

# *Palinurus elephas* (spiny lobster/crawfish/crayfish) in the South-West



First published May 2020

# Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England.

## Background

*Palinurus elephas* is a species of conservation interest (SOCl) and a designated feature of a number of Marine Conservation Zones (MCZs) in the south west of England. This report was commissioned to provide a review of Seasearch data for the species. It will be used in the condition assessment for the feature and to support management measures as necessary.

This report should be cited as: BOLTON, C. 2018. *Palinurus elephas (spiny lobster/crawfish/ crayfish) in the South-West*. Natural England Commissioned Reports, Number297

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**Keywords** – *Palinurus elephas*, citizen science, diving, marine monitoring

### Further information

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ISBN 978-1-78354-621-3

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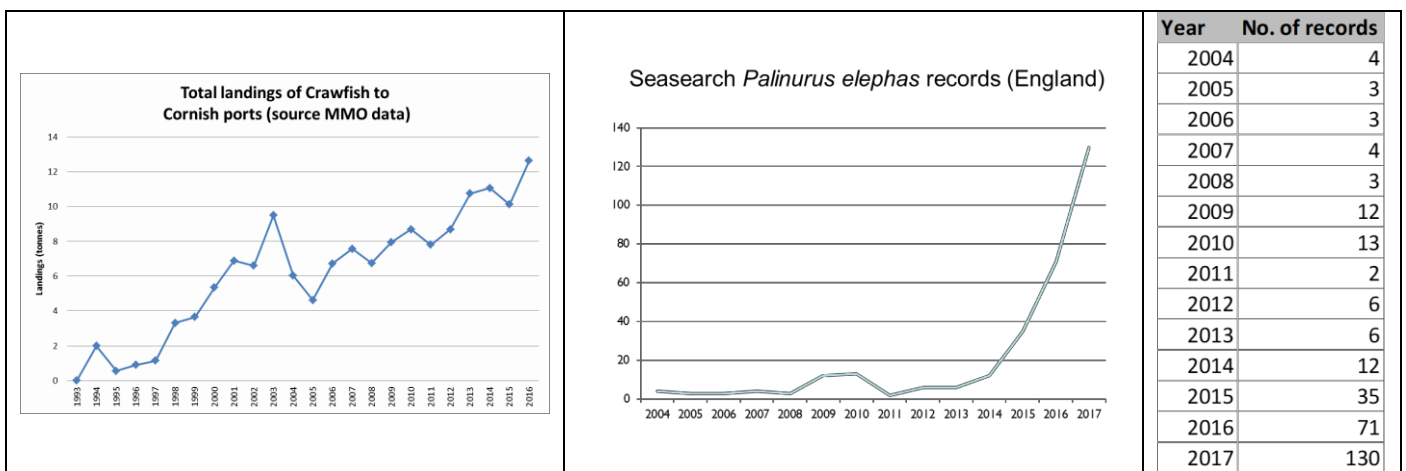
# *Palinurus elephas* (spiny lobster/crawfish/crayfish) in the South-West – a report to Natural England Area 12

Charlotte Bolton, National Seasearch Co-ordinator

## 1. Introduction

Since 2015 divers in the south west have been recording a veritable population explosion of the spiny lobster/crawfish, *Palinurus elephas*, after they were exploited to virtual extinction in the 1980s. Seasearch have been encouraging divers to send in their records to inform Natural England and the local Inshore Fisheries and Conservation Authorities (IFCAs) and to assist with the management of the re-emerging *Palinurus* fishery and the Marine Conservation Zones (MCZs) that list this species as a Feature of Conservation Interest. Matt Slater (Seasearch Cornwall Co-ordinator and Marine Awareness Officer at Cornwall Wildlife Trust) conducted a number of survey dives specifically looking for crawfish in suitable habitat and carried out an extensive data extraction exercise from social media platforms to augment formally-submitted Seasearch records.

Landings data shows a steep upward trend in line with our sightings records (N.B. uncorrected for survey effort), as shown below:



**Figure 1:** Comparison of *Palinurus elephas* landings data (Cornwall) and Seasearch records in graphical and tabular form.

## 2. Fisheries management

There are three levels of legislation in the south-west governing crawfish fisheries – EU, national and local (Isles of Scilly IFCA, Cornwall IFCA, Devon and Severn IFCA; Southern IFCA do not regulate crawfish fisheries at the time of writing). The legislation includes permits, technical (MLS, prohibition on landing berried females) and spatial measures (closed areas).

Six of the inshore MCZs within the original Finding Sanctuary region list *Palinurus elephas* as a 'species of conservation importance', all with a conservation objective of 'recover to favourable condition': Bideford to Foreland Point, Isles of Scilly (all sites combined), Lundy, Padstow Bay and Surrounds, Skerries Bank and Surrounds, The Manacles. The recommended (but as-yet undesignated) Cape Bank MCZ also lists crawfish. We present separate records for each of these areas as well as separating the SACs (Special Areas of Conservation) and sightings from outwith MPAs (Appendix 1).

### 3. Summary of sightings in 2017 (south-west England only)

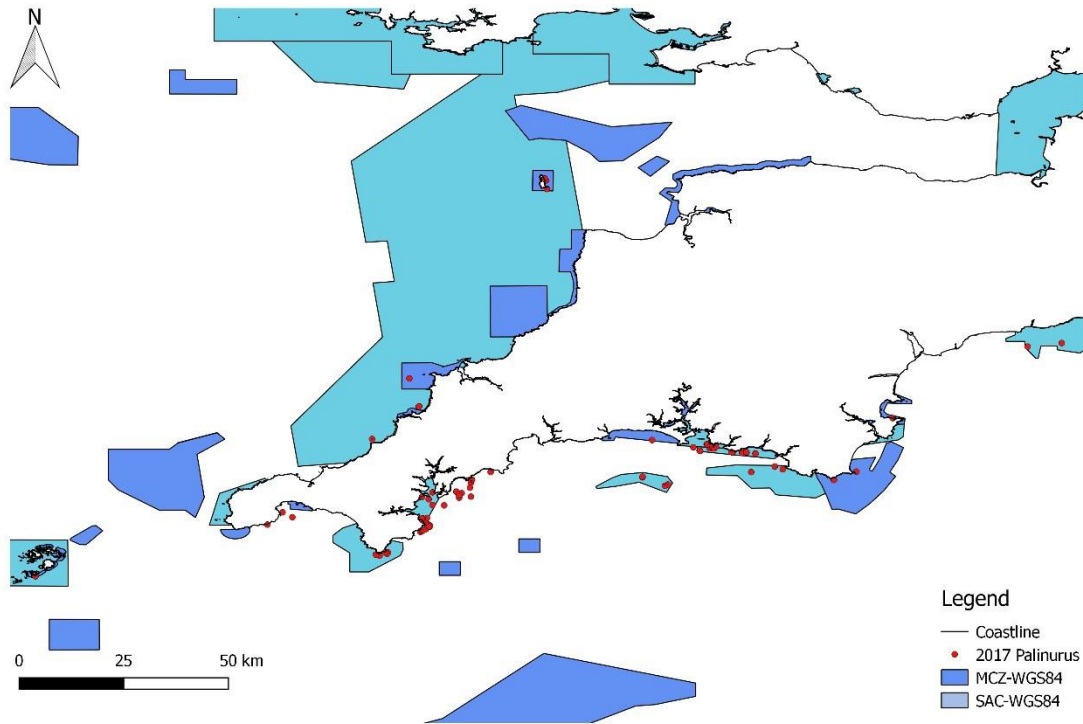
#### Records from MPAs listing Crawfish in the designation:

1. Lundy MCZ / Lundy SAC – 7 records
2. Padstow Bay and Surrounds MCZ – 1 record
3. Isles of Scilly MCZs (all sites combined) / Isles of Scilly Complex SAC – 1 record
4. The Manacles MCZ – 13 records
5. Skerries Bank and Surrounds MCZ – 3 records

#### Records from MPAs not listing Crawfish in the designation:

6. Lizard Point SAC – 5 records
7. Fal and Helford SAC – 16 records
8. Whitsand and Looe Bay MCZ – 1 record
9. Plymouth Sound & Estuaries SAC – 8 records
10. Start Point to Plymouth Sound & Eddystone SAC – 32 records
11. Lyme Bay and Torbay SAC – 2 records

There were 91 records within MPAs (not including SPAs or cSAC/SCIs designated for mobile species), out of a total of 129 in the south-west of England. All records are listed in Appendix 1.



**Figure 2:** A map showing locations of *Palinurus elephas* records, Marine Conservation Zones and Special Areas of Conservation (with marine components) in the south-west.

## 4. Details of 2017 sightings

### 4.1 Habitat

The 2017 sightings were fairly evenly distributed between wrecks and reefs, with the Volnay, Mohegan and Persier wrecks all proving to host large numbers of individuals on a regular basis. Boiler tubes seem to be a particularly good environment (see Figure 3 below) for the very small juvenile animals (as are reef fissures) with generally larger animals (approximately MLS or larger) being seen out in the open. These wrecks also represent an exceptionally easy method of monitoring *in situ* with minimal disturbance.

All of the MCZs in the south-west where crawfish were reported in 2017 were designated in the first tranche in November 2013.

SS Volnay Wreck – Fal and Helford SAC  
March 29<sup>th</sup> 2018

Photos by John Yarrow



**Figure 3:** The boiler tubes on the Volnay wreck (within the Fal and Helford SAC) provide a particularly good environment for juveniles.

**Lundy MCZ<sup>1</sup> / Lundy SAC**

The Lundy MCZ (which geographically overlaps with the SAC) was created in 2013. Prior to that there was a Marine Nature Reserve in the area dating from 1986. The designated feature of the MCZ is *Palinurus elephas* with a conservation objective of ‘recover to favourable condition’. Seven records, all on reef rather than wreck habitat and all submitted on Seasearch forms, were received for this site in 2017. Lundy is a very popular diving destination and the relatively low number of records would seem to indicate that not all sightings are reported.

<sup>1</sup> <https://www.gov.uk/government/publications/marine-conservation-zone-2013-designation-lundy>

### ***Padstow Bay and Surrounds MCZ<sup>2</sup>***

Created in 2013, this MCZ includes *Palinurus elephas* as one of two feature species with a conservation objective of 'recover to favourable condition'. One record from this site was submitted (on a Seasearch observation form) in 2017, from the wreck of the SS Poldown off Trevoze Head.

### ***Isles of Scilly MCZ (all sites combined)<sup>3</sup> / Isles of Scilly Complex SAC***

The Isles of Scilly MCZs comprise eleven separate areas within the archipelago; the sole 2017 record was received from the Plympton to Spanish Ledge MCZ, on a vertical circalittoral reef habitat (biotoped as CR.HCR.XFa.CvirCri). Given the popularity of the Isles of Scilly as a diving destination for independent groups and expeditions, this low number of records clearly does not represent an accurate view of the population there. Seasearch (under the auspices of Cornwall Wildlife Trust) has not organised surveys there in recent years, so all divers should be encouraged to report sightings (preferably with accompanying images) from this area.

### ***Lizard Point SAC<sup>4</sup>***

The Lizard Point Special Area of Conservation has been designated for reefs. There is a description of the habitats and species present in Natural England's conservation advice document<sup>5</sup>.

Significant numbers of crawfish, mostly juvenile, have been recorded in south-west England since 2014 and a short expedition to Lizard Point SAC in May 2017 targeted seven sites to specifically look for the species. Crawfish were recorded at five of these sites, as shown in table 1 below.

Site	Crawfish size		
	Small	Medium	Large
Site 1 Clidgas Rocks	1	1	2
Site 2 Lizard Point SW			
Site 3 Lizard Point S	1		
Site 4 Off Housel Bay	6	1	3
Site 5 Polledan	1		
Site 6 Off Bass Point			
Site 7 Vroque Rock	2	2	
<b>TOTAL</b>	<b>11</b>	<b>4</b>	<b>5</b>

**Table 1:** Crawfish sightings within the Lizard Point SAC, May 2017

<sup>2</sup> <https://www.gov.uk/government/publications/marine-conservation-zone-2013-designation-padstow-bay-and-surrounds>

<sup>3</sup> <https://www.gov.uk/government/publications/marine-conservation-zone-2013-designation-isles-of-scilly>

<sup>4</sup> <http://www.seasearch.org.uk/downloads/Lizard-SAC-2017.pdf>

<sup>5</sup> Natural England: Lizard Point candidate Special Area of Conservation. Formal advice under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 Version 2.0, July 2012

Lizard Point SAC clearly contains suitable rocky habitats for crawfish and the new populations are reaching a size at which they could be targeted by commercial or recreational fishery. Natural England assesses the Lizard Point SAC as 'moderately to highly vulnerable' to selective extraction of, *inter alia*, crawfish<sup>2</sup>. The populations should be actively monitored as an interim measure pending future management of the species.

### **The Manacles MCZ<sup>6</sup>**

*Palinurus elephas* is listed as a feature of The Manacles MCZ with a conservation objective of 'recover to favourable condition'. The majority of the 18 records reported here came from independent *ad hoc* sightings centred on the Mohegan wreck, although there were also reports from the famous reefs of the area.

Seasearch has carried out extensive surveys in the wider Manacles area since 2001 and has produced an overall report of them<sup>7</sup>. Based on the earlier surveys, Seasearch considered that an area to the south of the existing MCZ boundary was particularly important for some of the identified features of the MCZ and merited the same level of protection. A number of survey dives in the area directly to the south of the existing MCZ were organised in 2017<sup>8</sup> and as a result Seasearch have recommended an extension of the MCZ boundary to encompass Lowland Point, the fringing reefs of Foam Rock, The Wreas, Davas Rock and the isolated Puskys Reef, all of which provide similar reef habitat. This recommendation was put to Defra in the recent (July 2018) public consultation on Marine Conservation Zones.

### **Fal and Helford SAC<sup>9</sup>**

The Fal and Helford Special Area of Conservation is a complex site that supports a wide range of communities representative of rias, marine inlets and shallow bays. Special mention is given to the extensive area of maerl beds and various other Priority habitats and species. *Palinurus elephas* is not specifically included.

The sixteen records submitted in 2017 come from a mixture of wrecks and inshore reefs (Falmouth and Porthkerris shore dives) with the Volnay wreck being a particular hotspot (see Figure 3). Many of the records will therefore be repeat sightings.

### **Whitsand and Looe Bay MCZ<sup>10</sup>**

One record (from the Rosehill wreck) was submitted from this site in 2017, on a Seasearch survey form. Five crawfish were reported on the wreck. Again, as a popular dive site further publicity and encouragement to all divers via dive centres and charter boats would undoubtedly increase the number of sightings from this and other wrecks in this MCZ (ex-HMS Scylla, James Eagan Layne). *Palinurus elephas* is not listed as a designated feature for the MCZ but the wrecks and nearby reefs clearly provide suitable habitat as the population increases across the whole region, particularly in the neighbouring Start Point to Plymouth Sound & Eddystone SAC where the first sightings of the revival occurred in 2014-2015.

<sup>6</sup> <https://www.gov.uk/government/publications/marine-conservation-zone-2013-designation-the-manacles>

<sup>7</sup> <http://www.seasearch.org.uk/downloads/Manacles-2001-2015.pdf>

<sup>8</sup> <http://www.seasearch.org.uk/downloads/Manacles-MCZ-Extension-2017.pdf>

<sup>9</sup> <http://publications.naturalengland.org.uk/publication/3048654>

<sup>10</sup> <https://www.gov.uk/government/publications/marine-conservation-zone-2013-designation-whitsand-and-looe-bay>



### ***Plymouth Sound & Estuaries SAC<sup>11</sup>***

A large and complex site, the Plymouth Sound & Estuaries Special Area of Conservation encompasses the main Plymouth Sound, the three rias leading inland from it, and Wembury Bay with an associated ria (the Yealm). The seven records sent in from 2017 are located on one wreck (the popular Glen Strathallen just south of Fort Bovisand) and inshore reef habitat around the Mewstone in Wembury Bay.

### ***Start Point to Plymouth Sound & Eddystone SAC<sup>12</sup>***

This extensive site (341 km<sup>2</sup>) in three areas unsurprisingly hosted the largest number of sightings (uncorrected for survey effort) in 2017 with 33 records coming from Devon Seasearch organised surveys and regular contributors.

Hilsea Point and Gulley (in the northernmost area, “Bigbury Bay to Plymouth Sound Reefs”), where crawfish were initially regularly recorded (2014-2015), is still populated but the individuals recorded there in 2017 seem to be the original animals, with little evidence of ongoing recruitment. Attempting to estimate size of juvenile animals within reefs is challenging but the recorders are very experienced surveyors and have photographic and video evidence to back up the sightings, so the data appears robust. The unmistakable site topography identifies this particular area as a favourite for ongoing monitoring of its apparently resident population. The Persier wreck in Bigbury Bay appears to be another hotspot with the boiler tubes providing perfect habitat for juveniles.

Within the main area of the SAC (“Start Point to West Rutts Reefs”), four sightings were reported from offshore reefs, with four sightings again from the “Eddystone Reefs” section (two around the lighthouse and two from Hand Deeps).

### ***Skerries Bank and Surrounds MCZ<sup>13</sup>***

Three records from this MCZ were submitted in 2017, all from reefs in the west of the MCZ adjacent to the Start Point SAC (“Start Point to West Rutts Reefs” section) and on organised Devon Seasearch survey dives.

### ***Lyme Bay and Torbay SAC<sup>14</sup>***

The geogenic (bedrock and stony) reefs of the Lyme Bay region of this Special Area of Conservation have a particularly high species richness and have been identified as a marine biodiversity “hotspot”<sup>14, 15</sup>.

Two sightings on the reefs in the west of this site were submitted on Seasearch survey forms from organised Devon Seasearch survey dives in 2017. It is hoped that these sightings represent the eastward expansion of the species across Lyme Bay. Recording sightings in Dorset will be a particular priority in 2018.

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<sup>11</sup> <http://publications.naturalengland.org.uk/publication/5833129793159168>

<sup>12</sup> <http://publications.naturalengland.org.uk/publication/3266966>

<sup>13</sup> <https://www.gov.uk/government/publications/marine-conservation-zone-2013-designation-skerries-bank-and-surrounds>

<sup>14</sup> <http://publications.naturalengland.org.uk/file/10389262> (Regulation 35(3) formal advice)

<sup>15</sup> <http://assets.wwf.org.uk/downloads/marinehotspots.pdf>

## Poltexas Reef Newquay - 13<sup>th</sup> May 2017



**10 individuals seen**

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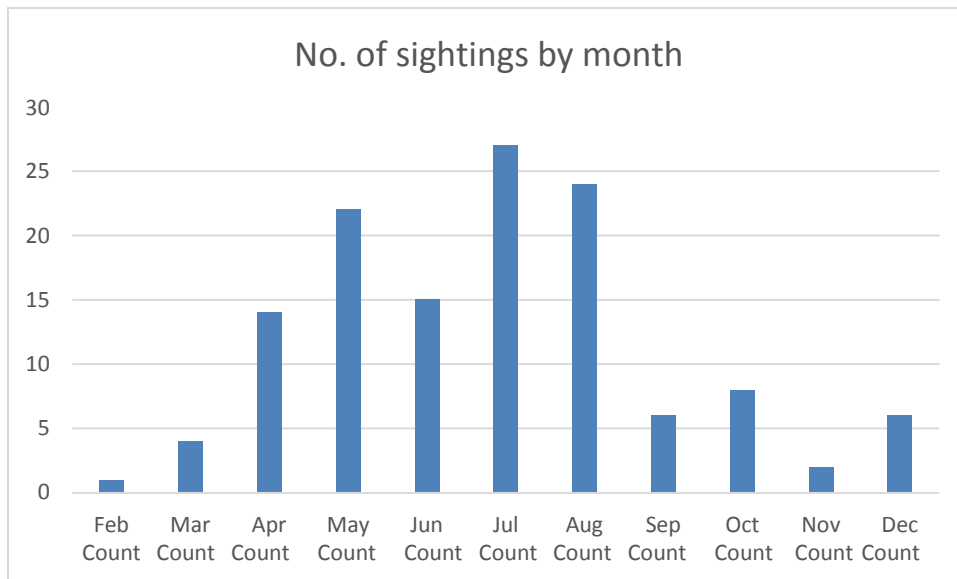
**sea-changers**



**Figure 4:** Poltexas Reef lies just to the north of the Newquay and The Gannel MCZ (where there were no sightings reported in 2017) but clearly provides suitable habitat for *Palinurus elephas*.

## 4.2 Date

Sightings of crawfish spanned almost the entire calendar year, being reported from the end of March into December 2017 – see Figure 5:



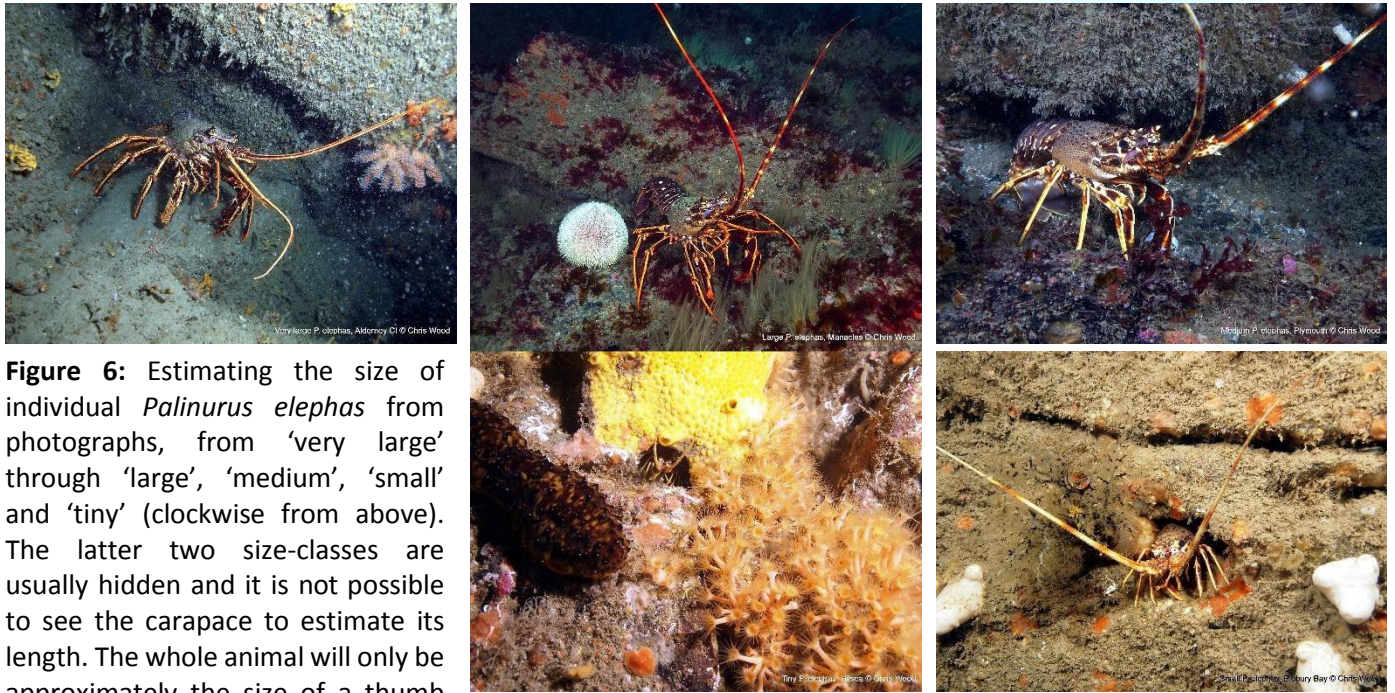
**Figure 5:** Number of sightings reported by month (N.B. uncorrected for survey effort)

## 4.3 Area

Whilst the population ‘explosion’ in Devon and Cornwall is well-known and seemingly sustained, across Lyme Bay and further east in Dorset diver records of *Palinurus elephas* are still rare. Anecdotally, crawfish are being netted in the area of Stennis Ledges (adjacent to Chesil Beach in the Chesil Beach and Stennis Ledges MCZ). The two records from the Lyme Bay and Torbay SAC (Lyme Bay region) are interesting in that they may signal the start of a range extension. Southern IFCA at present do not have any regulations specifically pertaining to *Palinuruselephas*.

## 4.4 Estimating individual size

The recording form (available to download from [www.seasearch.org.uk/recording.html](http://www.seasearch.org.uk/recording.html)) asks the diver to note the habitat and depth of the crawfish seen, and also allows for a size estimate to be given. The accompanying notes explain that the pertinent measurement is from the rostrum to the rear of the carapace. Given the difficulty in estimating the size of a crawfish without undue disturbance, we are now attempting to use a photographic scale to classify sightings – see Figure 6:



**Figure 6:** Estimating the size of individual *Palinurus elephas* from photographs, from 'very large' through 'large', 'medium', 'small' and 'tiny' (clockwise from above). The latter two size-classes are usually hidden and it is not possible to see the carapace to estimate its length. The whole animal will only be approximately the size of a thumb (<10cm).

These photographs are included on the crawfish online recording portal hosted on the Marine Conservation Society website ([www.mcsuk.org/sightings/report/crawfish](http://www.mcsuk.org/sightings/report/crawfish)) which is designed to capture photographic records with the sighting details.

## 5. Plans for 2018

Cornwall Wildlife Trust have scheduled focused crawfish survey dives to explore suitable habitat and expand our sightings map. We continue to publicise the need for sightings to be reported (via dive boats and centres), with an article in the Porcupine Marine Natural History Society Bulletin, the Marine Conservation Society magazine and (planned) SCUBA magazine. We will be keeping a watching brief in the eastern side of Lyme Bay, around Portland and into South Dorset to substantiate the anecdotal evidence of crawfish spreading to that area.

The data is publicly available for stakeholders (NE, IFCAs) and will be on the National Biodiversity Network. There is currently no 'sensitive species' policy on the latter for this species so the data is available at full survey resolution – there may be a case to be made that it should be downgraded to 1km resolution or coarser.

**Appendix 1: Locations of all 2017 crawfish records in the south-west, with MPA designation (if applicable)**

	Lat	Long	Record/form no.	Date	MPA
1.	50.333333	-5.231000	FB17/25	02/09/2017	Bristol Channel Approaches cSAC
2.	50.073136	-5.050063	CW17/091	14/07/2017	Fal and Helford SAC
3.	50.135118	-5.044557	CW17/098	14/06/2017	Fal and Helford SAC
4.	50.066267	-5.064833	CW17/100	20/11/2017	Fal and Helford SAC
5.	50.116000	-5.031950	FB17/11	09/06/2017	Fal and Helford SAC
6.	50.072183	-5.064283	FB17/12	14/06/2017	Fal and Helford SAC
7.	50.072183	-5.064283	FB17/16	14/07/2017	Fal and Helford SAC
8.	50.156700	-5.031717	FB17/17	19/07/2017	Fal and Helford SAC
9.	50.072183	-5.064283	FB17/20	12/08/2017	Fal and Helford SAC
10.	50.072183	-5.064283	FB17/33	02/12/2017	Fal and Helford SAC
11.	50.072183	-5.064283	FB17/35	03/12/2017	Fal and Helford SAC
12.	50.116000	-5.031950	FB17/5	19/04/2017	Fal and Helford SAC
13.	50.072183	-5.064283	FB17/6	28/04/2017	Fal and Helford SAC
14.	50.066670	-5.066005	NT17/018	11/04/2017	Fal and Helford SAC
15.	50.066000	-5.065000	NT17/267	17/06/2017	Fal and Helford SAC
16.	50.142750	-5.066167	NT17/270	13/12/2017	Fal and Helford SAC
17.	50.070833	-5.067167	NT17/277	03/12/2017	Fal and Helford SAC
18.	50.160000	-4.953333	FB17/18	23/07/2017	Falmouth Bay to St Austell Bay SPA
19.	50.143917	-4.905417	FB17/29	15/10/2017	Falmouth Bay to St Austell Bay SPA
20.	50.200200	-4.904850	FB17/26	24/09/2017	Falmouth Bay to St Austell Bay SPA
21.	50.224433	-4.840500	NT17/271	29/05/2017	Falmouth Bay to St Austell Bay SPA
22.	50.224433	-4.840500	NT17/272	17/09/2017	Falmouth Bay to St Austell Bay SPA
23.	50.148417	-4.944333	FB17/13	17/06/2017	Falmouth Bay to St Austell Bay SPA
24.	Not supplied	Not supplied	FB17/28	14/10/2017	Falmouth Bay to St Austell Bay SPA
25.	50.160000	-4.953333	FB17/3	09/04/2017	Falmouth Bay to St Austell Bay SPA
26.	50.160000	-4.953333	FB17/31	29/10/2017	Falmouth Bay to St Austell Bay SPA
27.	50.160000	-4.953333	FB17/34	02/12/2017	Falmouth Bay to St Austell Bay SPA
28.	50.160000	-4.953333	FB17/4	12/04/2017	Falmouth Bay to St Austell Bay SPA
29.	50.148417	-4.944333	FB17/8	28/05/2017	Falmouth Bay to St Austell Bay SPA
30.	50.148417	-4.944333	FB17/9	02/06/2017	Falmouth Bay to St Austell Bay SPA

31.	50.189500	-4.905839	CW17/002	09/04/2017	Falmouth Bay to St Austell Bay SPA
32.	50.155003	-4.935838	CW17/002A	19/05/2017	Falmouth Bay to St Austell Bay SPA
33.	50.140080	-4.944330	CW17/047	04/06/2017	Falmouth Bay to St Austell Bay SPA
34.	50.148419	-4.944338	CW17/055	16/06/2017	Falmouth Bay to St Austell Bay SPA
35.	50.114833	-4.993500	FB17/19	30/07/2017	Falmouth Bay to St Austell Bay SPA
36.	50.173167	-4.908583	FB17/24	30/08/2017	Falmouth Bay to St Austell Bay SPA
37.	49.881550	-6.338833	NT17/208	08/08/2017	IOS MCZ
38.	49.949100	-5.205995	NT17/048	18/05/2017	Lizard Point SAC
39.	49.960103	-5.178515	NT17/053	18/05/2017	Lizard Point SAC
40.	49.952568	-5.218816	NT17/056	19/05/2017	Lizard Point SAC
41.	49.955366	-5.181661	NT17/061	19/05/2017	Lizard Point SAC
42.	49.960812	-5.187417	NT17/062	19/05/2017	Lizard Point SAC
43.	51.190367	-4.663000	DV17/154	14/08/2017	Lundy MCZ
44.	51.184116	-4.658800	DV17/109	14/08/2017	Lundy MCZ
45.	51.190369	-4.663038	DV17/111	14/08/2017	Lundy MCZ
46.	51.190369	-4.663038	DV17/112	14/08/2017	Lundy MCZ
47.	51.156203	-4.655435	DV17/114	15/08/2017	Lundy MCZ
48.	51.156203	-4.655435	DV17/114	15/08/2017	Lundy MCZ
49.	51.156203	-4.655435	DV17/115	15/08/2017	Lundy MCZ
50.	50.637252	-3.073000	DV17/089	16/07/2017	Lyme Bay and Torbay SAC
51.	50.648746	-2.960526	DV17/098	17/07/2017	Lyme Bay and Torbay SAC
52.	50.532718	-5.108272	CW17/097	18/06/2017	Padstow Bay and Surrounds MCZ
53.	50.315367	-4.125333	DV17/158	26/08/2017	Plymouth Sound and Estuaries SAC
54.	50.315850	-4.127667	DV17/160	18/07/2017	Plymouth Sound and Estuaries SAC
55.	50.315850	-4.127667	NT17/273	18/07/2017	Plymouth Sound and Estuaries SAC
56.	50.307367	-4.110000	NT17/203	24/04/2017	Plymouth Sound and Estuaries SAC
57.	50.307233	-4.098833	NT17/204	25/04/2017	Plymouth Sound and Estuaries SAC
58.	50.315867	-4.129333	NT17/205	25/04/2017	Plymouth Sound and Estuaries SAC
59.	50.302117	-4.105333	NT17/206	26/04/2017	Plymouth Sound and Estuaries SAC
60.	50.198634	-3.710916	DV17/128	02/09/2017	Skerries Bank and Surrounds MCZ
61.	50.226139	-3.636118	DV17/129	02/09/2017	Skerries Bank and Surrounds MCZ
62.	50.198771	-3.710150	DV17/167	02/09/2017	Skerries Bank and Surrounds MCZ

63.	50.284837	-3.968832	DV17/018	27/03/2017	Start Point to Plymouth Sound & Eddystone SAC
64.	50.288951	-4.044772	DV17/019	27/03/2017	Start Point to Plymouth Sound & Eddystone SAC
65.	50.294213	-4.151399	DV17/020	28/03/2017	Start Point to Plymouth Sound & Eddystone SAC
66.	50.294213	-4.151399	DV17/025	28/03/2017	Start Point to Plymouth Sound & Eddystone SAC
67.	50.224285	-3.983218	DV17/032	23/04/2017	Start Point to Plymouth Sound & Eddystone SAC
68.	50.243003	-3.905185	DV17/071	03/07/2017	Start Point to Plymouth Sound & Eddystone SAC
69.	50.285236	-3.969214	DV17/033	23/04/2017	Start Point to Plymouth Sound & Eddystone SAC
70.	50.303168	-4.116806	DV17/034	29/04/2017	Start Point to Plymouth Sound & Eddystone SAC
71.	50.302698	-4.119398	DV17/037	06/05/2017	Start Point to Plymouth Sound & Eddystone SAC
72.	50.302698	-4.119398	DV17/037	06/05/2017	Start Point to Plymouth Sound & Eddystone SAC
73.	50.183471	-4.257029	DV17/066	02/07/2017	Start Point to Plymouth Sound & Eddystone SAC
74.	50.243003	-3.905185	DV17/070	03/07/2017	Start Point to Plymouth Sound & Eddystone SAC
75.	50.233584	-3.878770	DV17/077	04/07/2017	Start Point to Plymouth Sound & Eddystone SAC
76.	50.288719	-4.012696	DV17/078	04/07/2017	Start Point to Plymouth Sound & Eddystone SAC
77.	50.288384	-4.012837	DV17/079	04/07/2017	Start Point to Plymouth Sound & Eddystone SAC
78.	50.288020	-4.012554	DV17/080	04/07/2017	Start Point to Plymouth Sound & Eddystone SAC
79.	50.294213	-4.151399	DV17/122	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
80.	50.294213	-4.151399	DV17/122	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
81.	50.289232	-3.998047	DV17/124	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
82.	50.288801	-3.998001	DV17/125	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
83.	50.294217	-4.151333	DV17/155	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
84.	50.289733	-3.998167	DV17/156	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
85.	50.285250	-3.968833	DV17/157	26/08/2017	Start Point to Plymouth Sound & Eddystone SAC
86.	50.284917	-3.968667	DV17/159	18/07/2017	Start Point to Plymouth Sound & Eddystone SAC
87.	50.209250	-4.340333	DV17/176	28/10/2017	Start Point to Plymouth Sound & Eddystone SAC
88.	50.288750	-4.044167	DV17/177	29/10/2017	Start Point to Plymouth Sound & Eddystone SAC
89.	50.207083	-4.340667	DV17/153	15/07/2017	Start Point to Plymouth Sound & Eddystone SAC
90.	50.285250	-3.968833	DV17/152	18/06/2017	Start Point to Plymouth Sound & Eddystone SAC
91.	50.289734	-3.998166	DV17/166	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
92.	50.179414	-4.266755	DV17/170	08/10/2017	Start Point to Plymouth Sound & Eddystone SAC
93.	50.294213	-4.151399	DV17/189	21/08/2017	Start Point to Plymouth Sound & Eddystone SAC
94.	50.303933	-4.110352	NT17/166	08/07/2017	Start Point to Plymouth Sound & Eddystone SAC

95	50.289883	-4.047167	NT17/207	28/04/2017	Start Point to Plymouth Sound & Eddystone SAC
96	50.055419	-5.051594	CW17/057	08/07/2017	The Manacles MCZ
97	50.051253	-5.044413	CW17/067	08/07/2017	The Manacles MCZ
98	50.045250	-5.043167	FB17/10	03/06/2017	The Manacles MCZ
99	50.044417	-5.042050	FB17/15	02/07/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/21	12/08/2017	The Manacles MCZ
10	50.047900	-5.040167	FB17/22	19/08/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/23	27/08/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/27	14/10/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/30	29/10/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/36	18/12/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/7	03/05/2017	The Manacles MCZ
10	50.045333	-5.043333	NT17/268	18/06/2017	The Manacles MCZ
10	50.045250	-5.043167	FB17/32	26/11/2017	The Manacles MCZ
10	50.329831	-4.308840	NT17/020	04/05/2017	Whitsand and Looe Bay MCZ
11	50.440679	-5.075950	CW17/016	13/05/2017	
11	50.439916	-5.077577	CW17/018	13/05/2017	
11	50.439916	-5.077577	CW17/019	13/05/2017	
11	50.030765	-5.070853	CW17/070	09/07/2017	
11	50.029947	-5.071834	CW17/075	09/07/2017	
11	50.037414	-5.052756	CW17/080	09/07/2017	
11	50.037414	-5.052756	CW17/082	09/07/2017	
11	50.037414	-5.052756	CW17/086	09/07/2017	
11	50.198520	-4.901636	CW17/093	27/08/2017	
11	50.305965	-4.173333	DV17/036	06/05/2017	
12	50.401788	-3.517116	DV17/133	26/02/2017	
12	50.076050	-5.493250	FB17/14	19/06/2017	
12	50.440188	-5.077186	NT17/023	13/05/2017	
12	50.027536	-5.072183	NT17/063	20/05/2017	
12	50.029746	-5.066849	NT17/064	20/05/2017	
12	50.031818	-5.065054	NT17/066	20/05/2017	
12	50.031818	-5.065054	NT17/066	20/05/2017	



12	50.032867	-5.063138	NT17/067	20/05/2017	
12	50.091967	-5.525500	NT17/278	14/06/2017	
12	50.051483	-5.575333	NT17/279	14/06/2017	