

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 length of nets hauled in an area and time period; for example in the entire District for a whole year. Therefore **LPUE is the average weight of retained crawfish from every 100m of nets hauled (100m_Nh) in a defined area and time.** The method is outlined in ‘Data Handling Method, Summary Statistics 2016-2018’.

Summary

Overall in the Cornwall IFCA District landings per unit effort (LPUE) in 2018 declined to around half of the LPUE values in 2016 and 2017 (Table 1), similarly the total landed weight (kg) fell sharply. The seasonality of the fishery changed little in the three years analysed, with the majority of the fishery taking place in quarter three (July to September), as described by increased LPUE (Fig. 3).

North Coast; in 2016 and 2017 LPUE was higher offshore than inshore (Fig. 6), this reversed in 2018 when LPUE offshore fell sharply by 70% to a value less than inshore which fell by only 25%. Overall LPUE has fallen on the north coast by 60% (Fig. 6) but thematic mapping highlights that this is not in all belted statistical areas (Fig. 1).

West Coast; LPUE was consistently higher offshore than inshore across the reporting period (Fig. 8). In 2018 LPUE offshore fell by 85% to a similar value to inshore (Fig.8). In the same year in quarter three LPUE was 73% lower than in previous years (Fig. 9).

South Coast; the south coast had the lowest LPUE of all three geographic areas (Fig. 6, 8 and 10). In this area LPUE remained relatively stable from 2016 to 2018 (Fig.10). Thematic mapping highlights one belted statistical area (29E58B, south of Rame Head, Fig. 1, 4 and 5) where a high LPUE value was reported in 2016 which was not repeated in the following years.

Annual Data

Table 1: Total kg of crawfish (*Palinurus elephas*) reportedly removed from the Cornwall IFCA District in 2016 to 2018, total gear hauled, and resultant calculated LPUE (kg/100m_Nh)

	2016	2017	2018
Total Gear Hauled	7,308,578	6,684,300	8,359,890
Total Landed (kg)	4,628	4,827	2,807
LPUE (kg/100m_Nh)	0.06	0.07	0.03

Difference in LPUE since 2016 baseline

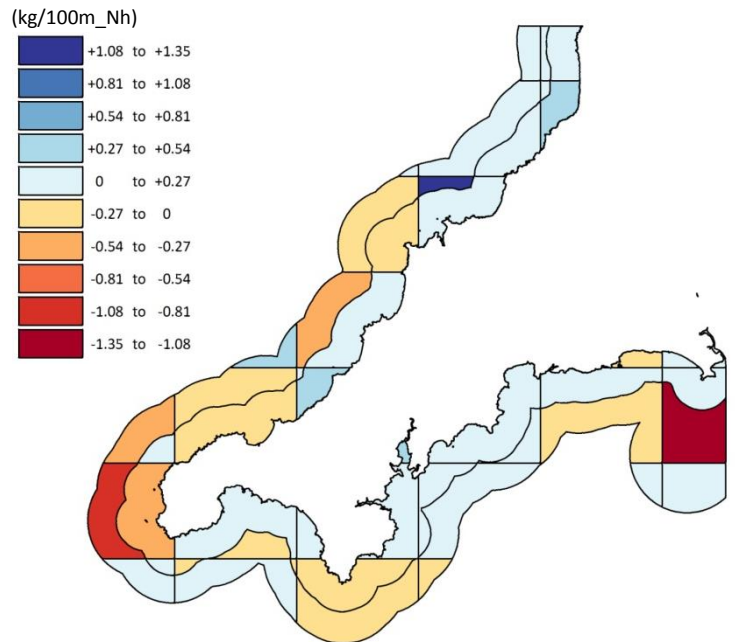


Figure 1: The difference in crawfish (*Palinurus elephas*) LPUE (kg/100m_Nh) in belted statistical areas between 2016 and 2018 thematically mapped in 0.27kg/100m_Nh ranges where positive values i.e. increases in LPUE, are blue and negative values i.e. decreases in LPUE are red.

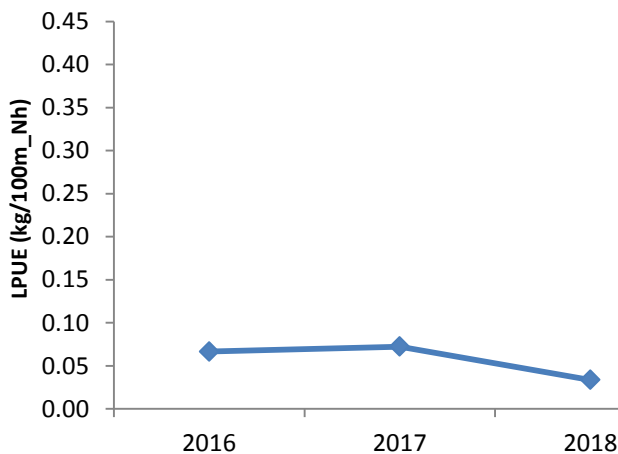


Figure 2: Annual LPUE (kg/100m_Nh) of crawfish (*Palinurus elephas*) in the Cornwall IFCA District in 2016 to 2018

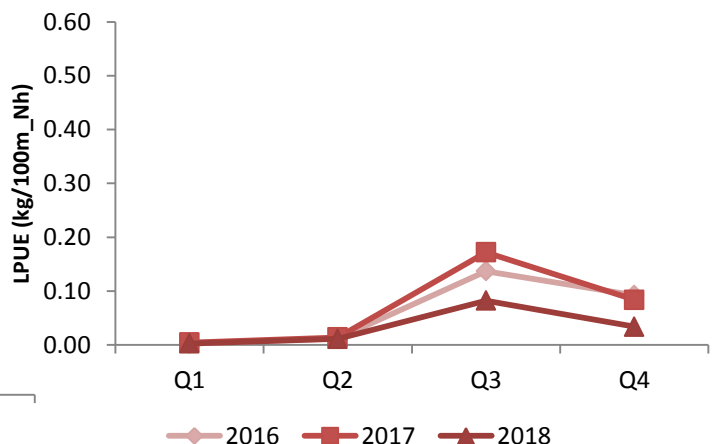
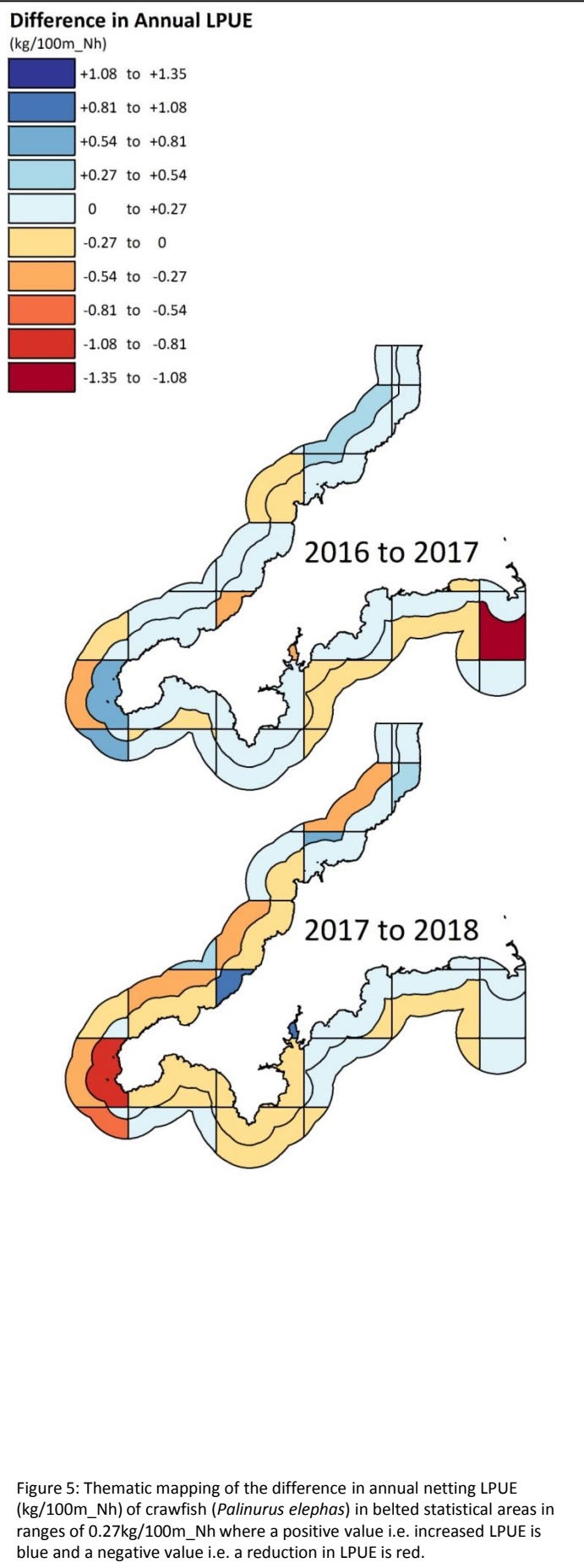
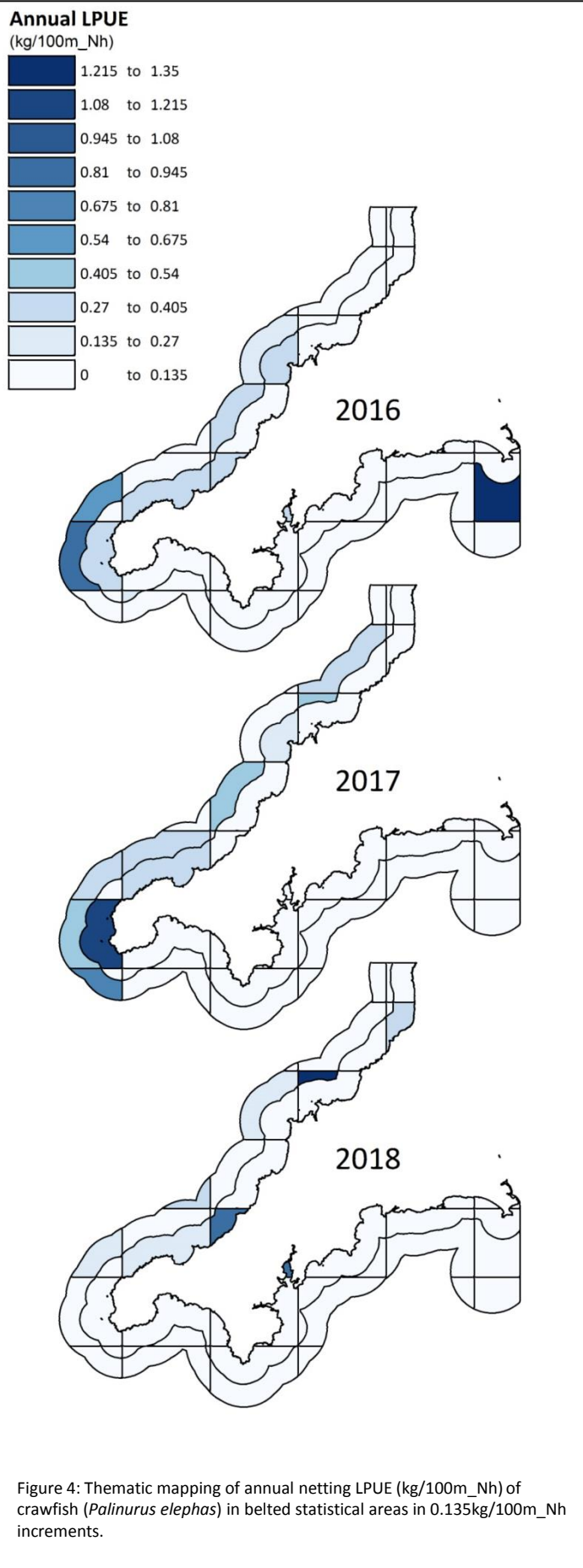
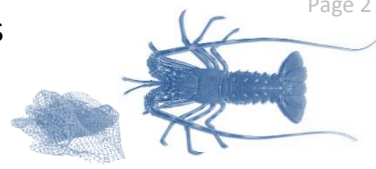
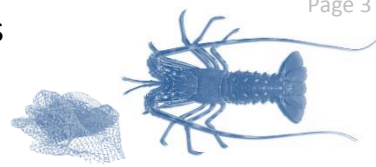


Figure 3: LPUE (kg/100m_Nh) by calendar year quarter* of crawfish (*Palinurus elephas*) in the Cornwall IFCA District in 2016 to 2018.

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





North Coast

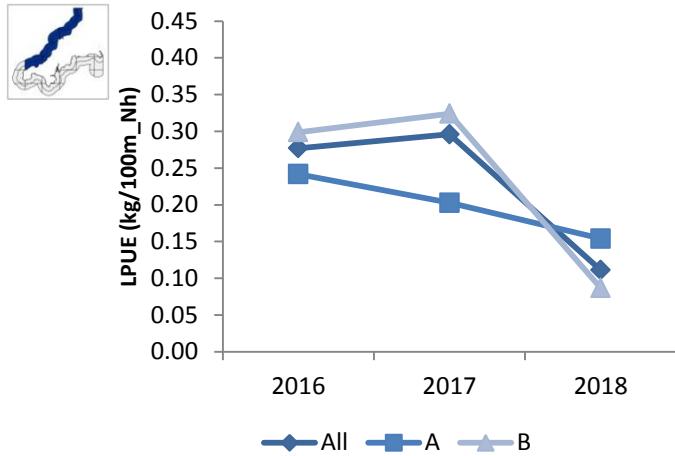


Figure 6: Annual LPUE (kg/100m_Nh) of crawfish (*Palinurus elephas*) on the 'North Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

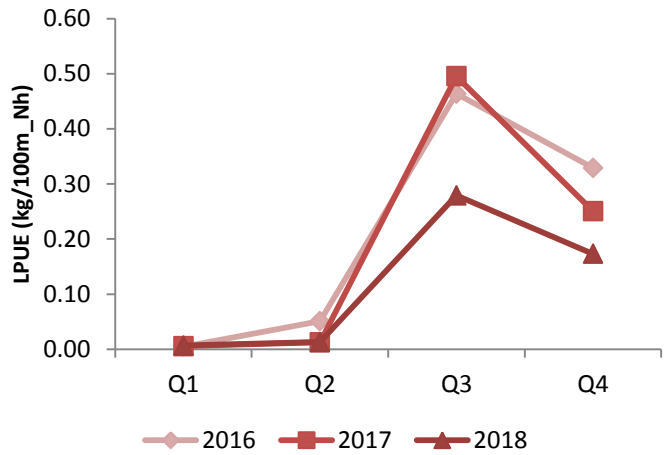


Figure 7: LPUE (kg/100m_Nh) by calendar year quarter* of crawfish (*Palinurus elephas*) on the 'North Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

West Coast

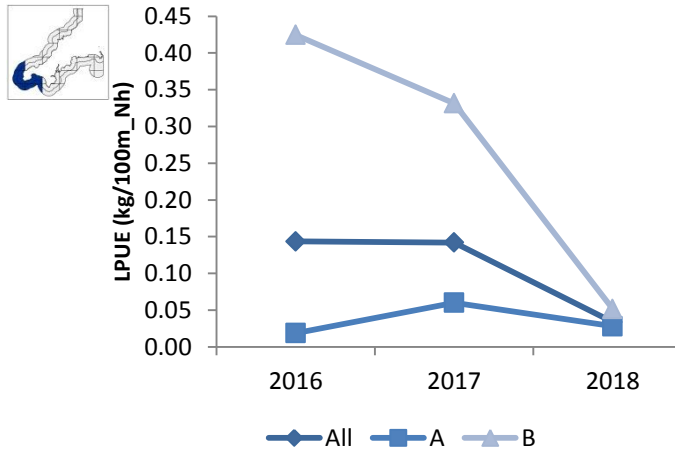


Figure 8: Annual LPUE (kg/100m_Nh) of crawfish (*Palinurus elephas*) on the 'West Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

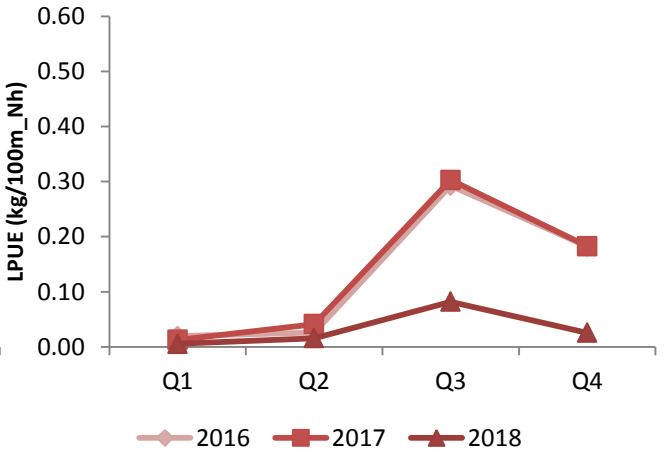


Figure 9: LPUE (kg/100m_Nh) by calendar year quarter* of crawfish (*Palinurus elephas*) on the 'West Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

South Coast

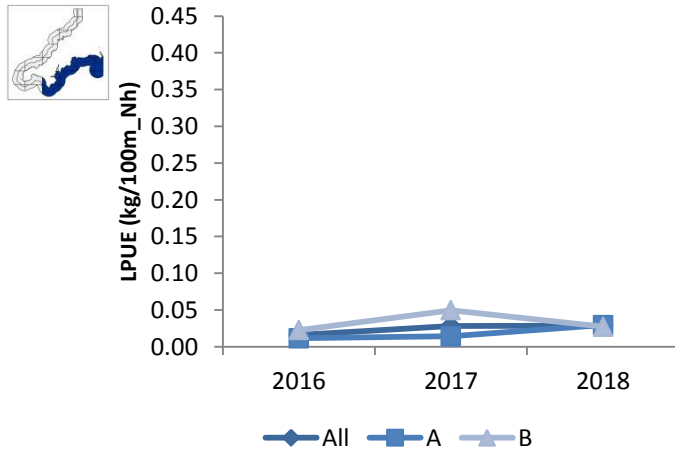


Figure 10: Annual LPUE (kg/100m_Nh) of crawfish (*Palinurus elephas*) on the 'South Coast' in 2016 to 2018 (diamonds), further split by band A (inshore 0-3nm, squares) and B (offshore 3-6nm, triangles).

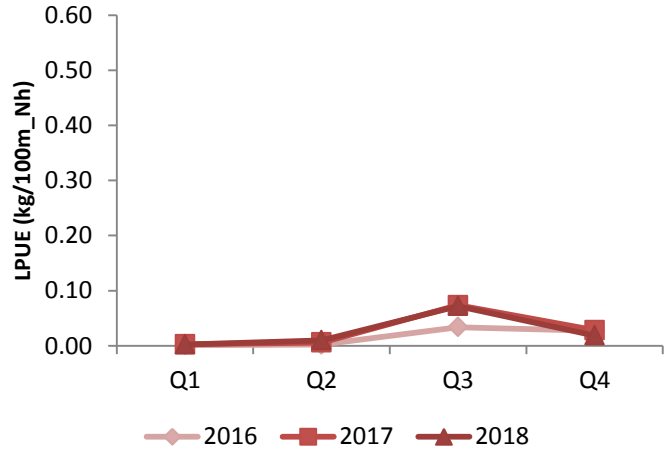


Figure 11: LPUE (kg/100m_Nh) by calendar year quarter* of crawfish (*Palinurus elephas*) on the 'South Coast' in 2016 (diamonds), 2017 (squares) and 2018 (triangles).

* 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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