

Data from Cornwall IFCA's shellfish permit returns has been analysed and presented as 'landings per unit effort' (LPUE). This has been calculated by dividing the weight of shellfish removed from the fishery by the total length of nets hauled, or number of pot hauls, used. Therefore **LPUE in the net fishery is the average weight of retained edible crabs from every 100m of nets hauled (100m_Nh) in a defined area and time**, and **LPUE in the pot fishery is the average weight of retained edible crabs from every 100 pot hauls (100Ph), in a defined area and time**. Data is collected for male and female edible crabs, however in this summary data has been combined. The method is outlined in 'Data Handling Method, Summary Statistics 2016-2018'.

Summary

In the Cornwall IFCA District edible crab (*Cancer pagurus*) is mainly targeted in a pot fishery, and retained as a by-catch in bottom set entangling nets. In all three years the total reported weight of crabs removed by the net fishery represented around 2% of the total edible crab reportedly removed from the District (Table 1).

Overall landings per unit effort (LPUE) in both the net fishery and pot fishery declined from 2016 to 2018 (Table 1). In all three analysis areas LPUE in the pot fishery was generally higher offshore (Fig.6, 8 and 10). In the net fishery there was more variation between the inshore and offshore, and in seasonality (Fig. 14 to 19).

North Coast; both inshore and offshore potting LPUE decreased in 2018 (Fig. 5 and 6) when quarterly LPUE was also consistently lower than the previous two years (Fig. 7). In the net fishery in 2018 LPUE was lower at the start and end of the year than in previous years (Fig.15), with fluctuations in LPUE both inshore and offshore (Fig.14).

West Coast; offshore had the highest LPUE in the pot fishery (Fig. 4 and 8) and the lowest LPUE in the net fishery across the reporting period (Fig.16). Inshore netting LPUE increased from 2016 to 2018 (Fig.16) with LPUE higher in every quarter in 2018 than in previous years (Fig. 17).

South Coast; potting LPUE in quarter two was lower in 2018 than in previous years (Fig. 11), with both inshore and offshore LPUE in the potting and netting fisheries declining slightly from 2017 to 2018 (Fig.10 and 18).

Annual Data

Table 1: Total kg of edible crabs (*Cancer pagurus*) reportedly removed from the Cornwall IFCA District in 2016 to 2018 from both the pot and net fisheries, total gear hauled, and resultant calculated LPUE (kg/100Ph, or kg/100m_Nh).

		2016	2017	2018
Pots	Total Gear Hauled	1,984,868	2,012,495	2,048,872
	Total Landed (kg)	1,504,793	1,642,165	1,424,739
	LPUE (kg/100Ph)	75.81	81.60	69.54
Nets	Total Gear Hauled (m)	7,308,578	6,684,300	8,359,890
	Total Landed (kg)	40,114	31,438	34,564
	LPUE (kg/100m_Nh)	0.55	0.47	0.41

Difference in LPUE since 2016 baseline

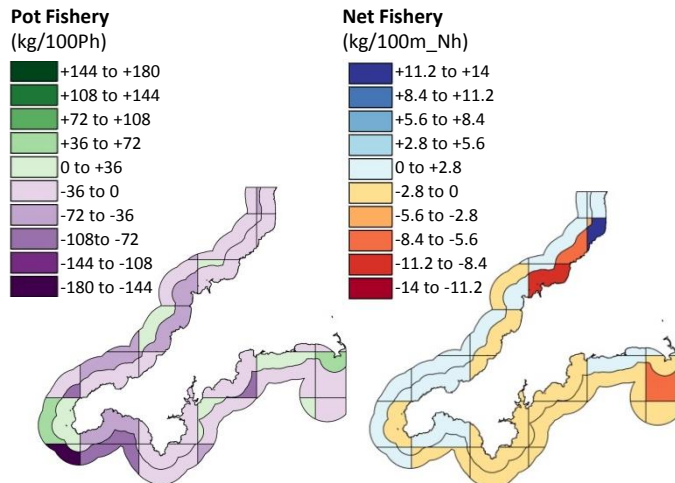
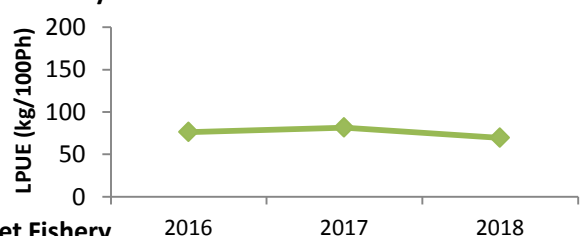


Figure 1: The difference in edible crab (*Cancer pagurus*) annual LPUE (kg/100Ph and kg/100m_Nh) in the pot and net fisheries, in belted statistical areas between 2016 and 2018. Thematically mapped in 36kg/100Ph ranges (pot fishery), and 2.8kg/100m_Nh ranges (net fishery) where positive values indicate an increase in LPUE and negative values a decrease.

Pot Fishery



Net Fishery

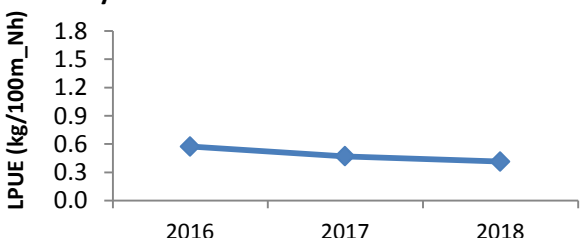


Figure 2: Annual LPUE in the pot fishery (kg/100Ph, top) and annual LPUE in the net fishery (kg/100m_Nh, bottom) of edible crab (*Cancer pagurus*) in the Cornwall IFCA District in 2016 to 2018

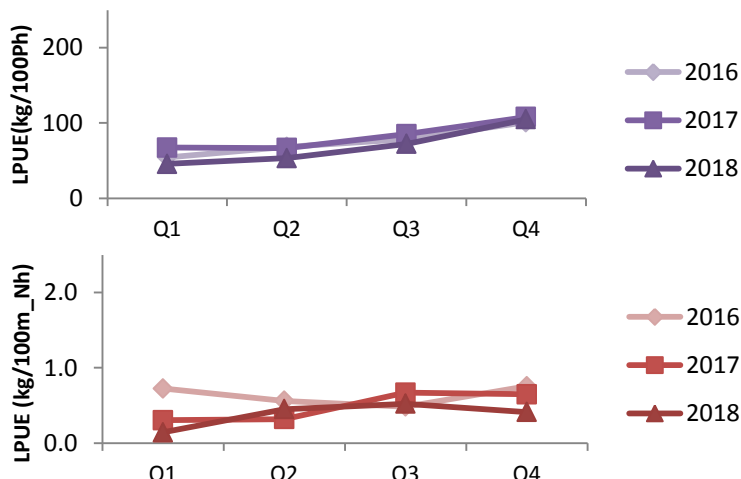
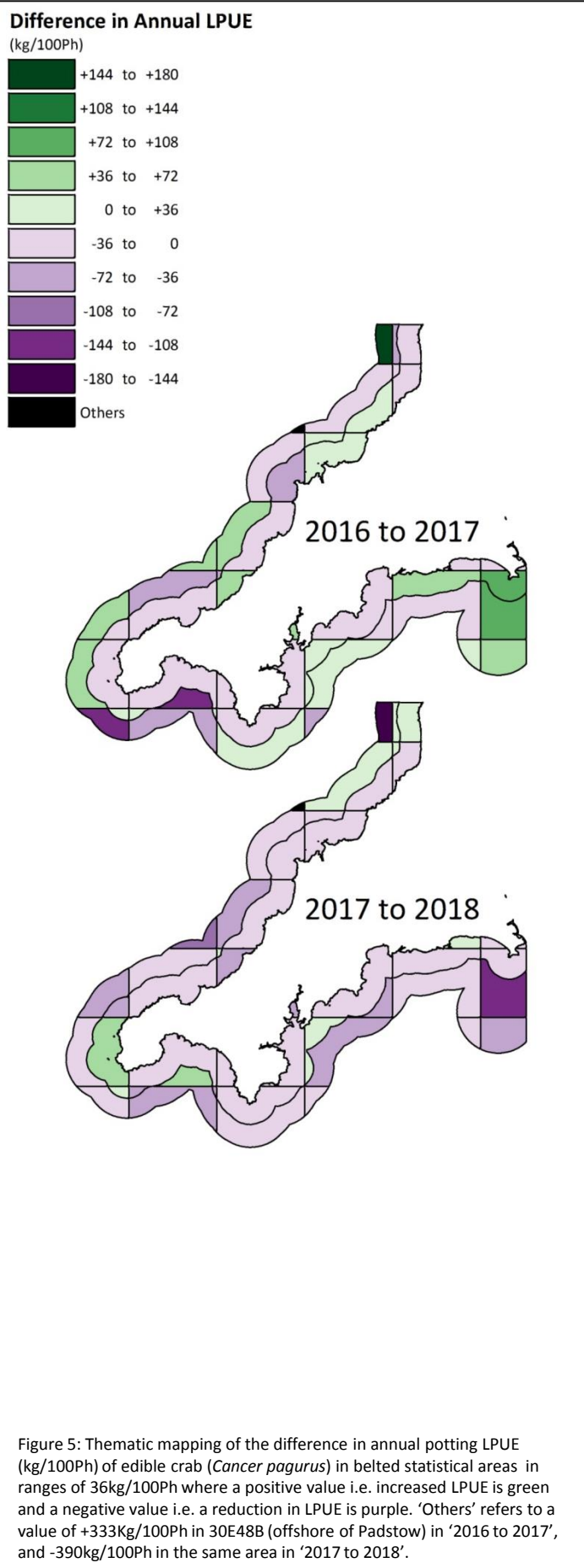
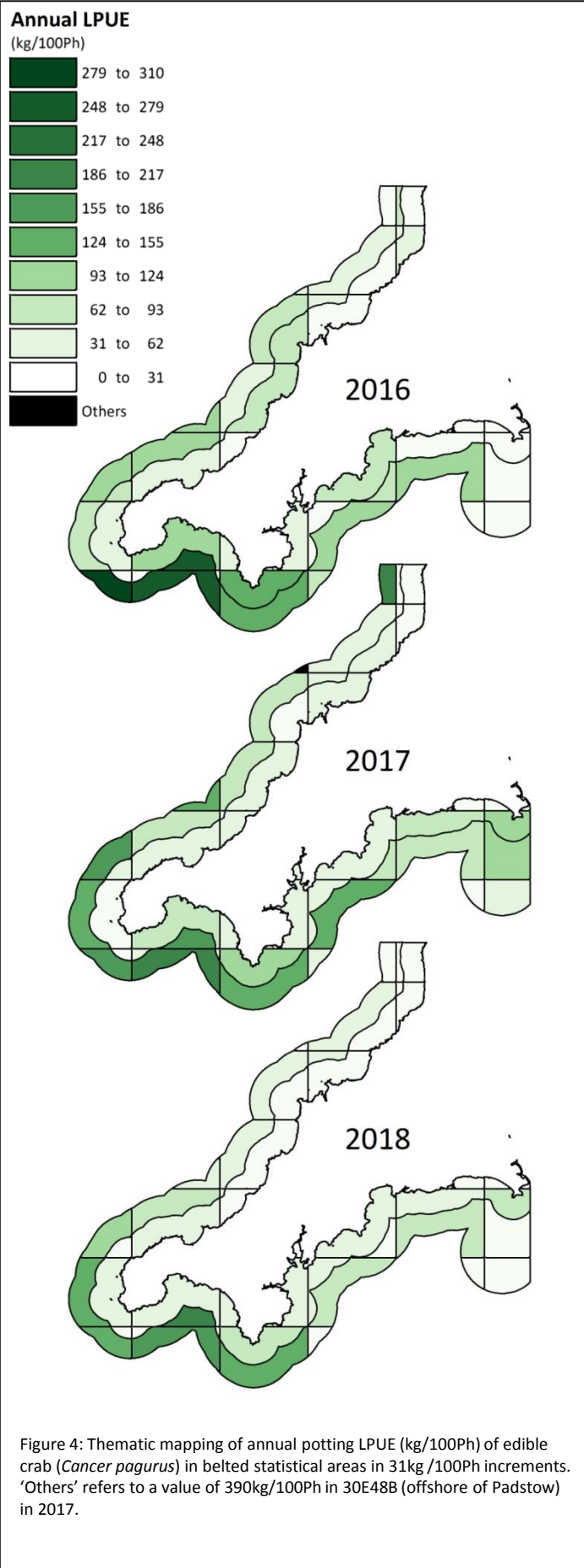
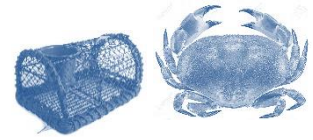
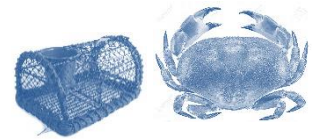


Figure 3: LPUE by calendar year quarter* in the pot fishery (kg/100Ph, top) and the net fishery (kg/100m_Nh, bottom) of edible crab (*Cancer pagurus*) in the Cornwall IFCA District in 2016 to 2018

* Calendar year quarters split as Q1(January to March), Q2 (April to June), Q3 (July to September) and Q4 (October to December)





North Coast

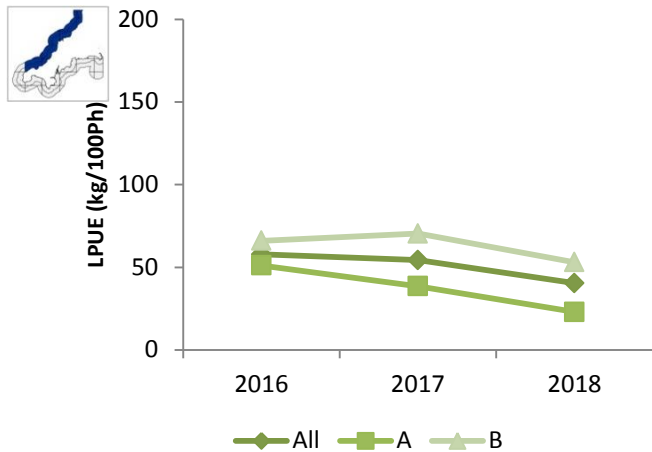


Figure 6: Annual LPUE (kg/100Ph) of edible crab (*Cancer pagurus*) on the 'North Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

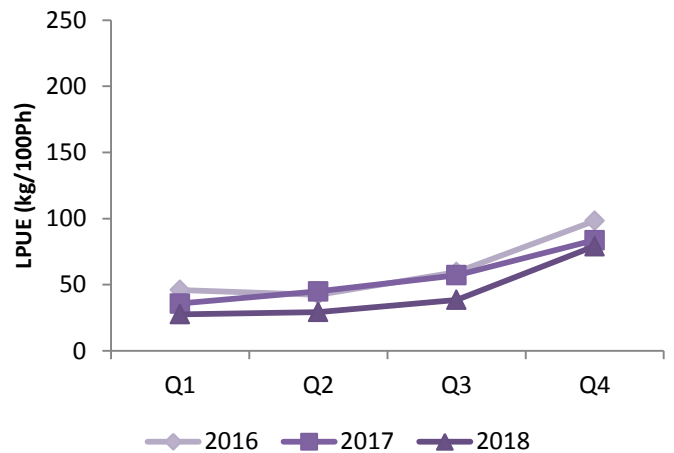


Figure 7: LPUE (kg/100Ph) by calendar year quarter*of edible crab (*Cancer pagurus*) on the 'North Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

West Coast

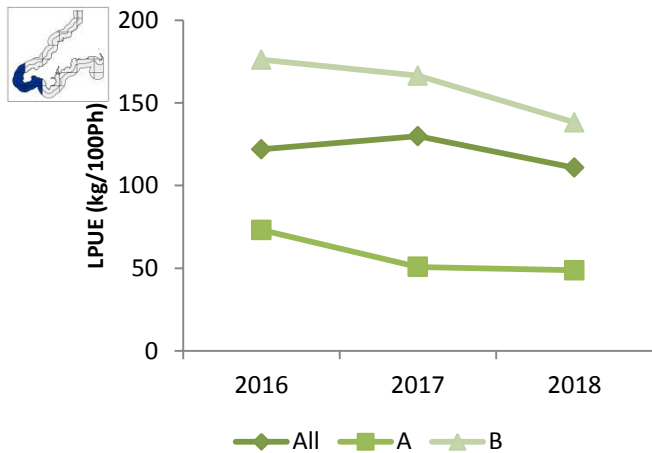


Figure 8: Annual LPUE (kg/100Ph) of edible crab (*Cancer pagurus*) on the 'West Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

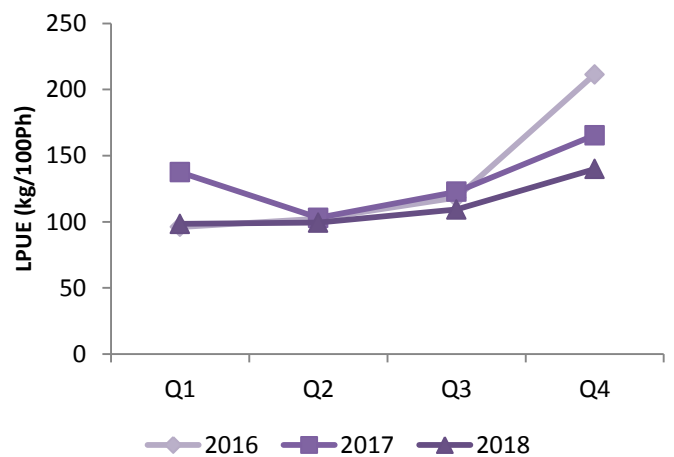


Figure 9: LPUE (kg/100Ph) by calendar year quarter*of edible crab (*Cancer pagurus*) on the 'West Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

South Coast

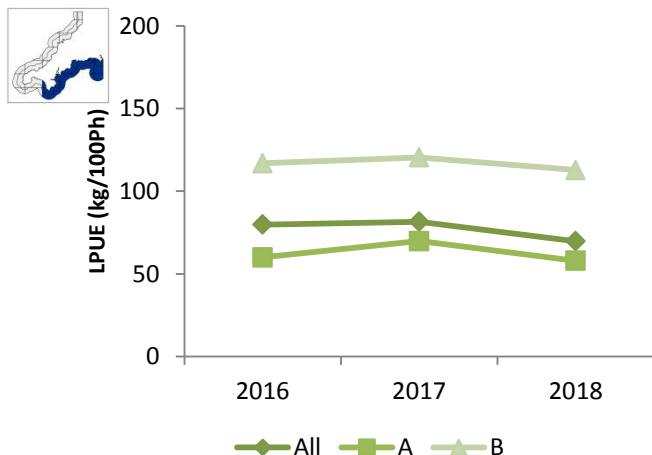


Figure 10: Annual LPUE (kg/100Ph) of edible crab (*Cancer pagurus*) on the 'South Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

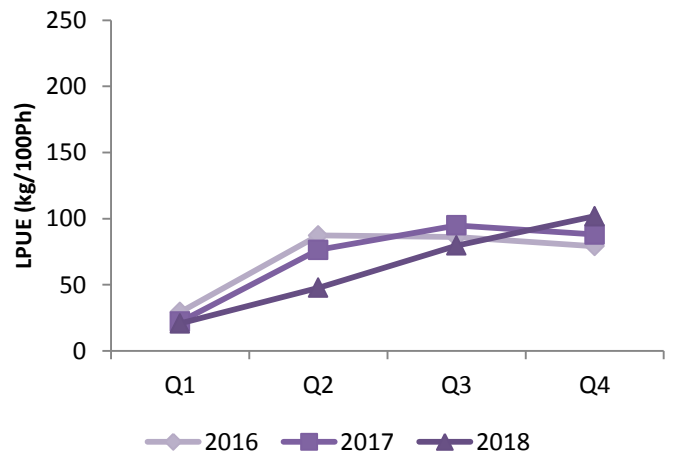
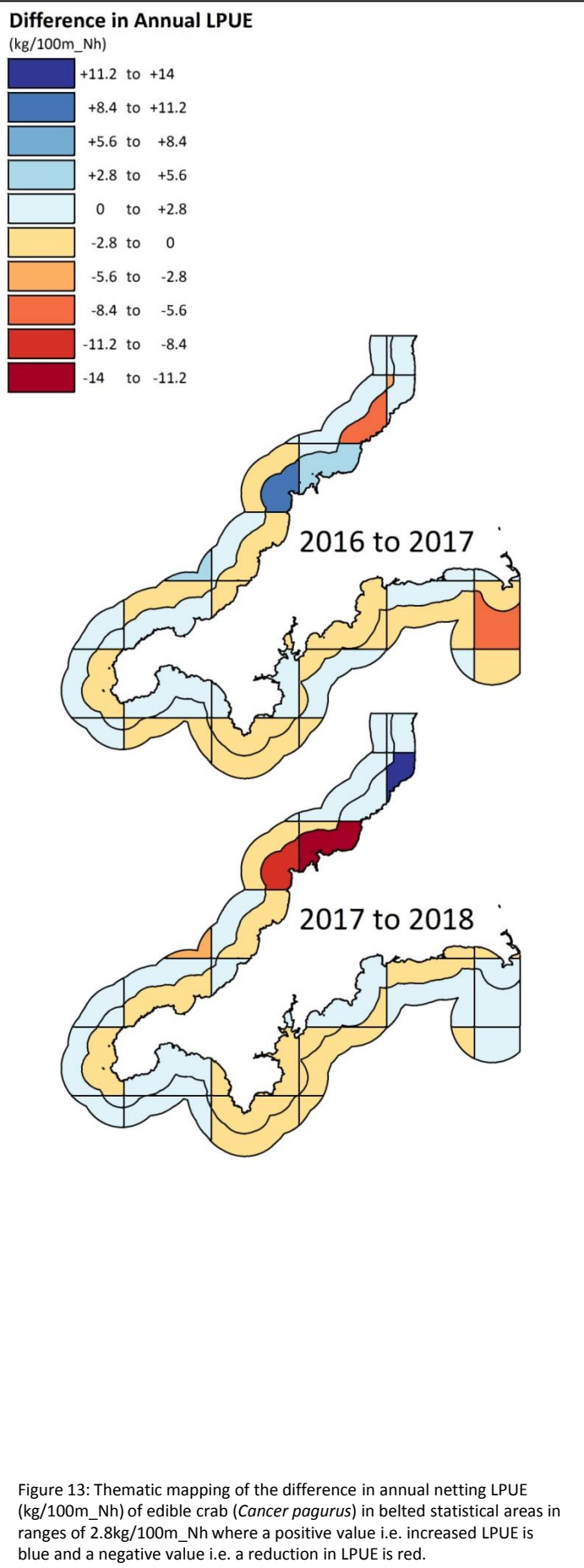
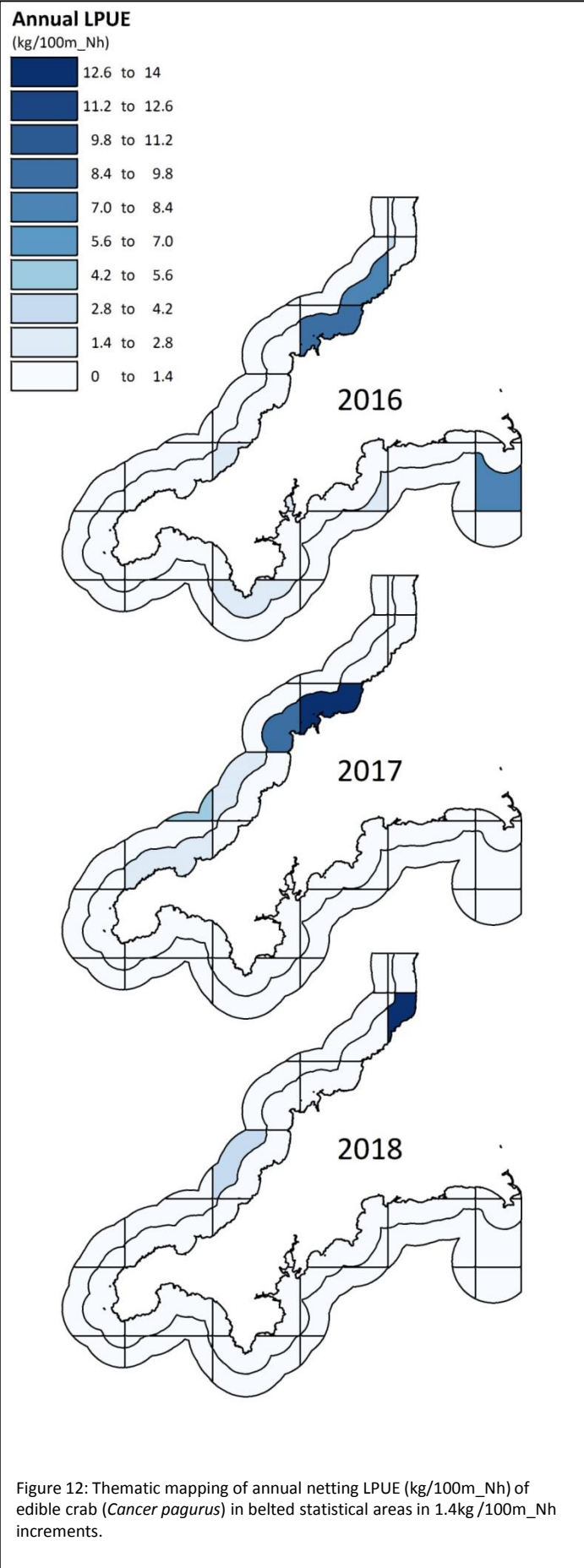
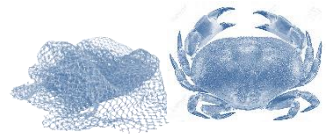


Figure 11: LPUE (kg/100Ph) by calendar year quarter*of edible crab (*Cancer pagurus*) on the 'South Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

* Calendar year quarters split as Q1(January to March), Q2 (April to June), Q3 (July to September) and Q4 (October to December)





North Coast

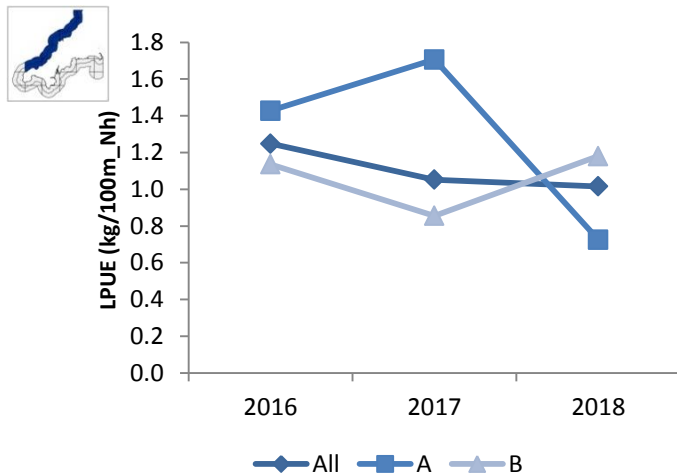


Figure 14: Annual LPUE (kg/100m_Nh) of edible crab (*Cancer pagurus*) on the 'North Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

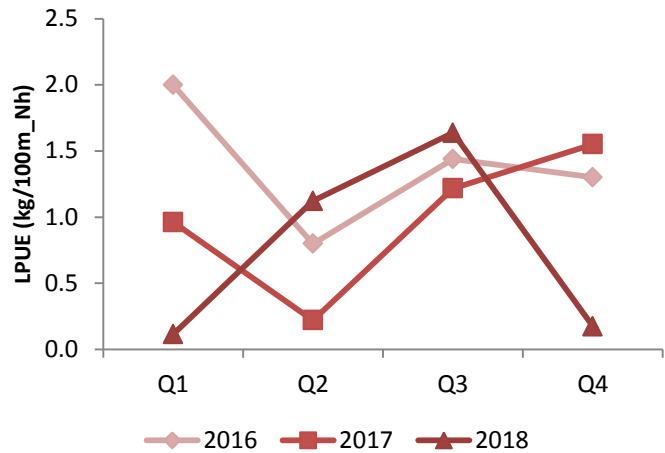


Figure 15: LPUE (kg/100m_Nh) by calendar year quarter*of edible crab (*Cancer pagurus*) on the 'North Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

West Coast

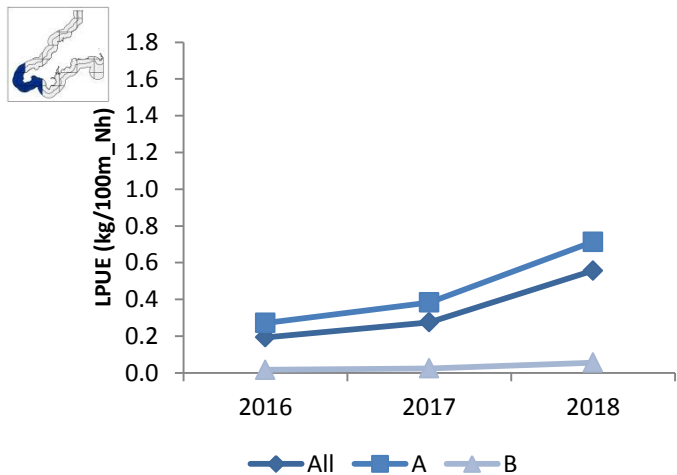


Figure 16: Annual LPUE (kg/100m_Nh) of edible crab (*Cancer pagurus*) on the 'West Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

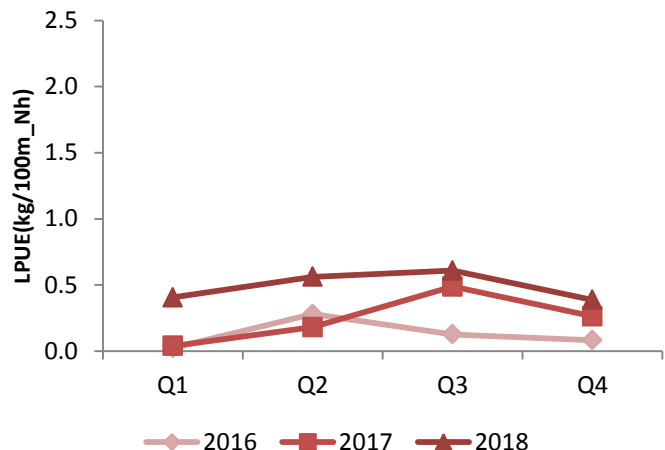


Figure 17: LPUE (kg/100m_Nh) by calendar year quarter*of edible crab (*Cancer pagurus*) on the 'West Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

South Coast

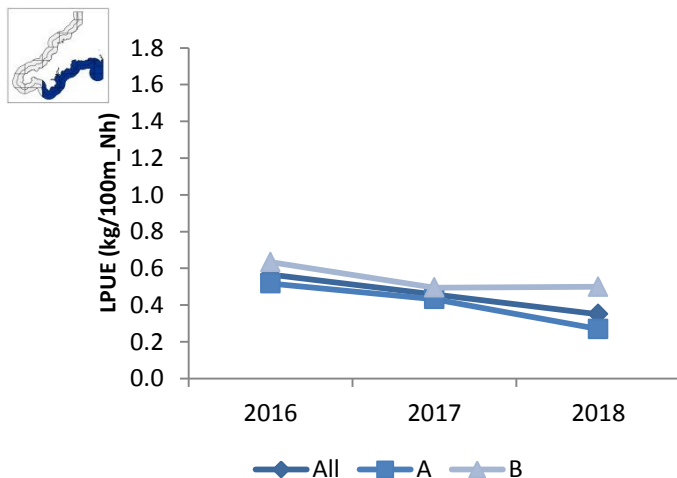


Figure 18: Annual LPUE (kg/100m_Nh) of edible crab (*Cancer pagurus*) on the 'South Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

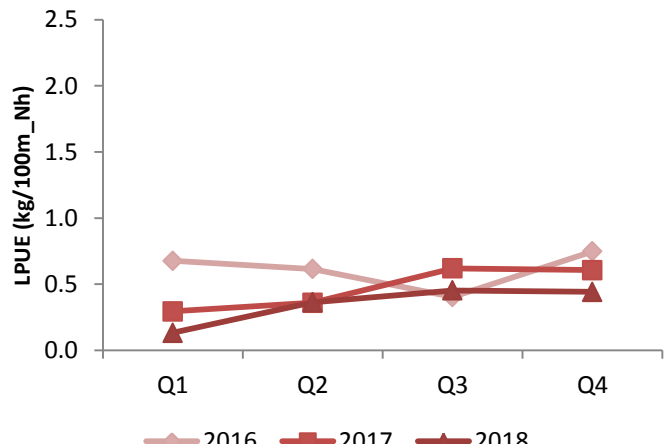


Figure 19: LPUE (kg/100m_Nh) by calendar year quarter*of edible crab (*Cancer pagurus*) on the 'South Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

* Calendar year quarters split as Q1(January to March), Q2 (April to June), Q3 (July to September) and Q4 (October to December)

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