

Northumberland IFCA Edible Crab (*Cancer pagurus*) Fishery Status Report 2023

Landings

Landings information is collected from monthly NIFCA shellfish catch returns submitted to NIFCA by permitted vessels. These returns detail fishing effort and landings of key commercial species and provide an insight into overall landings and effort trends within the NIFCA district. A breakdown of key statistics from the edible crab (*Cancer pagurus*) fishery within the NIFCA district have been detailed in the Multiple Indicator Framework (MIF) (Table 1).

Landings per unit effort (LPUE) is an important metric for analysing trends in the fishery, allowing for seasonal trends to be observed, as well as any significant annual shifts (Figure 1). LPUE is displayed as kilograms landed per 100 pots hauled (kg/100 pots) and has been relatively stable since 2011. LPUE changes seasonally, which accounts for range shown by the error bars in Figure 1.

Landed weight of edible crab has declined since its peak in 2017 (Figure 2). Lower landings in 2020 and 2021 can be attributed to COVID-19 restrictions and associated limiting factors. Although there is a decline in landed weight, the LPUE has increased annually since 2020. An emerging Chinese market explains the peak in landed value in 2019, however average landed value/kg has remained stable in following years (Table 1).

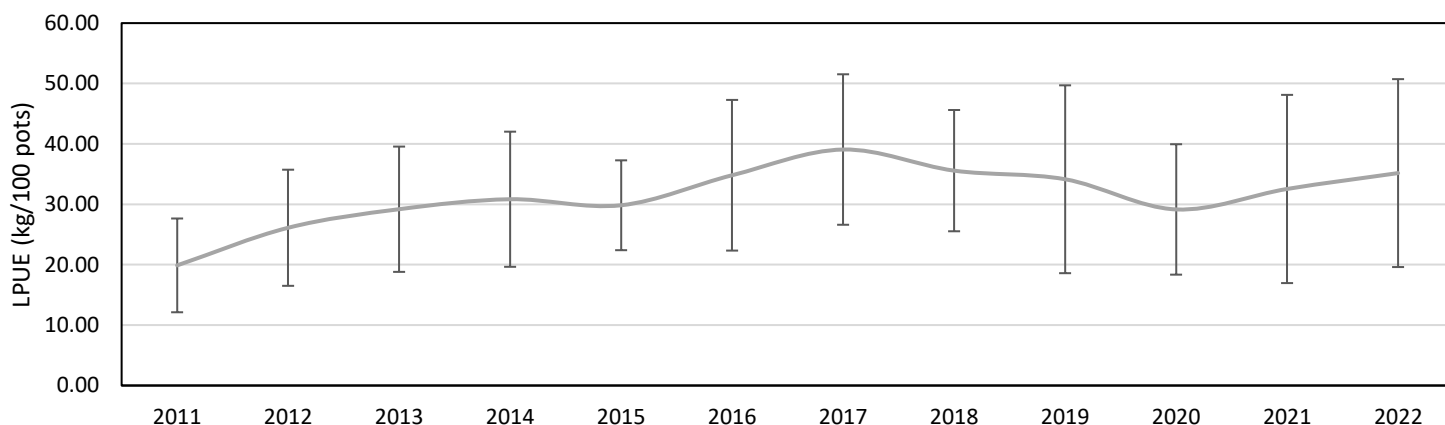


Figure 1: Mean edible landings per unit effort (LPUE) data 2011-2022, including error bars showing the standard deviation from the mean.

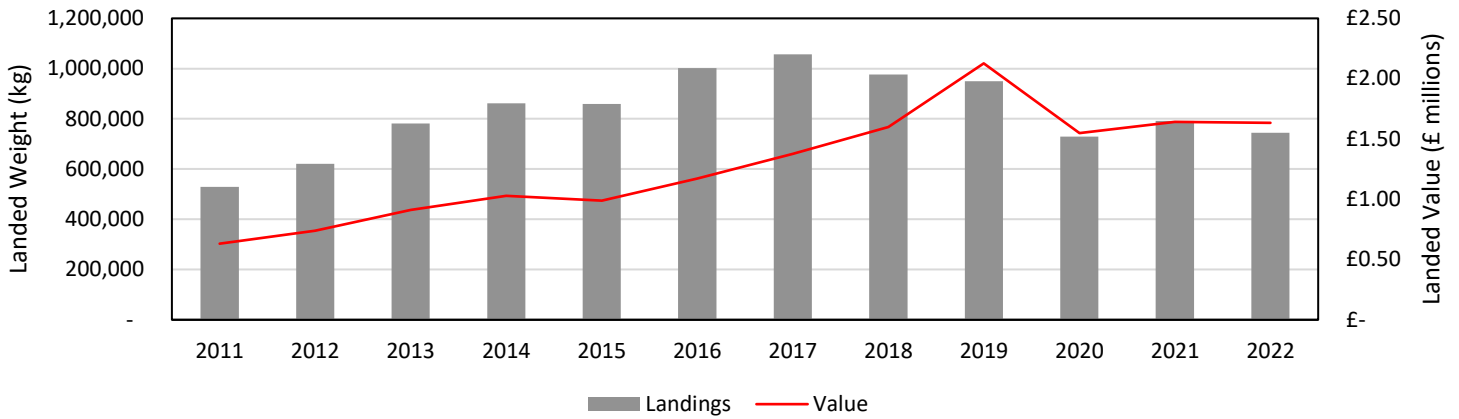


Figure 2: Edible crab landed weight and landed value taken from permit returns and officer reports for price/kg.

Biometric Data

Biometric data is collected through a combination of offshore sampling onboard fishing vessels, sampling of individual fleets at sea, and shore-based sampling of landed catches. The distribution of at-sea surveys conducted between 2012 and 2022 by NIFCA officers is shown in Figure 3.

Data collected includes information on animal size to better understand the distribution of the population, both under and over the minimum conservation reference size (MCRS). The size distribution of edible crab sampled between 2018 and 2022 is shown in Figure 4. A breakdown of sample numbers, as well as average animal size and maximum size can be seen in Table 1. Since 2018, 15,662 edible crabs have been measured, allowing for a better understanding of the NIFCA edible crab population and an ability to identify any key trends in animal size or sex distributions.

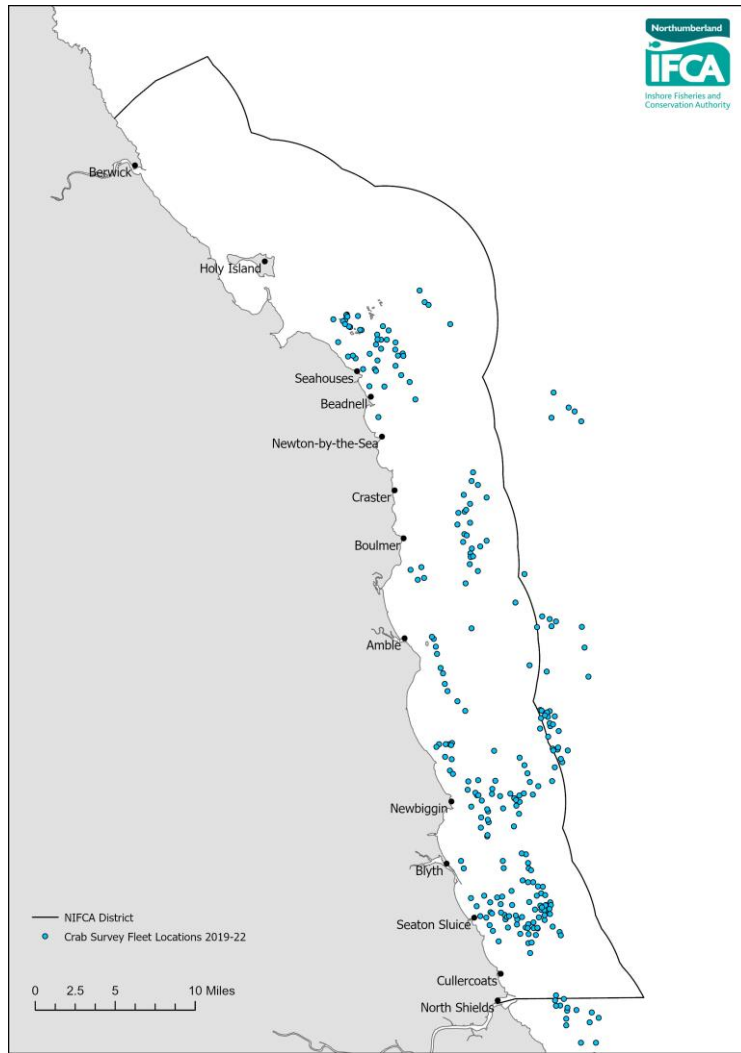


Figure 3: Distribution of fleets surveyed for crab between 2019 and 2022 in relation to the NIFCA district.

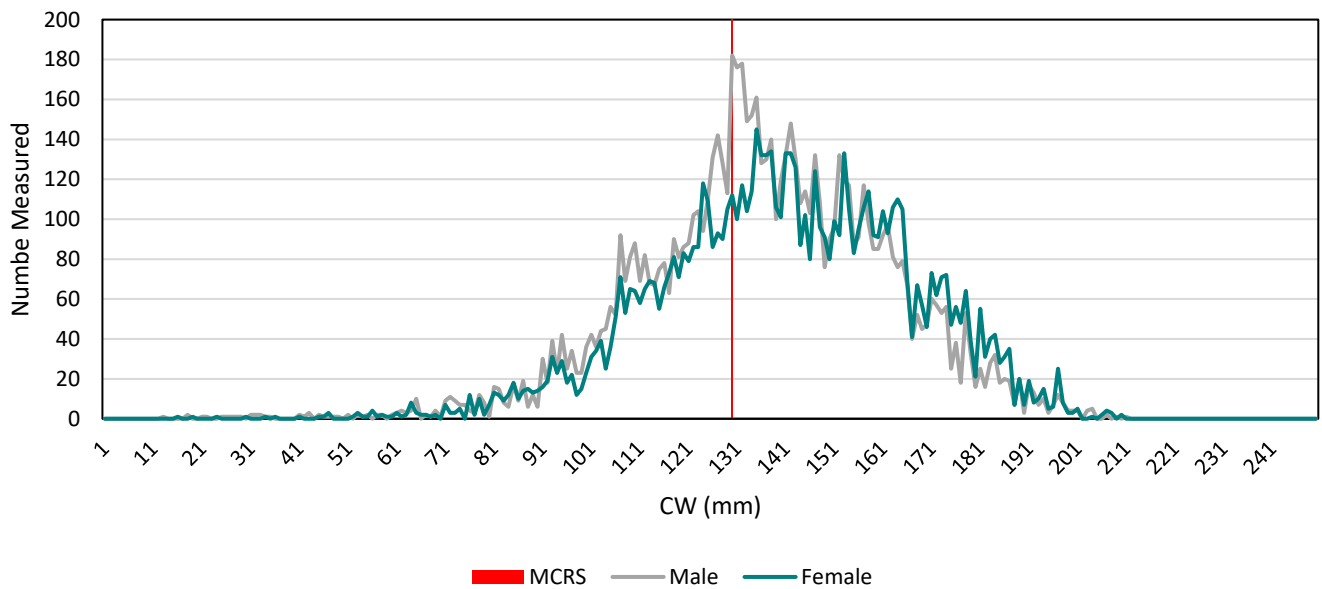


Figure 4: Size distribution of edible crab measured 2018-2022. MCRS is 130mm.

Table 1: Edible crab (*Cancer pagurus*) multiple indicator framework.

Fishery Overview	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Value Ref	Data Source
Total Landings (NIFCA)	529.6	621.3	782	861.7	859.3	1,002.3	1,056.6	977.1	949.5	729.2	791.5	744.7	Tonnes	NIFCA Returns
Amble Landings	106.4	170.6	220.8	281.4	175.7	205.4	241.2	213.9	163.7	115.4	138.7	91.3	Tonnes	NIFCA Returns
Blyth Landings	32.5	42.5	56.3	112.6	105.0	161.8	100.9	92.8	160.7	124.6	157.9	161.2	Tonnes	NIFCA Returns
Burnmouth Landings	79.2	19.7	97.8	112.9	137.1	138.5	100.8	126.3	125.0	85.8	75.3	60.1	Tonnes	NIFCA Returns
Holy Island Landings	102.2	131.2	124.1	105.0	167.1	253.2	269.8	200.1	196.5	168.0	133.1	138.2	Tonnes	NIFCA Returns
Seahouses Landings	114.7	130.2	132.5	133.7	159.5	122.4	196.3	190.9	185.7	137.3	151.4	149.2	Tonnes	NIFCA Returns
Total Effort (Pots Hauled)	2.79	2.63	2.89	3.14	3.02	3.12	2.91	2.89	3.12	2.75	2.77	2.47	Million	NIFCA Returns
Total Effort (Pots Set)	33.33	32.82	35.22	37.98	36.58	33.80	34.39	35.94	37.74	39.64	39.70	35.71	Thousand	NIFCA Returns
Q1 Catch Distribution (% of Annual Total)	16	23	21	26	19	27	26	23	32	19	27	26	Q1 %	NIFCA Returns
Q2 Catch Distribution (% of Annual Total)	27	28	25	26	27	21	22	25	25	20	20	21	Q2 %	NIFCA Returns
Q3 Catch Distribution (% of Annual Total)	27	18	29	23	26	25	23	28	21	24	21	21	Q3 %	NIFCA Returns
Q4 Catch Distribution (% of Annual Total)	30	31	26	25	28	28	29	24	22	37	33	32	Q4 %	NIFCA Returns
Primary Reference Points	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Value Ref	Data Source
LPUE	19.89	26.12	29.19	30.84	29.84	34.81	39.04	35.57	34.15	29.15	32.54		KG/100ph	NIFCA Returns
Economic	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Value Ref	Data Source
Average Annual Price	1.19*	1.19*	1.17*	1.19*	1.15*	1.17*	1.30*	1.65*	2.25	2.08	2.06	2.19	£/kg	NIFCA IFCO Reports*
Gross Catch Value	0.63	0.74	0.91	1.03	0.99	1.18	1.39	1.61	2.14	1.55	1.64	1.63	£ Million	NIFCA Returns
No. Active Vessels	81	72	83	80	75	70	73	85	74	89	82	77	#	NIFCA Returns
No. Employment**	170	151	174	168	158	147	153	179	155	187	172	162	#	Effort Survey
Biometric	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Value Ref	Data Source
Number of Animals Measured	x	x	x	x	x	x	x	143	12,993	692	44	1,790	#	NIFCA Survey
Average Carapace Length M (mm)	x	x	x	x	x	x	x	132	136	138	83	139	mm	NIFCA Survey
Average Carapace Length F (mm)	x	x	x	x	x	x	x	156	141	139	87	140	mm	NIFCA Survey
Max Carapace Length M (mm)	x	x	x	x	x	x	x	191	207	200	158	211	mm	NIFCA Survey
Max Carapace Length F (mm)	x	x	x	x	x	x	x	207	210	207	160	210	mm	NIFCA Survey
Sex Ratio (% Female)	x	x	x	x	x	x	x	62.2	49.1	39.9	50.0	45.2	%	NIFCA Survey

*This was taken from MMO landings data but has not changed to IFCO reports to allow for more region-specific figures.

**This is calculated by using an approximate crew number of 2.1 per vessel throughout the district.