

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 total weight of shellfish removed from the fishery by the total number of pot hauls in an area and time period; for example in the entire District for a whole year. Therefore **LPUE is the average weight of retained lobsters from every 100 pot hauls (100Ph) in a defined area and time.** The method is outlined in ‘Data Handling Method, Summary Statistics 2016-2018’.

Summary

Overall the landings per unit effort (LPUE) of lobster showed little variation from 2016 to 2018 (Table 1 and Fig. 2), with the highest LPUE value, and highest landings achieved in 2017 (Fig. 2 and Table 1). In 2018 catch rates were low at the start of the season (Fig. 3) with lower LPUE in quarters one and two than in the previous two years, possibly due to cooler water temperatures at that time.

North Coast; overall LPUE showed little variation from 2016 to 2018 (Fig. 6), however LPUE increased offshore and decreased inshore. At the beginning of 2018 catch rates were lower than in the previous years (Fig. 7), with more similar LPUE values to previous years in quarters three and four.

West Coast; overall LPUE fell on the west coast from 2016 to 2018 by 38% (Fig. 8). When split by belt, both the inshore and offshore belts LPUE declined from 2016 to 2018. LPUE was consistently lower in 2018 in every quarter than the previous years (Fig. 9), the greatest difference was in quarter two where LPUE in 2018 was 44% lower than in 2017.

South Coast; LPUE of lobster on the south coast was the lowest of the three analysis regions (Fig. 6, 8 and 10). There was little variation across the reporting period and between inshore and offshore belts. Unusually, compared to the north and west coast, LPUE in 2018 was not lower in quarter two than the previous two years (Fig. 11) but consistently higher across the year.

Annual Data

Table 1: Total kg of lobsters (*Homarus gammarus*) reportedly removed from the Cornwall IFCA District in 2016 to 2018, total gear hauled, and resultant calculated LPUE (kg/100Ph)

	2016	2017	2018
Total Gear Hauled	1,984,868	2,012,495	2,048,872
Total Landed (kg)	148,445	162,396	150,231
LPUE (kg/100Ph)	7.48	8.07	7.33

Difference in LPUE since 2016 baseline (kg/100Ph)

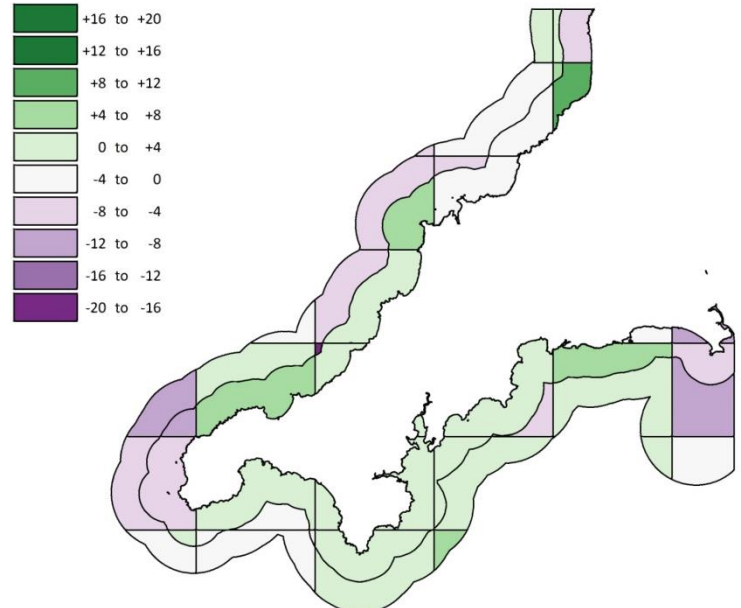


Figure 1: The difference in lobster (*Homarus gammarus*) LPUE (kg/100Ph) in belted statistical areas between 2016 and 2018 thematically mapped in 4kg/100Ph ranges where positive values i.e. increases in LPUE are green and negative values i.e. decreases in LPUE are purple.

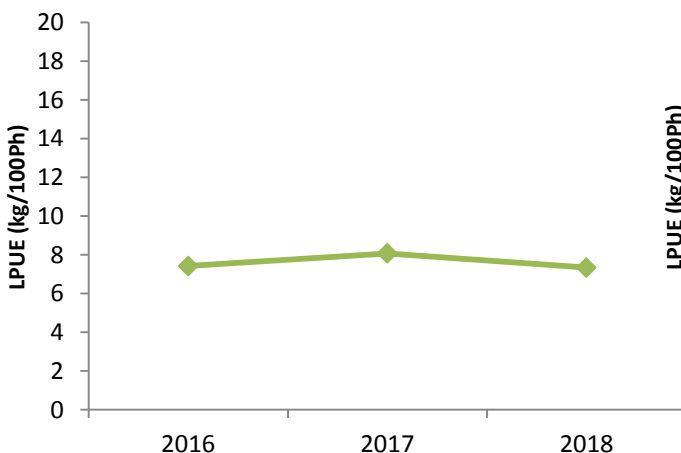


Figure 2: Annual LPUE (kg/100Ph) of lobster (*Homarus gammarus*) in the Cornwall IFCA District in 2016 to 2018

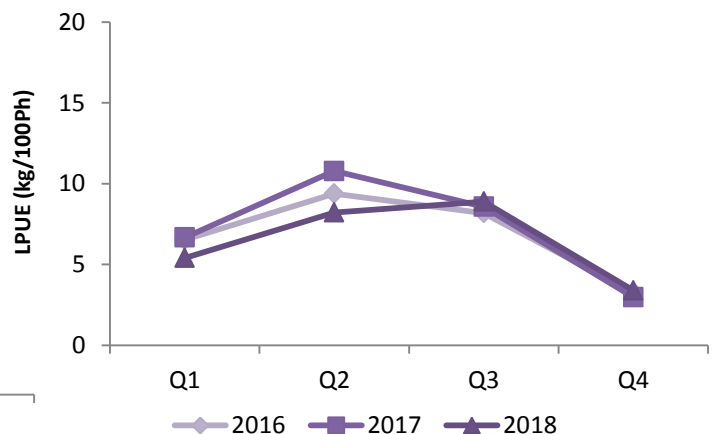
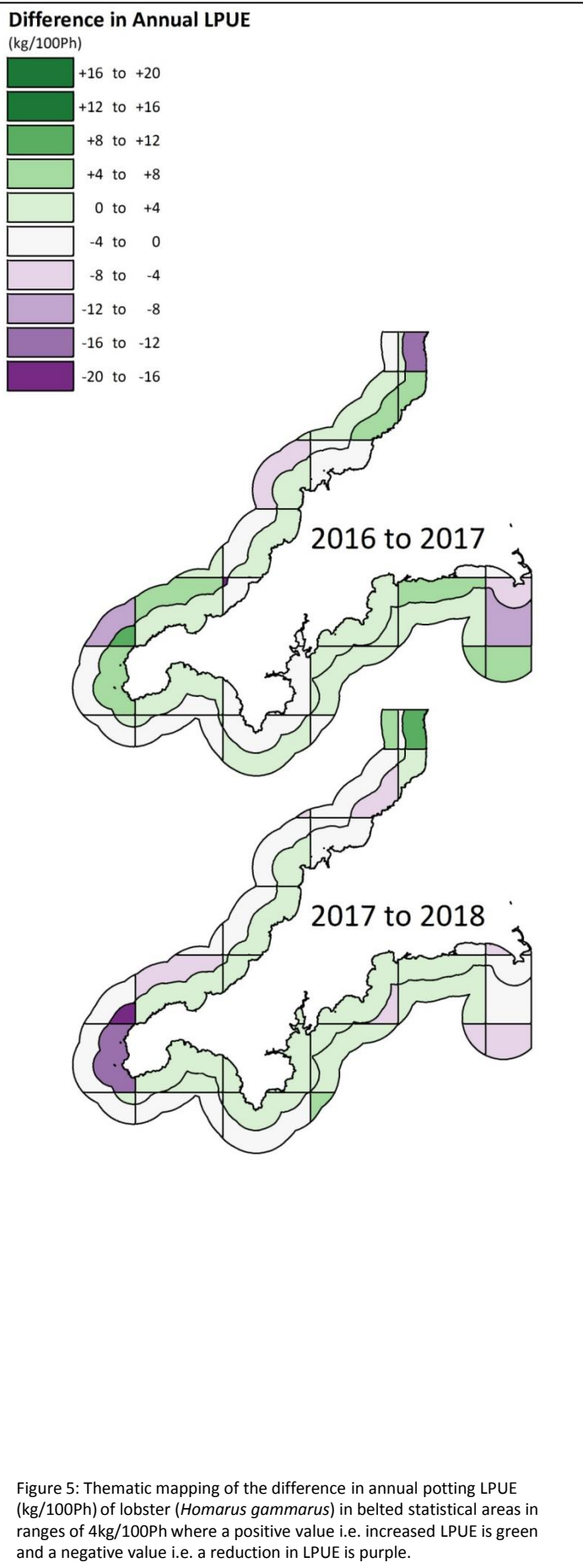
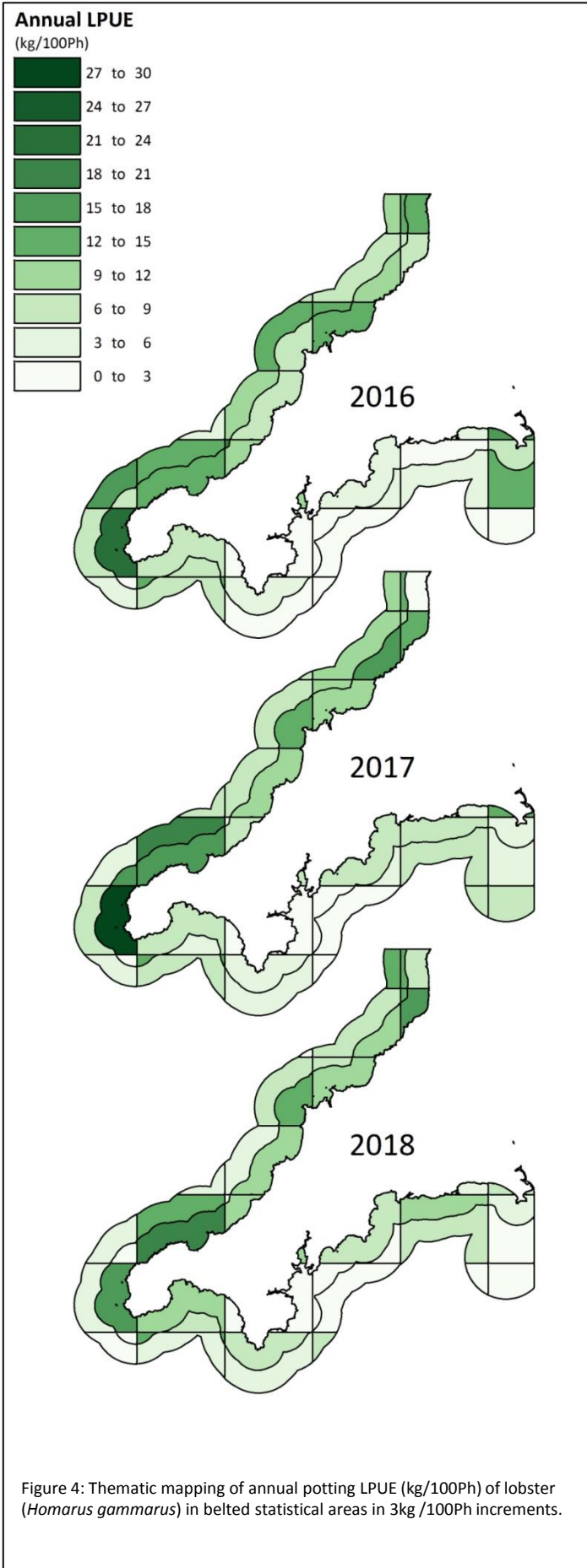
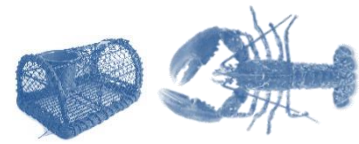
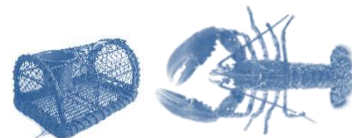


Figure 3: LPUE (kg/100Ph) by calendar year quarter* of lobster (*Homarus gammarus*) in the Cornwall IFCA District in 2016 to 2018.

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





North Coast

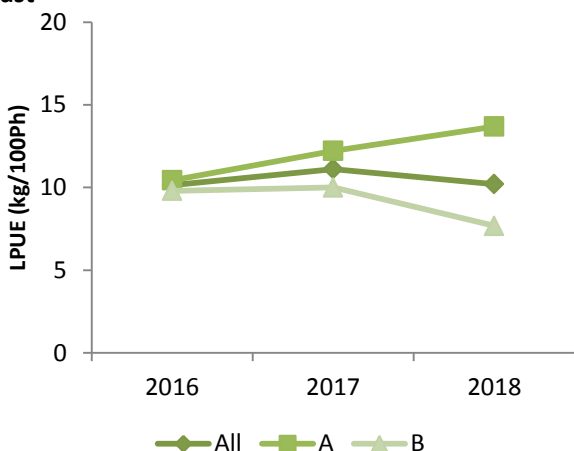
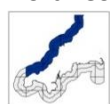


Figure 6: Annual LPUE (kg/100Ph) of lobster (*Homarus gammarus*) on the 'North Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

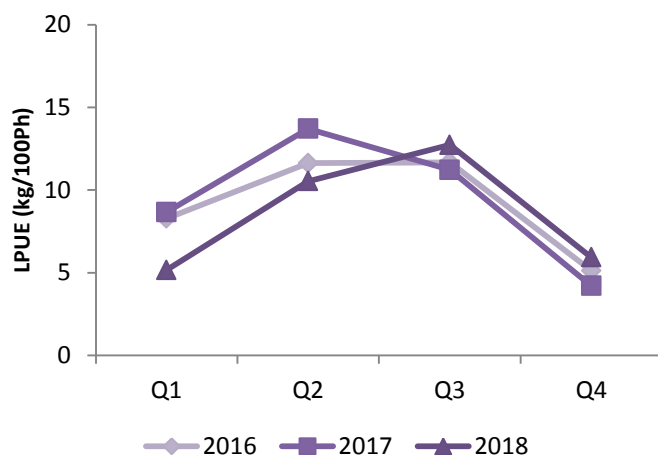


Figure 7: LPUE (kg/100Ph) by calendar year quarter* of lobster (*Homarus gammarus*) on the 'North Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

West Coast

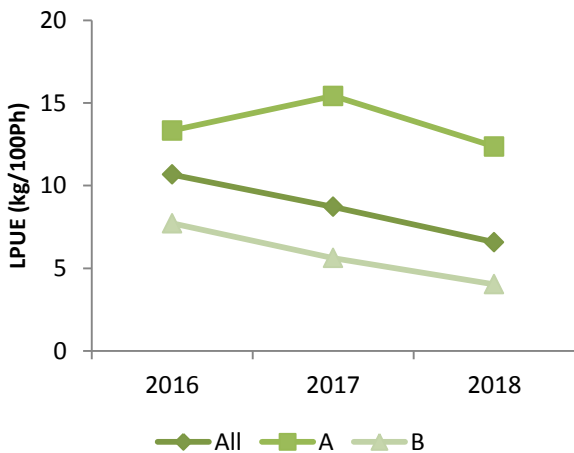
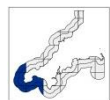


Figure 8: Annual LPUE (kg/100Ph) of lobster (*Homarus gammarus*) on the 'West Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

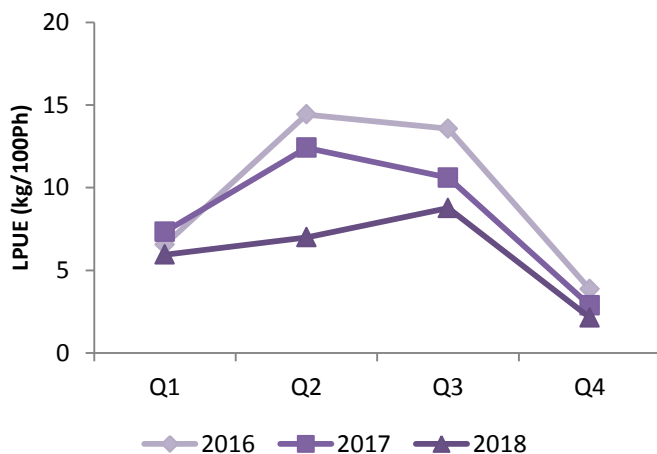


Figure 9: LPUE (kg/100Ph) by calendar year quarter* of lobster (*Homarus gammarus*) on the 'West Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

South Coast

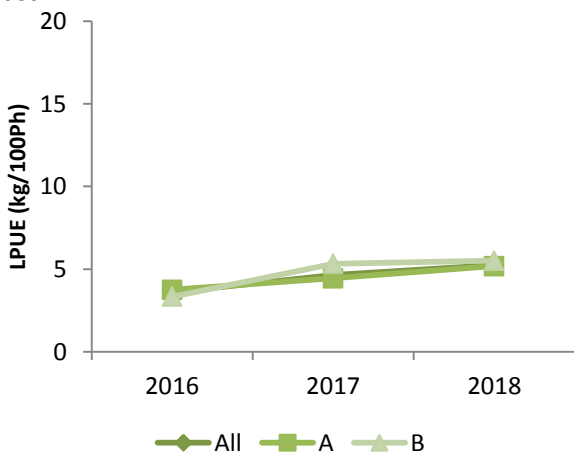
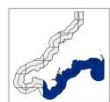


Figure 10: Annual LPUE (kg/100Ph) of lobster (*Homarus gammarus*) on the 'South Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

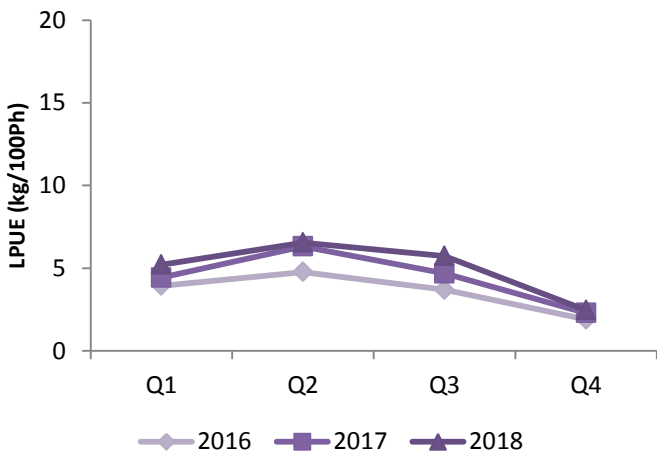


Figure 11: LPUE (kg/100Ph) of lobster (*Homarus gammarus*) by quarter* on the 'South Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

* 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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