Intertidal Edible Crab (*Cancer pagurus*) Survey 2022

Final report for the 2022 Intertidal Edible Crab Survey (2022_CIFCA_POR_INT_EDC)

Cornwall Inshore Fisheries and Conservation Authority (Cornwall IFCA)

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Contents

List of Figures

List of Tables

List of Annex Tables

Glossary of Terms and abbreviations

BST	British Summer Time
Cefas	Centre for Environment, Fisheries and Aquaculture Science
IFCA	Inshore Fisheries and Conservation Authority
SAC	Special Area of Conservation
UTC	Universal Time Coordinated

1 Introduction

Cornwall Inshore Fisheries and Conservation Authority (IFCA) have been investigating ways to survey the abundance of edible crab (*Cancer pagurus*), also known as brown crab, within the Cornwall IFCA district. Shallow water, cobble nursery habitats are likely to represent a major source of recruitment to offshore fisheries (Robinson and Tully, 2000). In 2012, the Centre for Environment, Fisheries and Aquaculture Science (Cefas), carried out a shoreline survey to sample juvenile edible crab in Cornwall. The survey was carried out to examine the feasibility of shore-based sampling of juvenile edible crabs and the utility of the data collected as an abundance index, a source of information on crab growth and further analysis of length frequency data (Smith, M, 2012). Since then, two masters students have carried out separate studies: O'Halloran (2015) looked at the nursery function of rockpools for commercially important species of crab, *C. pagurus*, *Necora puber* and *Maja squinado* in Jersey and Heraghty (2013) investigated the abundance, distribution and habitat use of juvenile *C. pagurus* of the intertidal zone around Anglesey and Llŷn Peninsula, North Wales (UK).

Juvenile edible crabs, *C. pagarus* settle from July to September (Robinson and Tully, 2000) and inhabit the intertidal zone until they reach a carapace width 6-7mm (which takes approximately three years), before they migrate to subtidal areas offshore (Hunter *et al*., 2013). The migration pattern varies between the sexes. Males have been observed migrating large distances, especially larger, older animals, but generally they are nomadic and move in fairy random localised patterns. Females move offshore to spawn then back inshore to mate and feed (Hunter *et al*., 2013). Females travel on a westward axis. It is suggested that this western migration to spawning grounds allows the crabs larvae to hatch and travel in the prevailing tidal currents returning them to settle in areas of their mother's origin (Hunter *et al*., 2013).

In 2020, Cornwall IFCA carried out two recce survey days at Prisk Cove, near Mawnan Smith. This site was chosen due to high records of edible crab numbers during past Seasearch surveys (Matt Slater, pers. comm. 2020). These two surveys trialled different sampling methods; one using a 5 m^2 grid at different stages down the shoreline from the high water mark to the low water mark and the other doing a walkover along the length of shore at the low water mark parallel to the shoreline. The walkover method proved more suitable to the survey and has been used by Cornwall IFCA since. Due to the low numbers of edible crabs at this site from the two survey days, it was decided that repeating the survey at Greeb Point, Portscatho which is the location Cefas used for their surveys would be more beneficial. In 2021, Cornwall IFCA carried out four survey days from April to October to sample juvenile edible crabs at Greeb Point (Jenkin *et al*., 2021). Cornwall IFCA repeated the survey in 2022 but sampled earlier in the year (April to July), when crabs were found to be more abundant at the survey site (Jenkin *et al*., 2021).

Edible crabs are known to live in a wide range of habitats, from course to muddy sand, gravel and bedrock, under boulders and shingles and females prefer softer sandy substrates (FAO, 2021). The site at Portscatho provides optimal habitat and shelter for juvenile edible crabs and consists of coarse sand, pebbles, cobbles, boulders and bedrock with overhangs.

Drone footage was obtained to accurately show the habitat. This was contracted to Vertical Horizons Media who supplied mosaiced data in 2021.

1.1 Aims and objectives

1.1.1 Aims

- To investigate the abundance of edible crab (*C. pagurus*), at Greeb point located on the south coast of Cornwall in 2022.
- To investigate the auditability of the survey as a tool for monitoring crab abundance using the site at Greeb Point as a proxy.

1.1.2 Objectives

- To photograph, measure and record the length (mm) of all edible crabs (*C. pagurus*) observed during the sampling period.
- To record any invasive species observed during the survey.
- To provide recommendations for future survey work.

2 Methodology

2.1 Survey location

The survey was carried out Greeb Point, one mile south of Portscatho on the south coast of Cornwall. This location was sampled by Cefas in 2012 and provides an ideal habitat for juvenile edible crab. It comprises a rocky outcrop with gullies that are full of a mixture of coarse sand, stones, cobbles and small boulders (Figure 1). The location is accessed down a narrow, overgrown path and is free from human disturbance as it is off the main coastal path. The survey site is situated within the Fal and Helford Special Area of Conservation (SAC).

Figure 1: Survey site at Greeb Point on the south coast of Cornwall

2.2 Survey timing

The survey was carried out 1.5 hours either side of low spring tides on 3rd March 2022, 31st March 2022, 15th June 2022 and 14th July 2022.

2.3 Personnel

The survey was carried out by two scientific officers.

2.4 Personal Protective Equipment (PPE)

Steel toe capped boots were worn while carrying out the survey. A first aid kit and mobile phone were in possession of the officers at all times. There were no reported accidents or near misses during the survey.

2.5 Survey methodology

The SOL positions from the survey carried out by Cefas in 2012 was used as the SOL position in the Cornwall 2021 and 2022 surveys. The EOL position was modified due to time constraints and habitat type which consisted mainly of bedrock with overhangs which made it hard to record edible crabs. Positions were loaded into a handheld Garmin GPS 60 unit using latitude and longitude and work mobile phones using the what3words app.

Officers initially recorded the weather and tide times into a log sheet and then proceeded to the start of line position. Officers walked towards the EOL position covering as much ground as possible. which was closet to. At the given survey positions, stones, cobbles and boulders that were deemed safe (not too heavy or in an awkward position) were overturned and checked for edible crabs hiding underneath.

If crabs were found, these were picked up carefully and their abdomen was photographed with an Olympus Tough TG-5 or an Olympus Tough TG-6. The crabs were measured across the width of the carapace (mm) using vernier callipers and carapace width recorded on a log sheet. Once measured, the crabs were returned to the place they were found and the habitat was returned to as found by replacing stones and cobbles to their original positions.

2.6 Data handling

Data was entered into a daily log sheet and then transferred to Microsoft Excel.

All photographs taken during the survey were transferred to Cornwall IFCA's servers.

2.7 Data analysis

The data were transferred into length frequency plots in Microsoft Excel.

The GPS track for all survey days were plotted using MapInfo Professional Advanced (Version 17.0.4) over aerial footage from drone photography of the survey site supplied by Vertical Horizons Media.

3 Results

The 2022 intertidal edible crab surveys were carried out on 3rd March, 31st March, 15th June and 14th July. The daily logs are shown in Annex 1.

3.1 Survey Narrative

All times are Universal Time Coordinated (UTC) unless stated otherwise.

3rd March 2022

The weather conditions were favourable with moderate winds from the NW of 17 to 25 mph and overcast skies with cloud coverage of 6/8. Cornwall IFCA officers arrived on site at 11:55 and started the survey at 12:01. The survey ended at 13:44 and IFCA officers departed the site at 14:10. Low tide on the day was 0.10 m at 12:30 as recorded in Falmouth (BST). 43 brown crabs were recorded as part of the survey.

31st March 2022

The weather conditions were unfavourable with a strong, cold ENE wind of 20 to 35 mph blowing across the survey site making it hard to see in some of the rockpools. The skies were mostly clear with cloud coverage of 3/8. Cornwall IFCA officers arrived on site at 11:00 and started the survey at 11:14. The survey ended at 12:43 and IFCA officers departed the site at 13:15. Low tide on the day was 0.56 m at 12:26 as recorded in Falmouth (BST). 56 brown crabs were recorded as part of the survey.

15th June 2022

The weather conditions were favourable with light winds from the NW of 10 mph and mostly clear skies with low cloud coverage of 3/8. Cornwall IFCA officers arrived on site at 11:30 and started the survey at 11:43. The

survey ended at 13:22 and IFCA officers departed the site at 13:35. Low tide on the day was 0.49 m at 13:11 as recorded in Falmouth (BST). 41 brown crabs were recorded as part of the survey. There was a noticeable increase in green algal coverage over rocks since the last survey.

14th July 2022

The weather conditions were favourable with moderate winds from N of 20 mph and sunny skies with low cloud coverage of 1/8. Cornwall IFCA officers arrived on site at 10:50 and started the survey at 11:03. The survey ended at 12:47 and IFCA officers departed the site at 13:25. Low tide on the day was 0.58 m at 13:04 as recorded in Falmouth (BST). 29 brown crabs were recorded as part of the survey. The green algal cover found on the 15th June was still present on the rocks.

The start of line and end of line positions (WGS 84) are shown in Table 1.

Table 1: Positions of the start of line (SOL) and end of line (EOL) for each of the survey days in 2022.

Date	SOL position		EOL position	
	Latitude (dd.dddddd)	Longitude (dd.dddddd)	Latitude (dd.dddddd)	Longitude (dd.dddddd)
3rd March 2022	50.164250	-4.972250	50.164467	-4.972233
31st March 2022	50.164250	-4.972300	50.164550	-4.972467
15th June 2022	50.164250	-4.972267	50.164500	-4.972433
14th July 2022	50.164133	-4.972317	50.164533	-4.972483

The GPS SOL, EOL positions and the track for each survey day are shown in

Figure 2: GPS track points from the intertidal survey on 3rd March 2022.

to Figure 5.

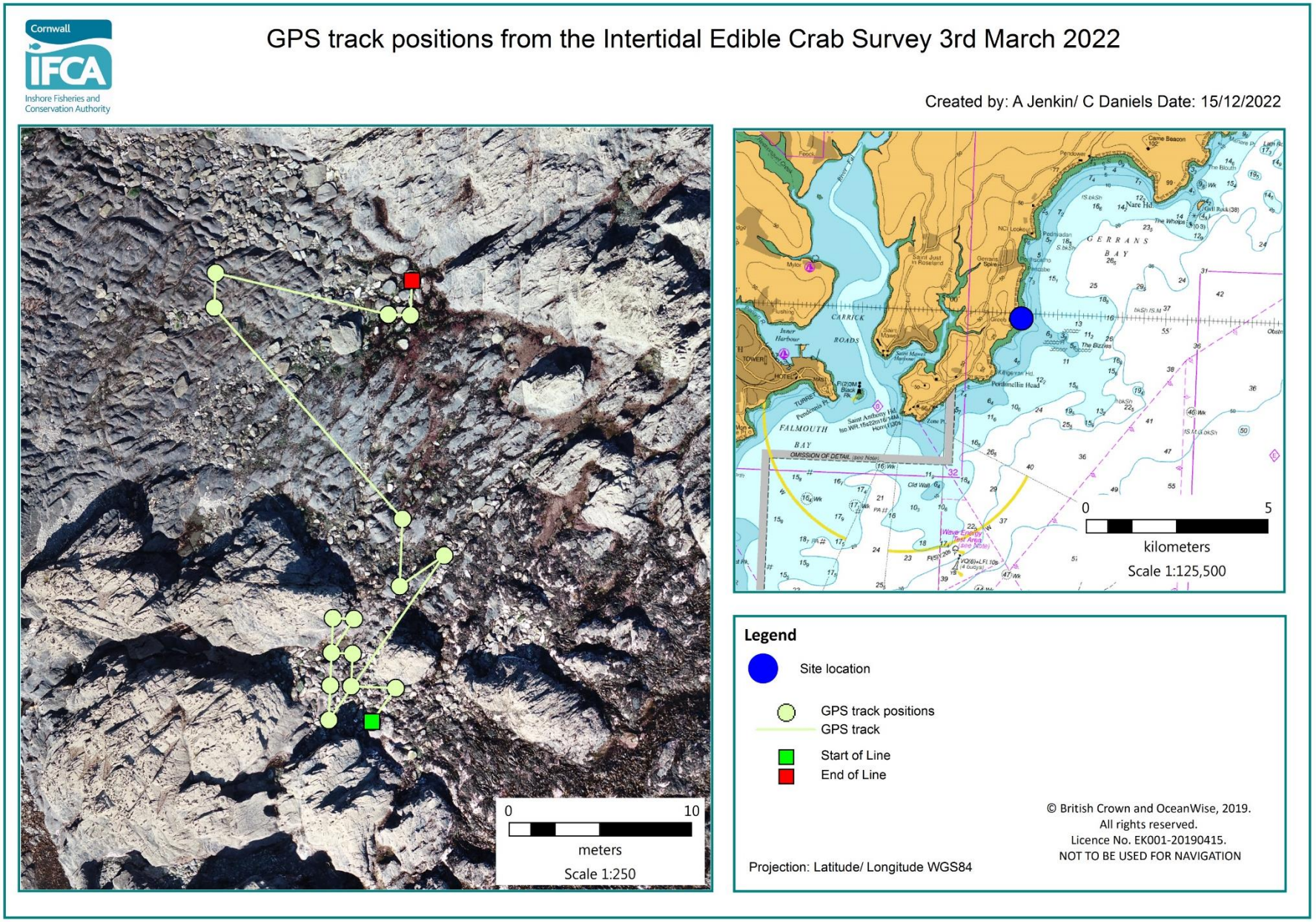

Figure 2: GPS track points from the intertidal survey on 3rd March 2022.

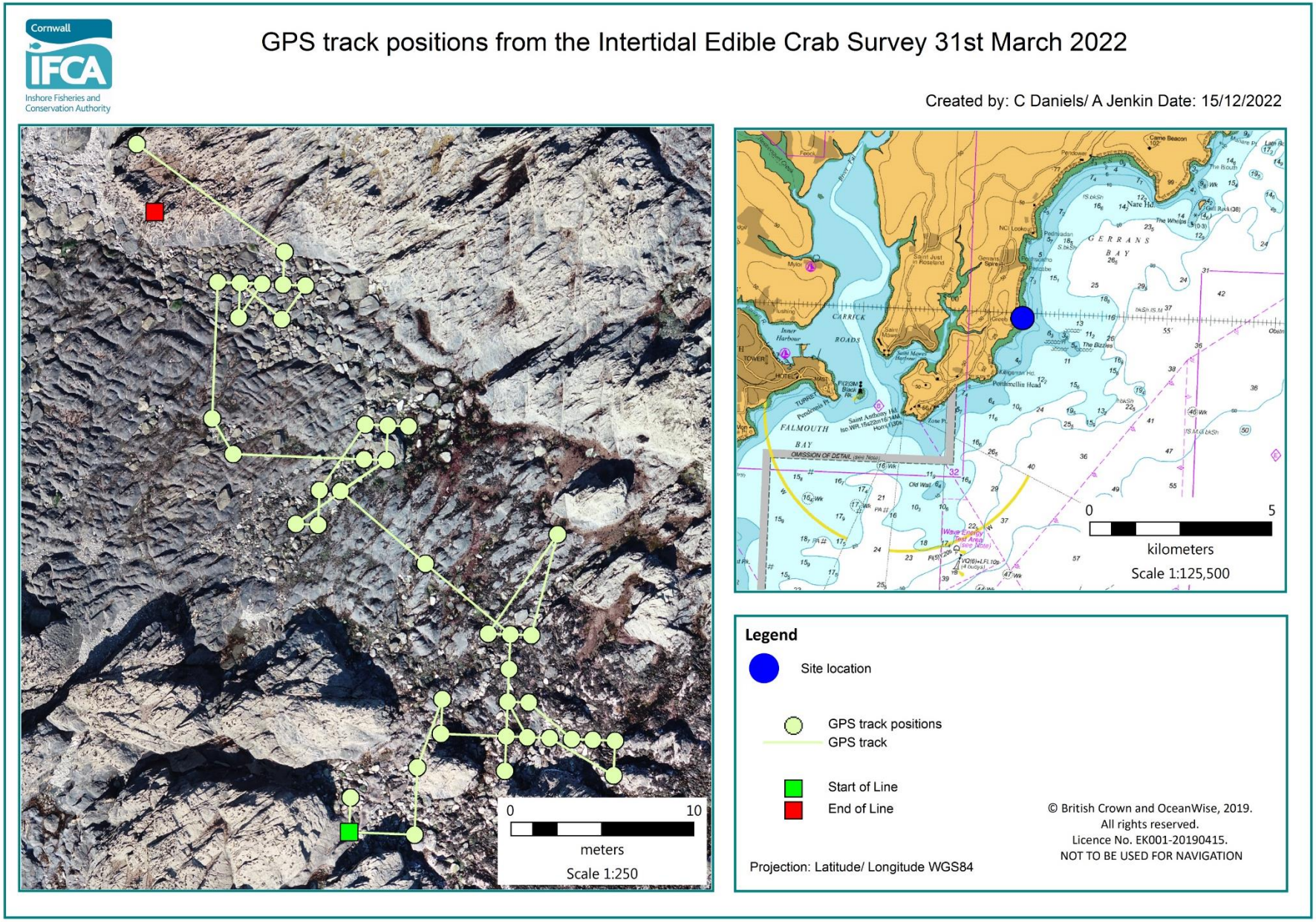

Figure 3: GPS track points from the intertidal survey on 31st March 2022.

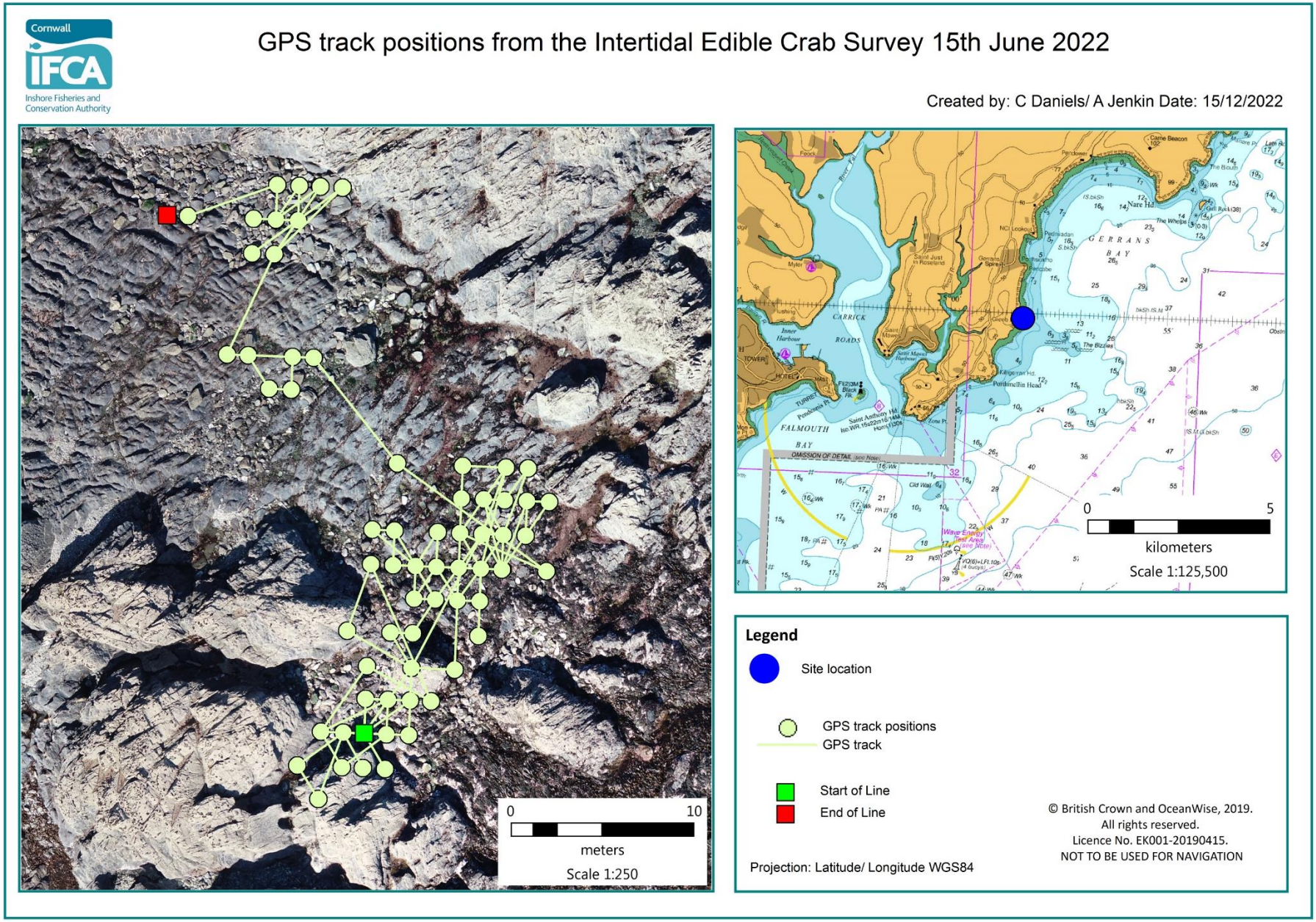

Figure 4: GPS track points from the intertidal survey on 15th June 2022.

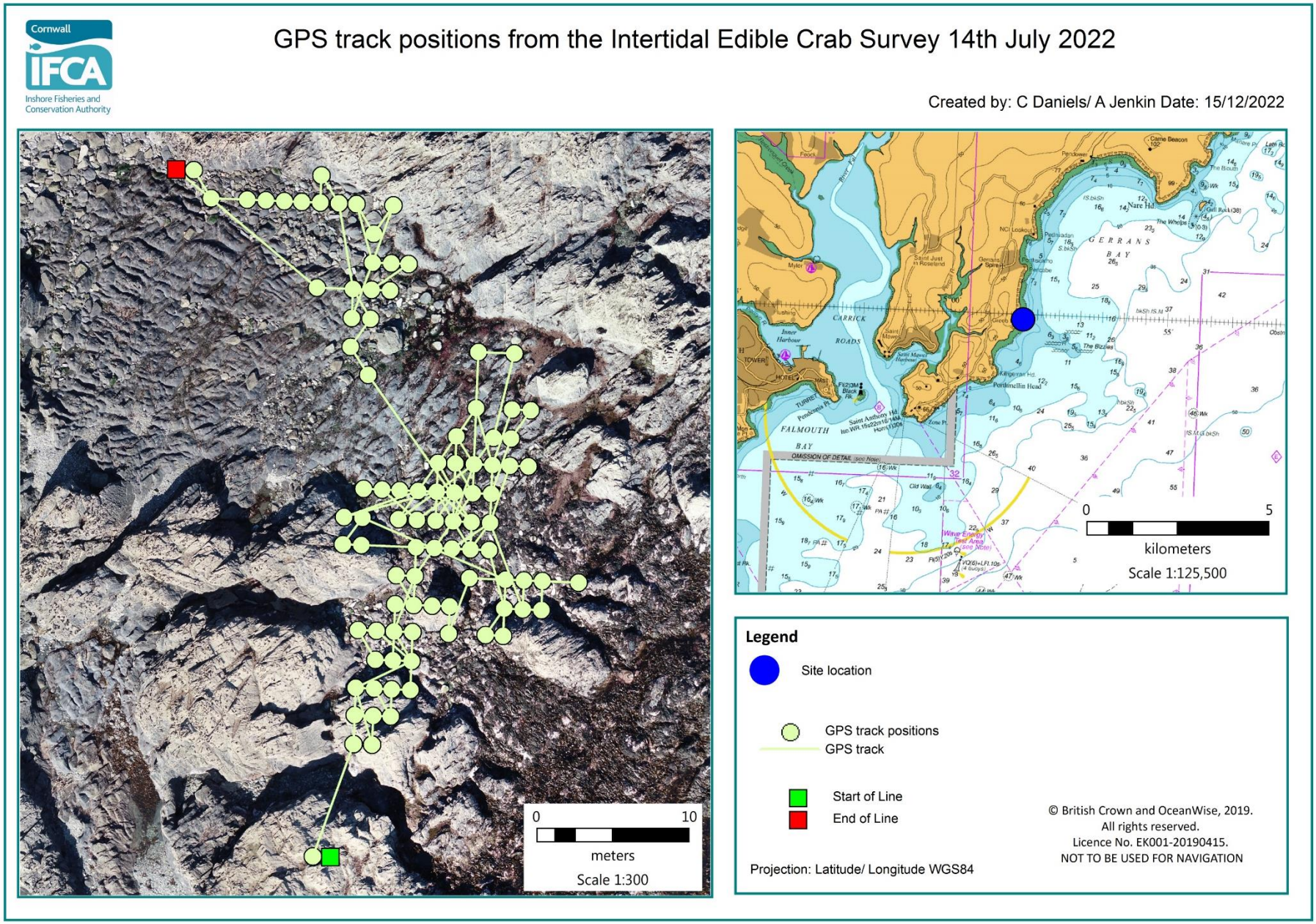

Figure 5: GPS track points from the intertidal survey on 14th July 2022.

3.2 Edible Crab (*Cancer pagurus*)

The carapace size (mm), sex and comments for individual crabs for each survey day are shown in Annex 2.

The total number, the minimum size (mm), maximum size (mm) and average size (mm) of edible crabs, for each of the survey days is shown in Table 2.

Table 2: The total number, minimum size (mm), maximum size (mm) and average size (mm) of edible crabs (*Cancer pagurus*) for each of the survey days in 2022.

Date	Total number of crabs measured	Minimum size (mm)	Maximum size (mm)	Average size (mm)
3rd March 2022	43	12	156	39.67
31st March 2022	56	11	94	37.23
15th June 2022	41	21	86	50.68
14th July 2022	29	24	97	57.66

The total length frequency for all edible crabs sampled for each of the survey dates is shown in Figure 6.

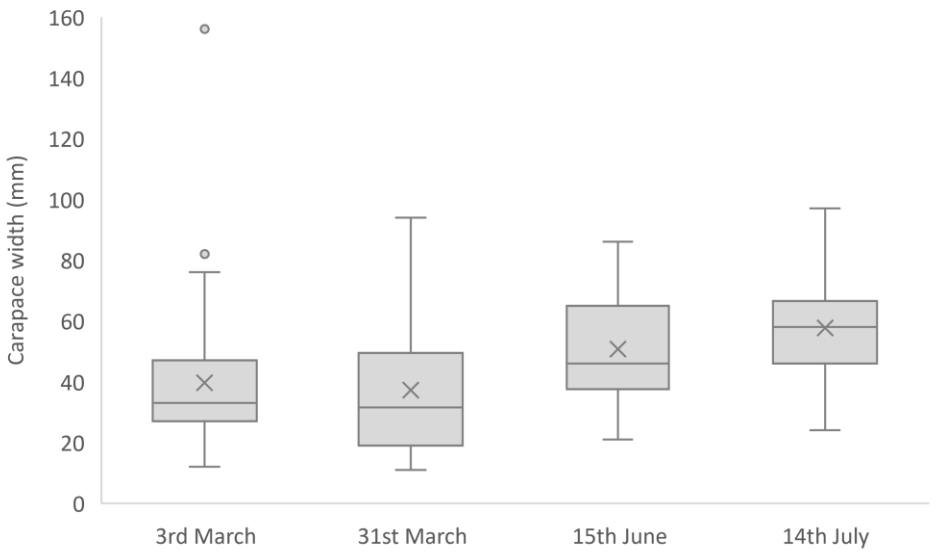

Figure 6: Total carapace width for edible crab (*Cancer pagurus*) from surveys in 2022. Data is grouped by survey day. The X represents the mean, the line represents the median, boxes represent the interquartile range, whiskers represent 1.5* interquartile range, and the filled circles represent outliers.

A total of two soft crabs were recorded next to exuvae (moults), providing the growth increment to be tabulated (Table 3).

Table 3: Edible crab (*Cancer pagurus*) growth increment data collected from surveys in 2022.

Date measured	Premoult width (mm)	Postmoult width (mm)	Increment (mm)	Increment (% premoult size)
14th July 2022	35	46	11	31.4
14th July 2022	69	89	20	29.0

An example of one of the soft shelled crabs and its moult from 14th July 2022 are shown in Figure 7.

Figure 7: Soft shelled edible crab (*Cancer pagurus*) and its moult found next to each other from 14th July 2022 respectively.

The size class distribution for 2 mm size class is shown in Figure 8.

2 mm size class

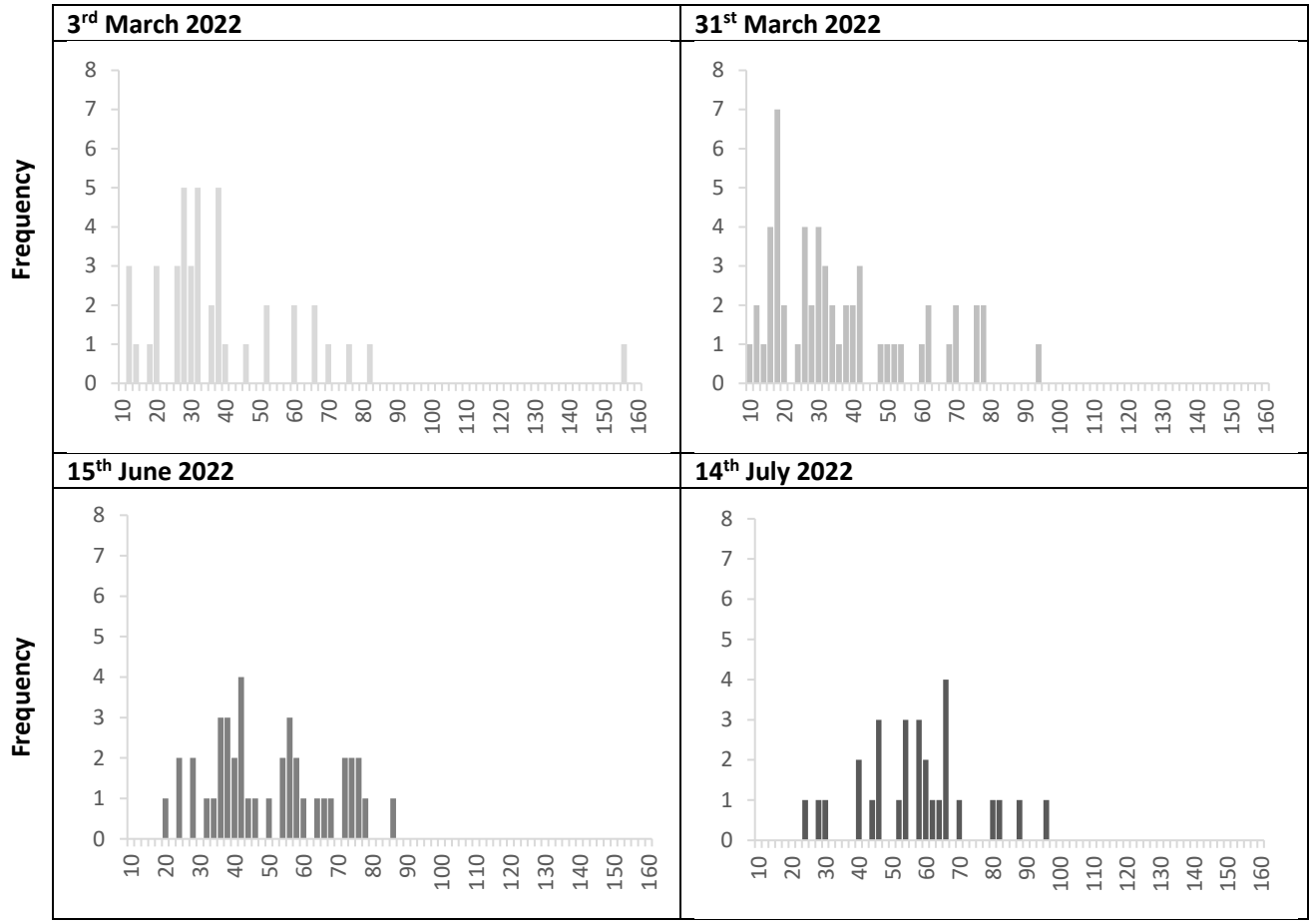

Figure 8: Edible crab (*Cancer pagurus*) size class distribution for the 2 mm size class.

3.3 Non-native species

Scientific officers were focused on finding and recording edible crabs therefore the observing and recording on non-native species was a minor part of the survey. However, a large amount of Japanese wireweed (*Sargassum muticum*) was noted in the pools.

4 Discussion

The survey was successful in sampling pre-recruit edible crabs.

Pre-recruit edible crabs were found in abundance at this survey site during all surveys. The crabs were mostly found buried in coarse sand under pebbles, cobbles and boulders, often located within gullies. This habitat is shown in Figure 9.

Figure 9: The habitat surveyed during the intertidal edible crab survey.

The length frequency distributions showed a number of modes, with a greater number of smaller crabs recorded earlier in the year (March) and larger crabs recorded later in the year (June and July).

Determining the sex of individuals was difficult as the differences in the abdominal flaps were found to not be as distinct as adult edible crabs. Therefore, officers recorded the sex of all crabs as unknown. Examples are shown in Figure 10. It is possible the first and second images are male and the third image female, however without dissection officers are not 100% sure therefore all crabs were classed as unsexed.

Figure 10: Images of the underside of edible crab (*Cancer pagurus*) as recorded during the intertidal edible crab survey 2022

The total number of crabs recorded decreased from late March to July. In June and July the tidal pools were full of algae and the water in the pools and gullies was noticeably warmer. The influence of the warmer conditions was not investigated further but perhaps the crabs buried deeper to find cooler conditions or moved to deeper intertidal positions on the shore which was observed during the survey with a greater number of larger crabs recorded further down the shore.

Recently moulted crabs provided an indicator of growth of the crabs along this stretch of coastline. The freshly moulted crabs felt very soft and were likely to be recently moulted but it is unknown if they had taken on water after moulting before hardening which could cause misrepresentative of their size.

The data has not been compared to the 2021 survey as 2021 was a scoping survey, the surveys were done at different times of year, with different EOL positions and only one officer sampling on one of the survey days. However, similarities were observed with a greater number of larger crabs recorded later in the year and a decrease in crab numbers through the year.

The data should not be directly compared to the findings of Smith (2012a and 2012b) as the exact route surveyed is not known. Other differences in survey methodology included IFCA officers taking photos of the crabs individually, which was not done previously and took extra time, also there were two IFCA officers on all survey days instead of just one person recording.

The surveys in 2021 and 2022 have shown that this type of sampling could be suitable as a proxy for long term trends in abundance on a local scale (survey area) which could be beneficial in future years. The survey method in 2022 was refined and can be repeated in future years with the data collected providing a baseline against which future surveys can be compared. However, to scale it up to monitor the abundance of the whole Cornwall IFCA district would take a considerable amount of time and effort and would depend on time and resource constraints.

5 Limitations

- An abundance of algae during periods of hot weather could have limited officers being able to find crabs, as the pools were covered by the algae.
- A number of edible crabs were seen in nooks and crevices but could not be measured as there was no easy way to extract them without damaging them.
- The size of the freshly moulted crab could be misrepresentative as the crabs taken on water after moulting before they harden and it is unknown in the process when the crabs are sampled.

6 Recommendations

6.1 Recommendations for 2023

- Consider monitoring the site at Portscatho during the Spring when edible crab are in abundance to monitor long term trends, depending on resource and time constraints.

- Possibly extend the survey to include another site in a different part of the district (north or west coast) depending on resource and time constraints. Cornwall IFCA officers used satellite imagery to locate a potential survey site on the North coast and Cefas carried out a recce but didn't find any edible crabs.
- Record the air temperature on the survey day.
- Record the temperature of the rockpools on the survey day.
- Officers are considering not taking photos of all individuals for future surveys to save time and just consider the sample as unsexed.

7 References

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8 Appendices

Annex 1 – Daily logs

Daily log 1

Annex Table A: Daily log for 3rd March 2022.

Project	Intertidal Survey for edible crabs		**Survey code**	20220303_CIFCA_INT_GRE		
Date	2022-03-03	**Coordinate reference system**	WGS84	**Weather**		
Location	Greeb Point	**Position Fix**	Handheld GPS	**Wind direction**	NW	
Survey Type	INT	**Horizontal Accuracy**	Approx 6m	**Wind speed**	17-25 mph	
		Time zone	UTC	**Beaufort scale**	2	
IFCA officers	Stephanie Sturgeon and Annie Jenkin			**Cloud coverage**	6/8	
Others	None			**Air temperature**	9 °C	
				Time recorded	14:00	
Low water time	12:30 (BST)	**Time start**	12:01:00 (UTC)	**Wind direction**		*Data entered by*
Low water (m)	0.10	**Time end**	13:44:00 (UTC)	**Wind speed**		SS (2022-03-04)
Tide recorded from	Falmouth	**Safety talk time**	11:59	**Beaufort scale**		
				Cloud coverage		
				Time recorded		
Description of survey	Intertidal survey for edible brown crab at Greeb Point, near Portscatho on the S coast of Cornwall. 43 live brown crabs were recorded as part of the survey					
Notes						

Time	**Type**	**Details/description**
11:55		Arrive Greeb Point
12:01	INT	Location 1 Start
13:44	INT	Location 1 End
14:10		Depart Greeb Point

2022_CIFCA_POR_INT_EDC

Daily log 2

Annex Table B: Daily log for 31st March 2022.

Project	Intertidal Survey for edible crabs		**Survey code**	20220331_CIFCA_INT_GRE		
Date	2022-03-31	**Coordinate reference system**	WGS84	**Weather**		
Location	Greeb Point	**Position Fix**	Handheld GPS	**Wind direction**	ENE	
Survey Type	INT	**Horizontal Accuracy**	Approx 6m	**Wind speed**	20-35 mph	
		Time zone	UTC	**Beaufort scale**	3	
IFCA officers	Stephanie Sturgeon and Annie Jenkin			**Cloud coverage**	3/8	
Others	None			**Air temperature**	7 °C	
				Time recorded	12:50 (UTC)	
Low water time	12:26 (BST)	**Time start**	11:14:16 (UTC)	**Wind direction**		*Data entered by*
Low water (m)	0.56	**Time end**	12:43:57 (UTC)	**Wind speed**		SS (2022-04-01)
Tide recorded from	Falmouth	**Safety talk time**	N/A	**Beaufort scale**		
				Cloud coverage		
				Time recorded		
Description of survey	Intertidal survey for edible brown crab at Greeb Point, near Portscatho on the S coast of Cornwall. 56 live brown crabs were recorded as part of the survey					
Notes	Cold, strong NE wind blowing across the survey site making it hard to see in some of the rockpools					

Time	**Type**	**Details/description**
11:00		Arrive Greeb Point
11:14	INT	Location 1 Start
12:43	INT	Location 1 End
13:15		Depart Greeb Point

2022_CIFCA_POR_INT_EDC

Daily log 3

Annex Table C: Daily log for 15th June 2022.

Project	Intertidal Survey for edible crabs		**Survey code**	20220615_CIFCA_INT_GRE		
Date	2022-06-15	**Coordinate reference system**	WGS84	**Weather**		
Location	Greeb Point	**Position Fix**	Handheld GPS	**Wind direction**	NW	
Survey Type	INT	**Horizontal Accuracy**	Approx 6m	**Wind speed**	10 mph	
		Time zone	UTC	**Beaufort scale**	2	
IFCA officers	Stephanie Sturgeon and Annie Jenkin			**Cloud coverage**	3/8	
Others	None			**Air temperature**	19 °C	
				Time recorded	11:40 (UTC)	
Low water time	13:11 (BST)	**Time start**	11:43:50 (UTC)	**Wind direction**		*Data entered by*
Low water (m)	0.49	**Time end**	13:22:11 (UTC)	**Wind speed**		SS (2022-06-16)
Tide recorded from	Falmouth	**Safety talk time**	N/A	**Beaufort scale**		
				Cloud coverage		
				Time recorded		
Description of survey	Intertidal survey for edible brown crab at Greeb Point, near Portscatho on the S coast of Cornwall. 41 live brown crabs were recorded as part of the survey					
Notes	Lots more green algae cover					

Time	**Type**	**Details/description**
11:30		Arrive Greeb Point
11:43	INT	Location 1 Start
13:22	INT	Location 1 End
13:35		Depart Greeb Point

2022_CIFCA_POR_INT_EDC

Daily log 4

Annex Table D: Daily log for 14th July 2022.

Project	Intertidal Survey for edible crabs		**Survey code**	20220714_CIFCA_INT_GRE		
Date	2022-07-14	**Coordinate reference system**	WGS84	**Weather**		
Location	Greeb Point	**Position Fix**	Handheld GPS	**Wind direction**	N	
Survey Type	INT	**Horizontal Accuracy**	Approx 6m	**Wind speed**	20 mph	
		Time zone	UTC	**Beaufort scale**	2	
IFCA officers	Stephanie Sturgeon and Annie Jenkin			**Cloud coverage**	1/8	
Others	None			**Air temperature**	22 °C	
				Time recorded	11:40 (UTC)	
Low water time	13:04 (BST)	**Time start**	11:03 (UTC)	**Wind direction**		*Data entered by*
Low water (m)	0.58	**Time end**	12:47 (UTC)	**Wind speed**		SS (2022-07-18)
Tide recorded from	Falmouth	**Safety talk time**	N/A	**Beaufort scale**		
				Cloud coverage		
				Time recorded		
Description of survey	Intertidal survey for edible brown crab at Greeb Point, near Portscatho on the S coast of Cornwall. 29 live brown crabs were recorded as part of the survey					
Notes	Lots more green algae cover					

Time	**Type**	**Details/description**
10:50		Arrive Greeb Point
11:03	INT	Location 1 Start
12:47	INT	Location 1 End
13:25		Depart Greeb Point

Annex 2 – Survey data

A total of 43 edible crabs were measured and recorded during the survey on 3rd March 2022 (Annex Table E).

Annex Table E: The edible crab (*Cancer pagurus*) records including carapace size (mm), sex (U - Unsexed) and notes from the survey on 3rd March 2022.

Crab No.	Carapace size (mm)	Sex (M/F/U)	Other
1	14	U	Claw missing
2	29	U	
3	20	U	
4	32	U	
5	37	U	
6	13	U	
7	40	U	
8	37	U	
9	28	U	
10	21	U	Damaged carapace
11	28	U	
12	26	U	
13	21	U	
14	61	U	
15	12	U	No photo
16	27	U	
17	28	U	
18	156	U	Newly moulted
19	33	U	
20	39	U	
21	71	U	
22	66	U	
23	82	U	
24	30	U	
25	47	U	
26	66	U	
27	27	U	
28	12	U	
29	52	U	No photo
30	19	U	White carapace. Need to match photo
31	33	U	Need to match photo
32	39	U	Need to match photo
33	60	U	
34	39	U	No photo
35	76	U	
36	33	U	
37	31	U	
38	29	U	Damaged carapace
39	39	U	
40	32	U	
41	52	U	
42	30	U	
43	39	U	Claw missing

A total of 56 edible crabs were measured and recorded during the survey on 31st March 2022 (Annex Table F).

Annex Table F: The edible crab (*Cancer pagurus*) records including carapace size (mm), sex (U - Unsexed) and notes from the survey on 31st March 2022.

Crab No.	Carapace size (mm)	Sex (M/F/U)	Other
1	30	U	
2	14	U	Broken carapace
3	12	U	
4	50	U	
5	77	U	
6	78	U	
7	54	U	
8	68	U	
9	20	U	
10	32	U	
11	26	U	
12	25	U	Very soft shell
13	63	U	1 claw
14	33	U	1 claw
15	40	U	1 claw
16	30	U	Soft shell, regrowing 1 claw
17	16	U	
18	28	U	
19	77	U	
20	78	U	Regrowing 1 claw
21	48	U	
22	40	U	2 legs missing
23	38	U	
24	71	U	
25	70	U	
26	63	U	
27	94	U	Very soft shell
28	42	U	
29	43	U	
30	27	U	
31	18	U	
32	28	U	
33	37	U	
34	35	U	
35	21	U	
36	43	U	
37	35	U	
38	32	U	
39	11	U	
40	30	U	
41	19	U	
42	18	U	
43	61	U	
44	52	U	
45	12	U	
46	16	U	
47	17	U	
48	16	U	
49	27	U	
50	18	U	

51	18	U	
52	19	U	
53	19	U	
54	38	U	
55	31	U	
56	27	U	

A total of 41 edible crabs were measured and recorded during the survey on 15th June 2022 (Annex Table G).

Annex Table G: The edible crab (*Cancer pagurus*) records including carapace size (mm), sex (U - Unsexed) and notes from the survey on 15th June 2022.

Crab No.	Carapace size (mm)	Sex (M/F/U)	Other
1	34	U	1 claw
2	75	U	
3	42	U	
4	28	U	
5	79	U	
6	39	U	
7	64	U	
8	37	U	
9	46	U	
10	69	U	
11	73	U	
12	39	U	
13	42	U	
14	73	U	
15	32	U	
16	56	U	
17	42	U	
18	36	U	
19	75	U	
20	29	U	
21	21	U	
22	36	U	
23	66	U	
24	38	U	
25	57	U	
26	57	U	
27	60	U	
28	45	U	
29	50	U	
30	43	U	
31	25	U	
32	59	U	
33	54	U	
34	77	U	
35	40	U	
36	76	U	
37	86	U	
38	55	U	
39	58	U	
40	25	U	

41	40	U	

A total of 29 edible crabs were measured and recorded during the survey on 14th July 2022 (Annex Table H).

Annex Table H: The edible crab (*Cancer pagurus*) records including carapace size (mm), sex (U - Unsexed) and notes from the survey on 14th July 2022.

Crab No.	Carapace size (mm)	Sex (M/F/U)	Other
1	44	U	
2	53	U	
3	67	U	
4	66	U	
5	58	U	
6	40	U	
7	80	U	
8	61	U	
9	82	U	
10	65	U	
11	62	U	
12	55	U	
13	66	U	
14	61	U	
15	97	U	
16	59	U	
17	46	U	Freshly moulted - Moulted shell carapace 35 mm
18	47	U	
19	30	U	
20	24	U	
21	54	U	
22	89	U	Freshly moulted - Moulted shell carapace 69 mm
23	70	U	
24	67	U	
25	46	U	
26	55	U	
27	58	U	
28	29	U	
29	41	U	