Flookburgh Cockle Survey 4th & 5th July 2023

Officers present: ID, AG, JH, MC
Tides: 04-07-23 LW 19:23 1.5m (Liverpool Tides)
05-07-23 LW 20:11 1.4m (Liverpool Tides)

Survey method - Jumbo and 0.5m^2 quadrat

135 stations were sampled from a 500m grid, with an additional 14 stations extending the grid to ensure full coverage of the bed. The majority of the cockle is between 15-20mm in length from a 2022 cockle settlement. Size cockle is relatively low in density with only one station having higher density at 66 m². 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	4 per m²	(min 0, max 66)
Mean number of undersize cockle	68 per m²	(min 0, max 590)
Mean number of 0-5mm cockle	14 per m²	(min 0, max 200)
Mean weight of size cockle kg/m²	0.030 kg/m²	(min 0, max 0.171)
Mean number of undersize cockle kg/m²	0.152 kg/m²	(min 0, max 1.072)

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 density of the 0-5mm size class, 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

	Area (ha)	Size Cockle (tonnes)[1]	Undersize Cockle (tonnes)[2]
Flookburgh	**2815**	**825**	**4250**

[1]In regards to biomass size cockle defined as cockle which will not pass through a square gauge 20 x 20mm in size.
[2]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.

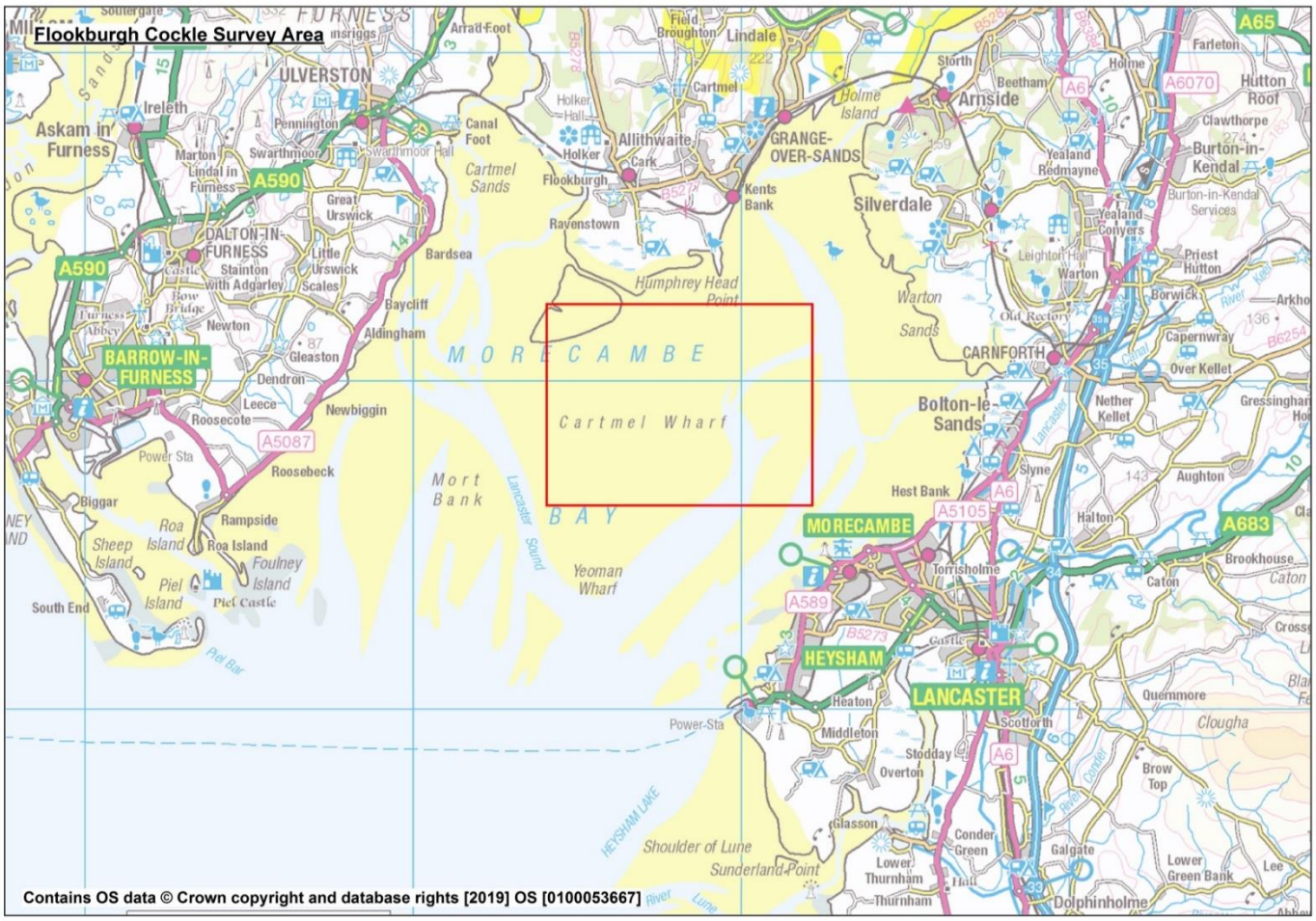

Figure 1. Illustration of position of Flookburgh Survey Area

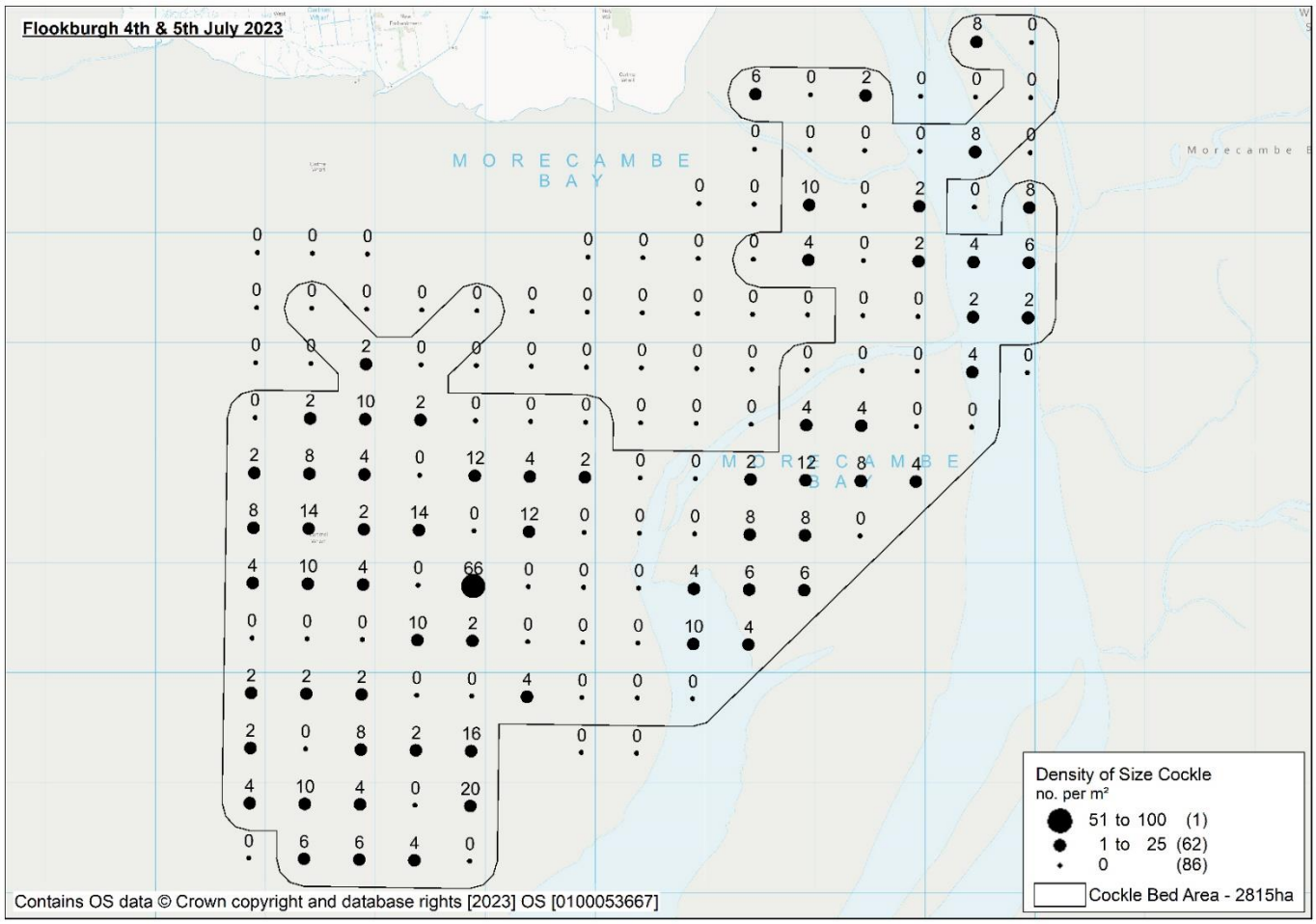

Figure 2. Density of size cockle per m² Flookburgh July 2023.

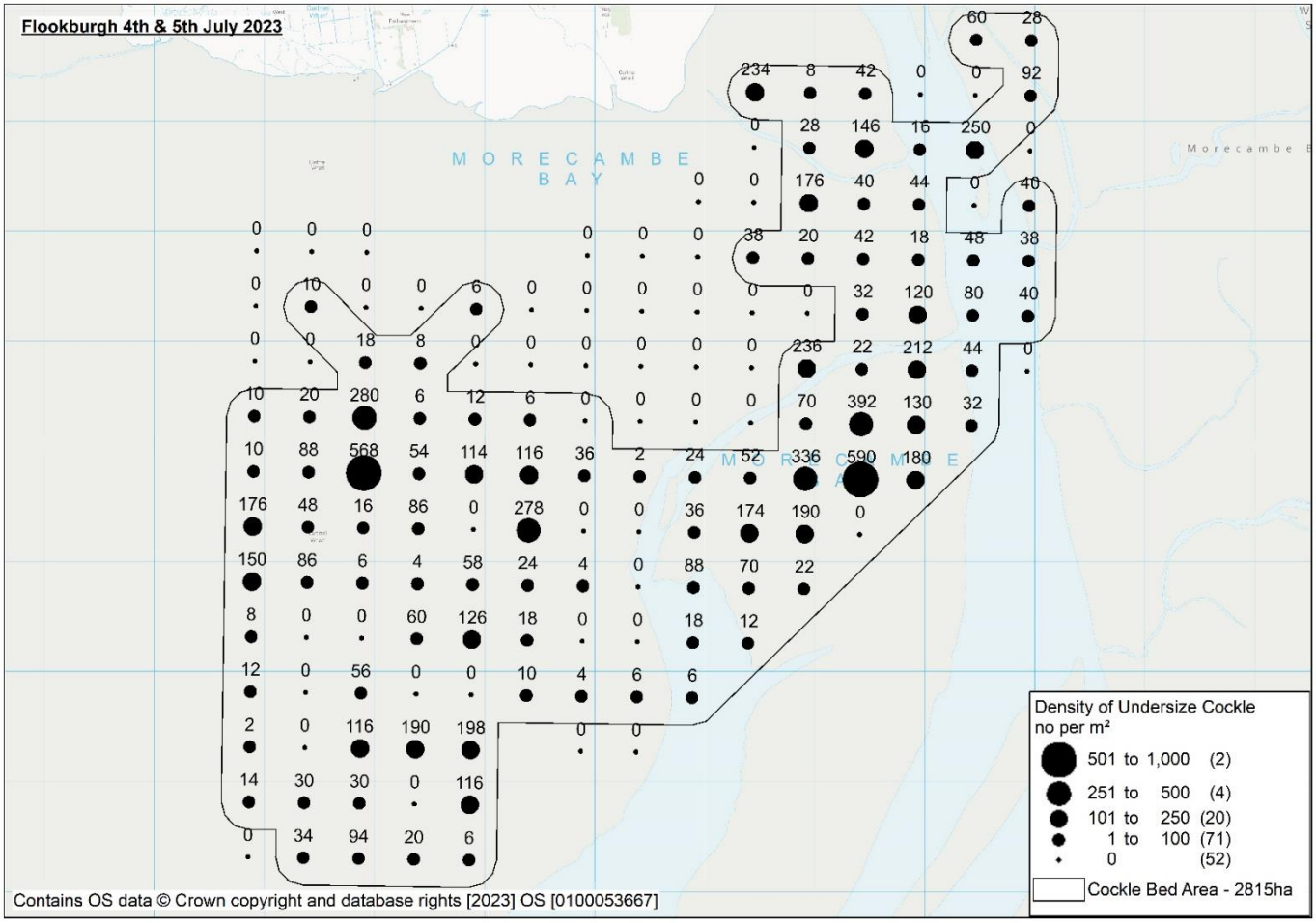

Figure 3. Density of undersize cockle per m² Flookburgh July 2023.

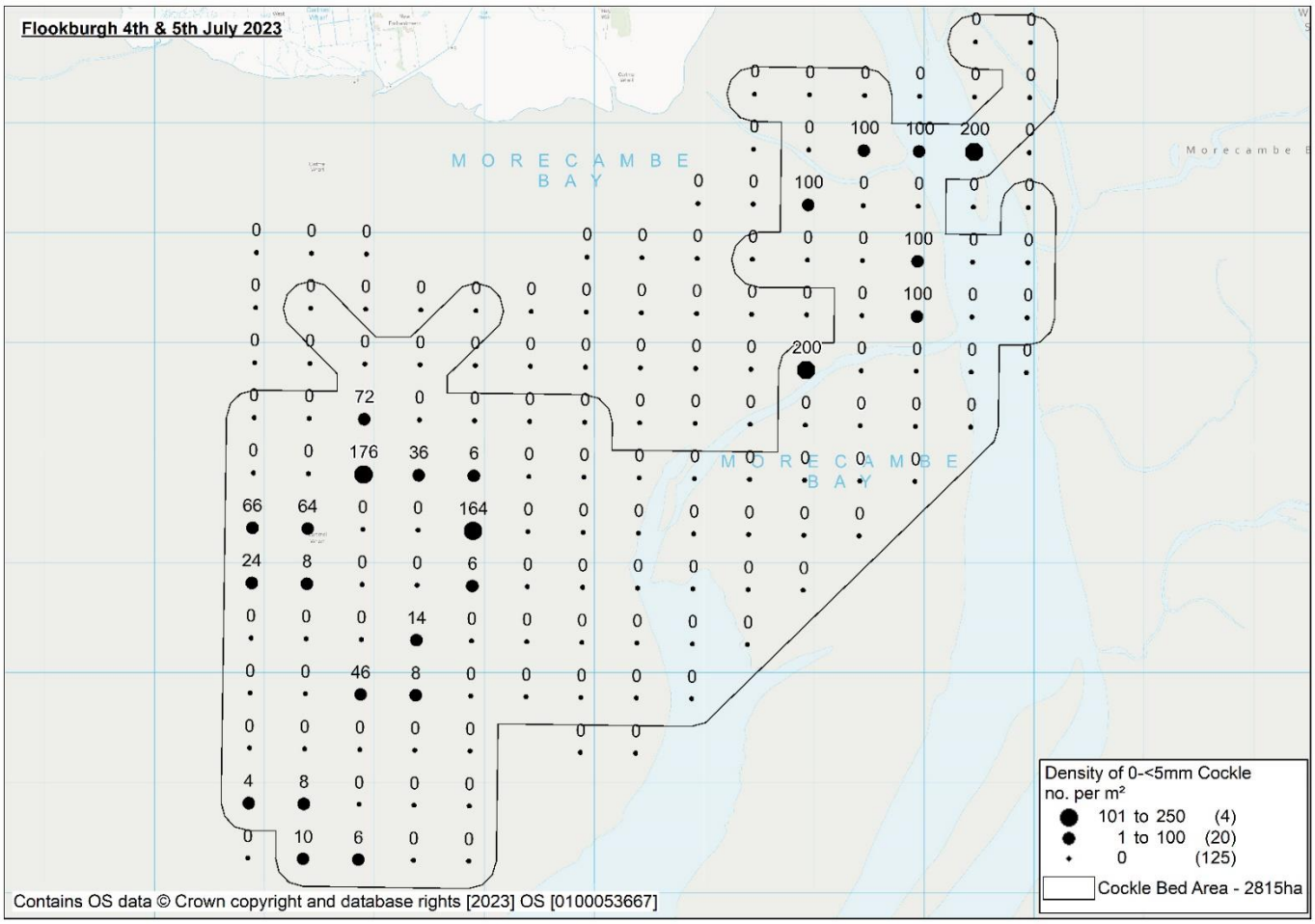

Figure 4. Density of 0-5mm cockle per m² Flookburgh July 2023.

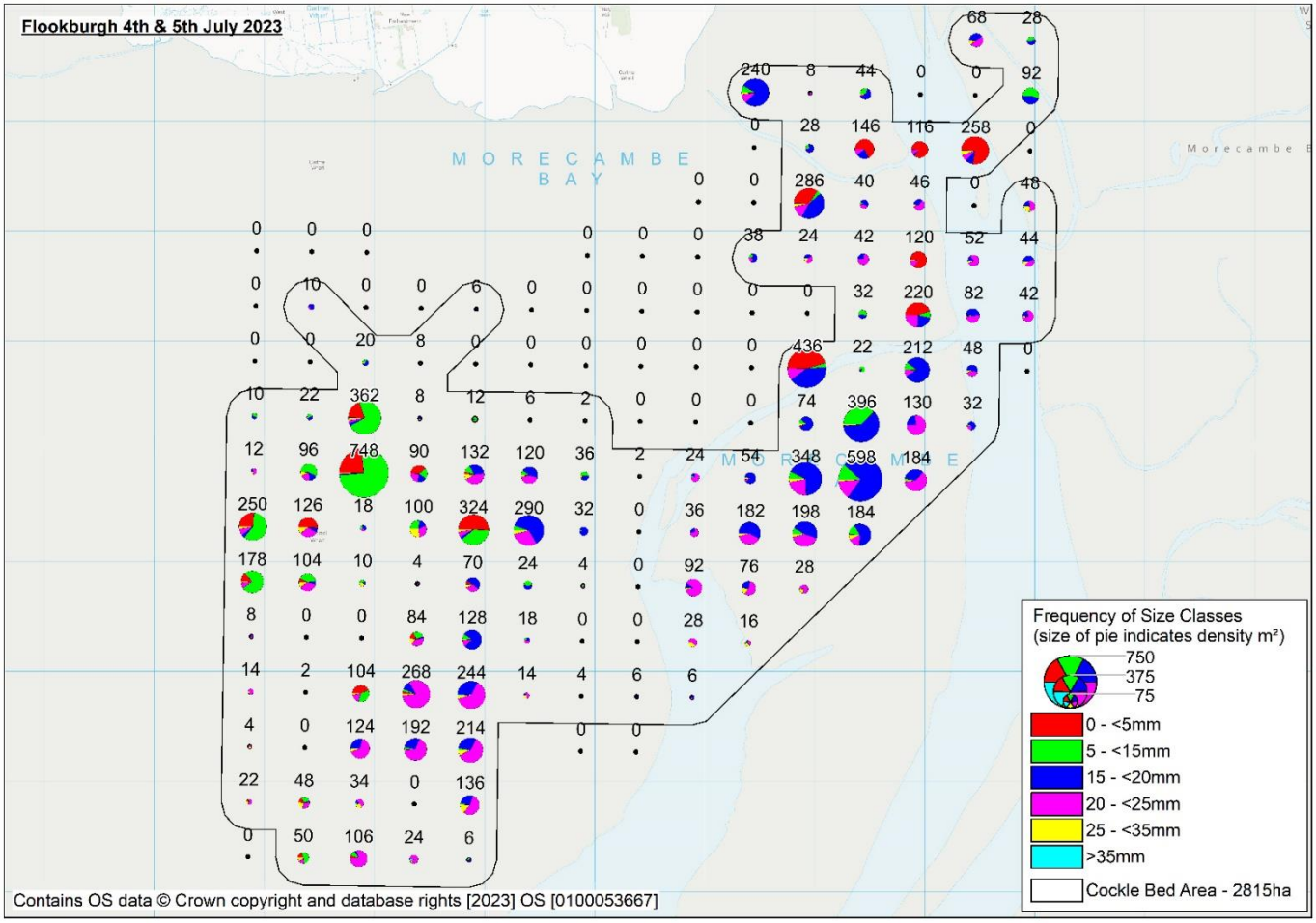

Figure 5. Frequency of size classes of cockle per m² Flookburgh July 2023.

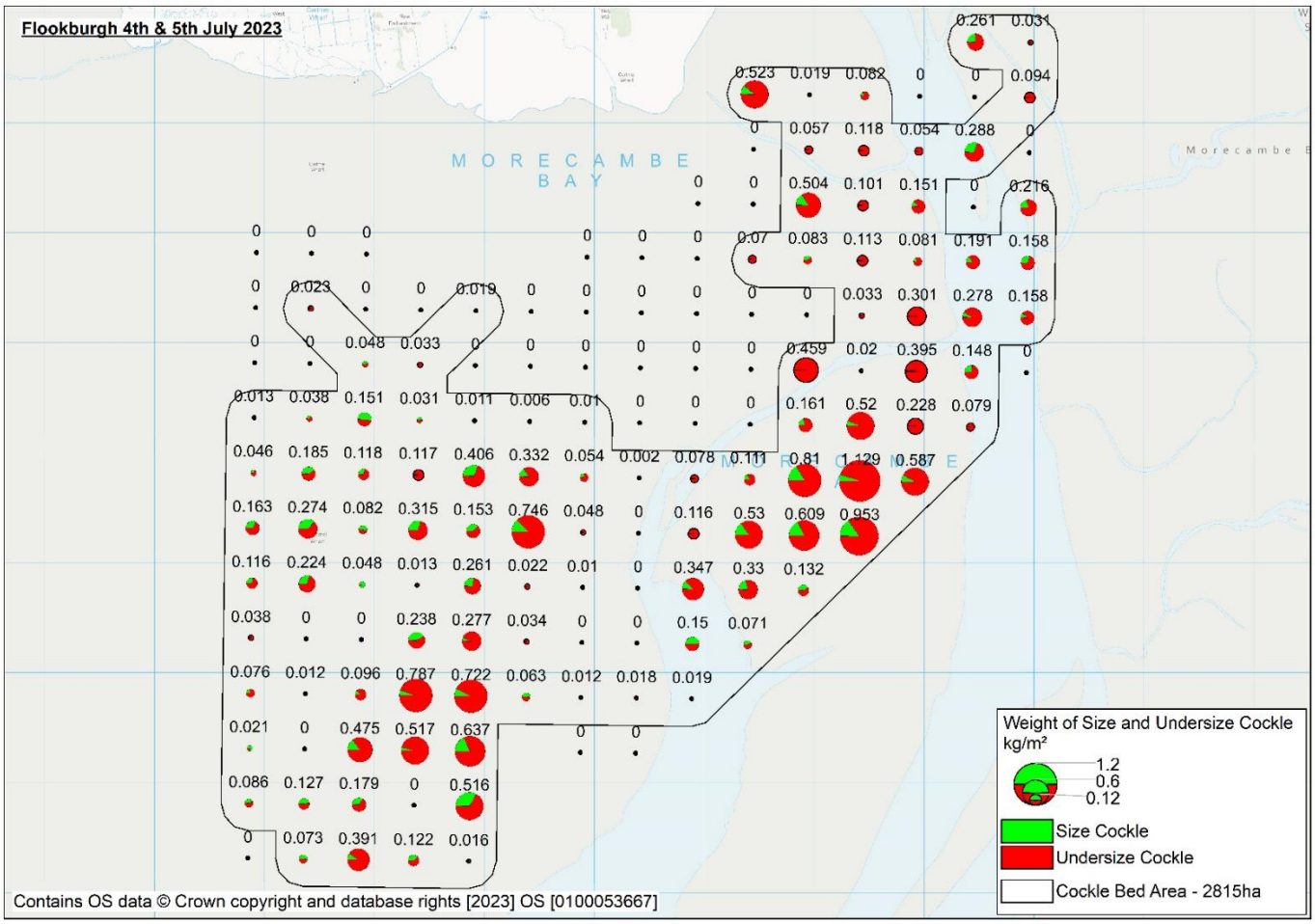

Figure 6. Weight of size and undersize cockle kg/m² at Flookburgh July 2023.