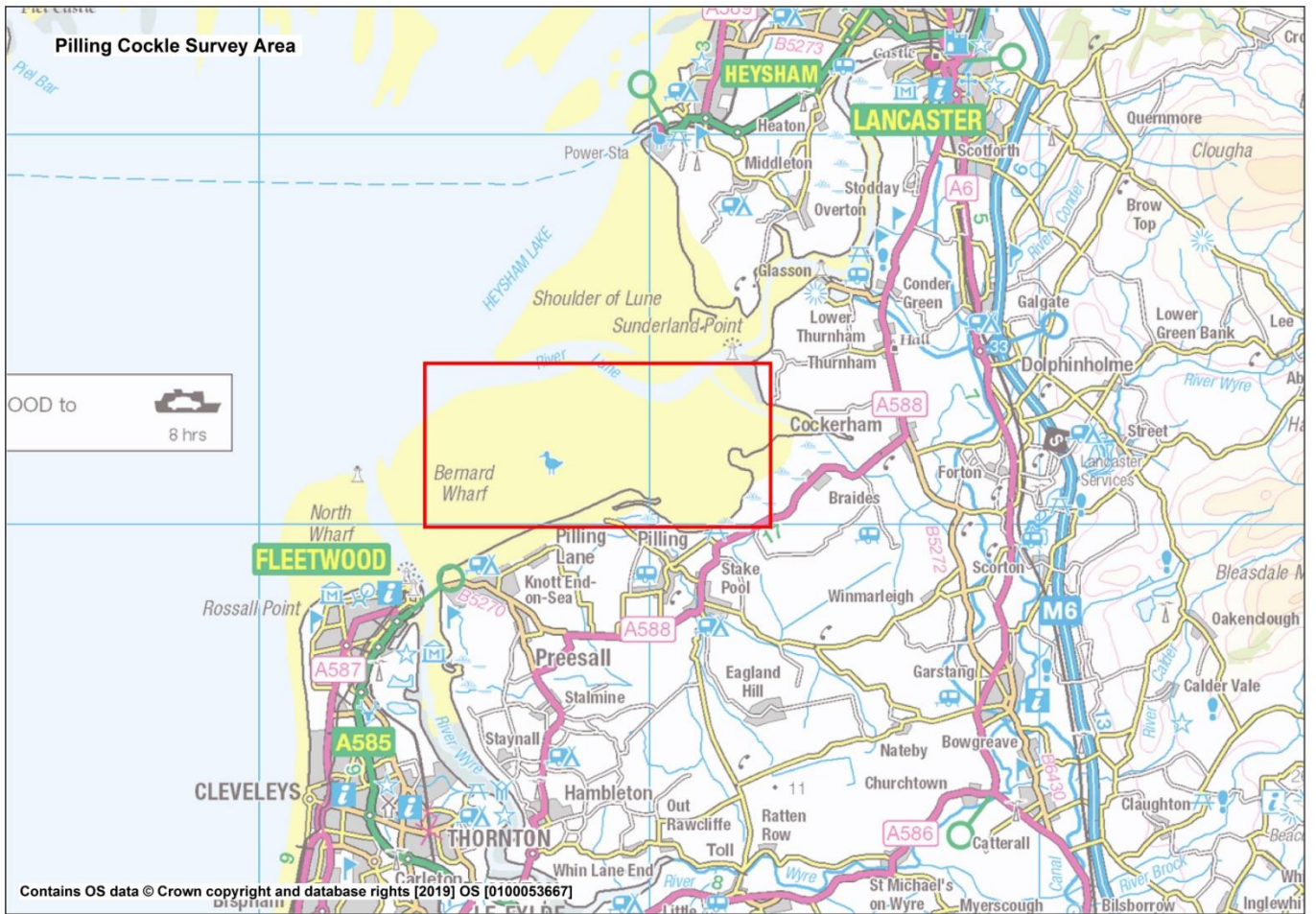
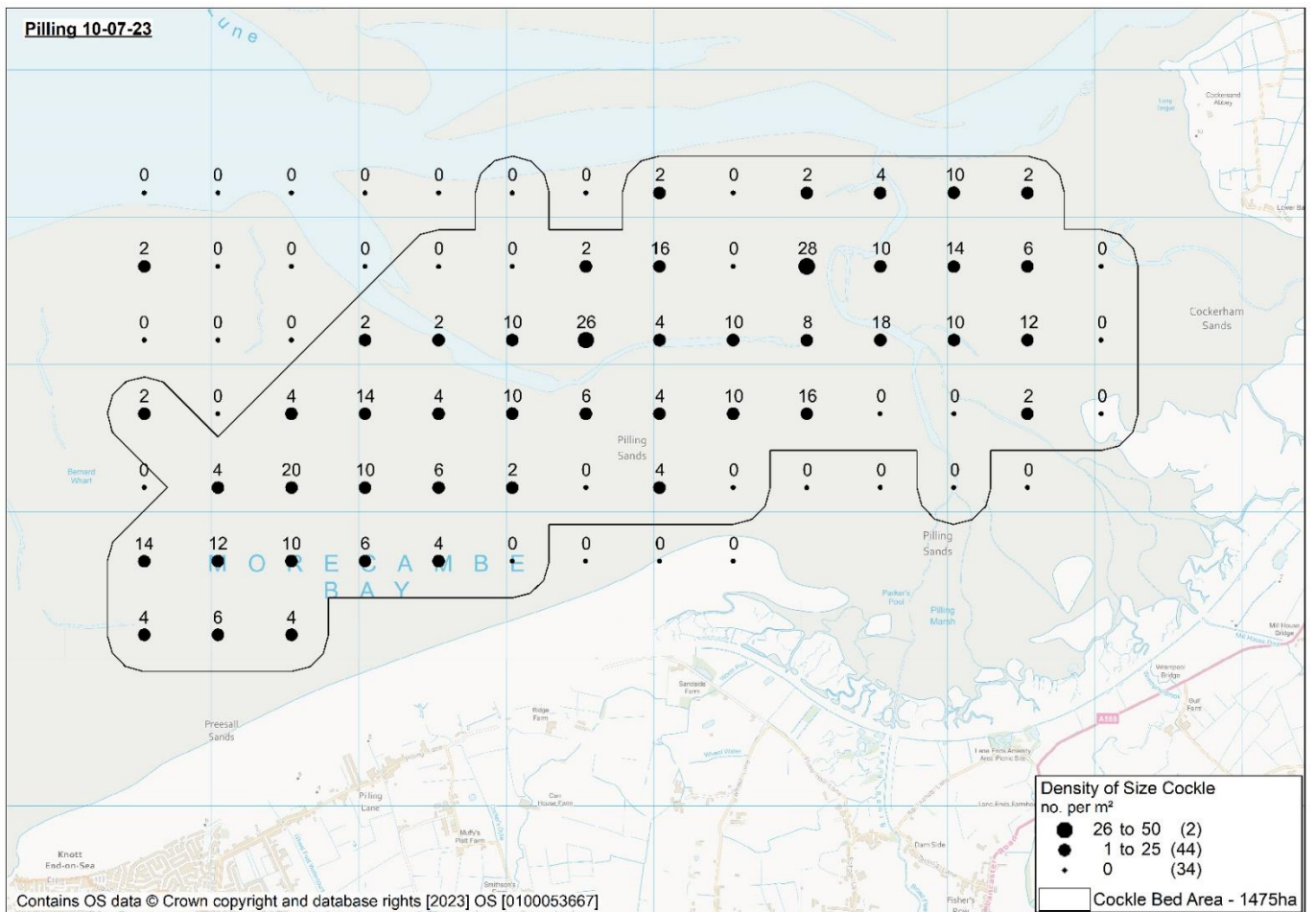


Figure 1. Illustration of position of Pilling Sands Survey Area





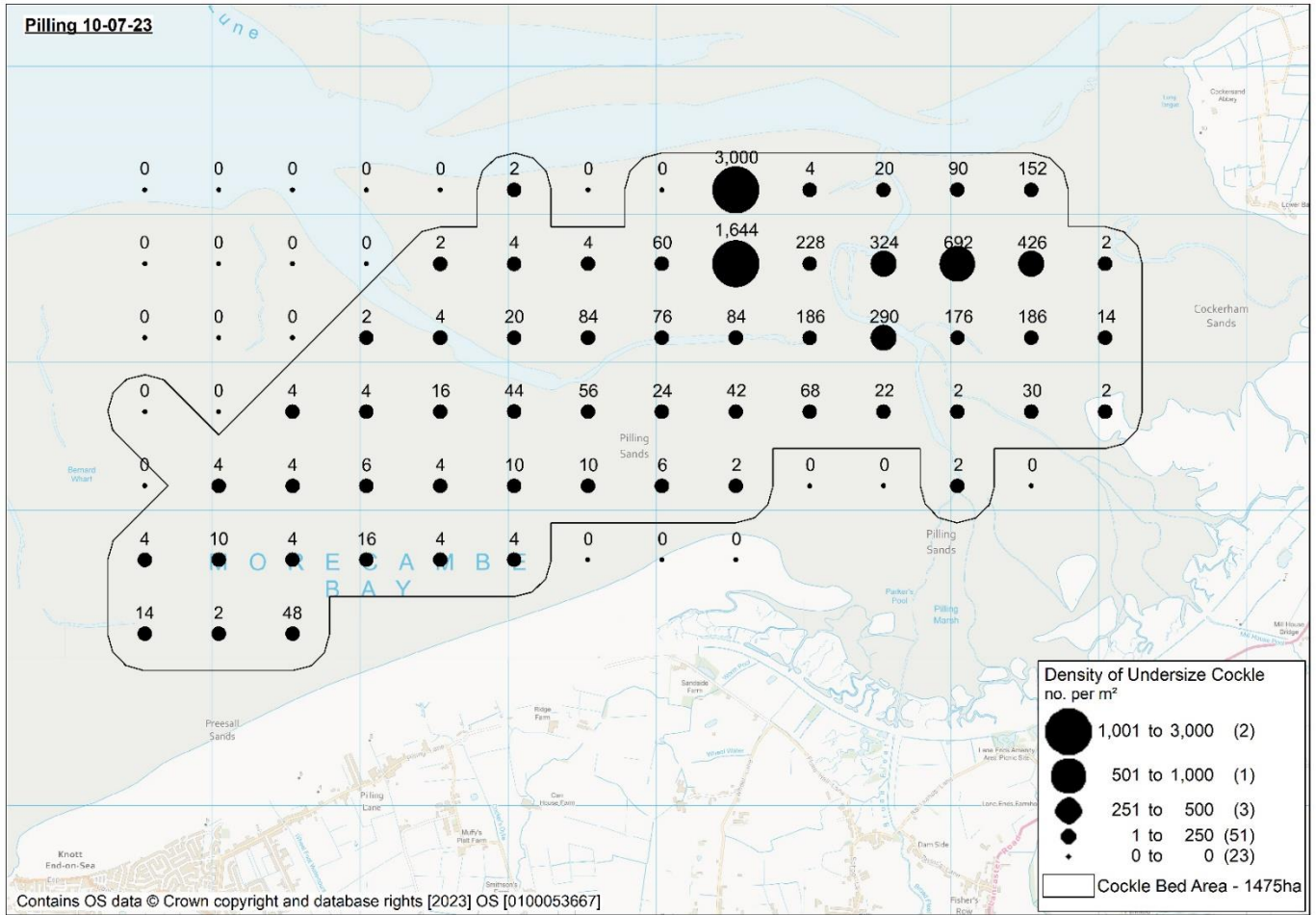


Figure 3. Density of undersize cockle per m² at Pilling Sands July 2023

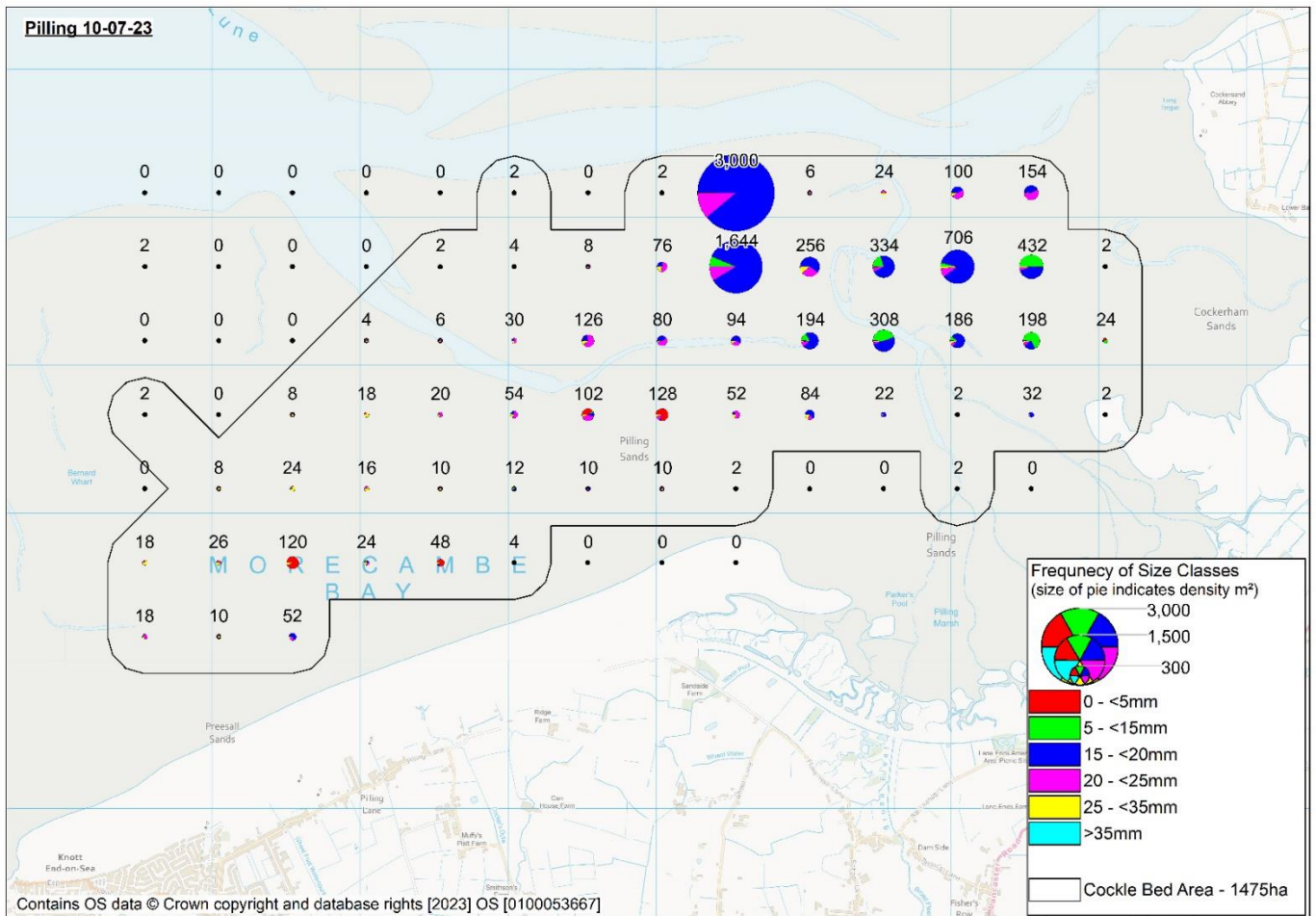


Figure 5. Frequency of size classes of cockle per m² at Pilling Sands July 2023

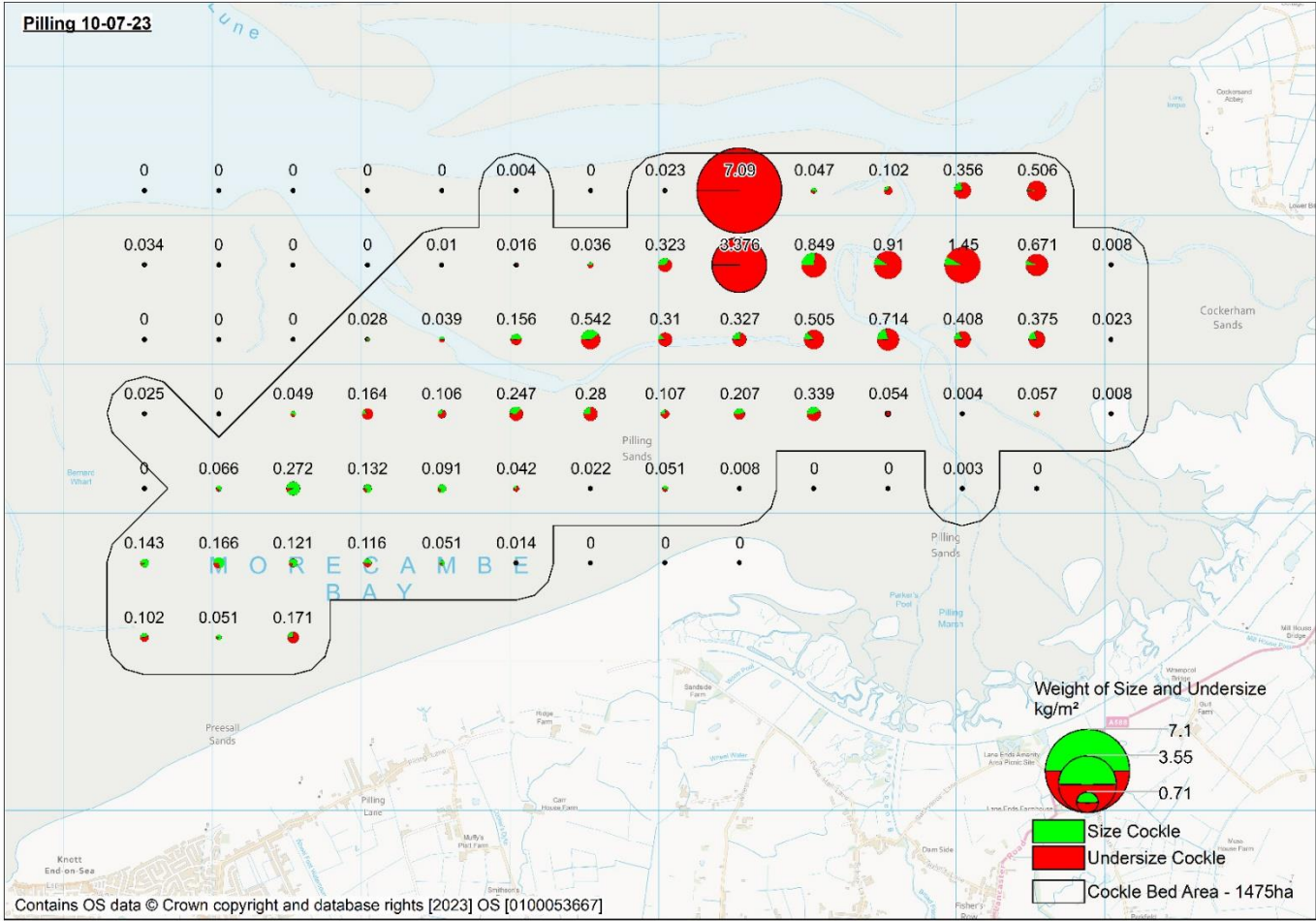


Figure 6. Weight of size and undersize cockle kg/m<sup>2</sup> at Pilling Sands July 2023.