

Common octopus (*Octopus vulgaris*) blooms off the Southwest of the UK: History, trends, causes and consequences

Report on Work Package 2:

Fisheries independent estimates of octopus abundance and behaviour

(June 2026)

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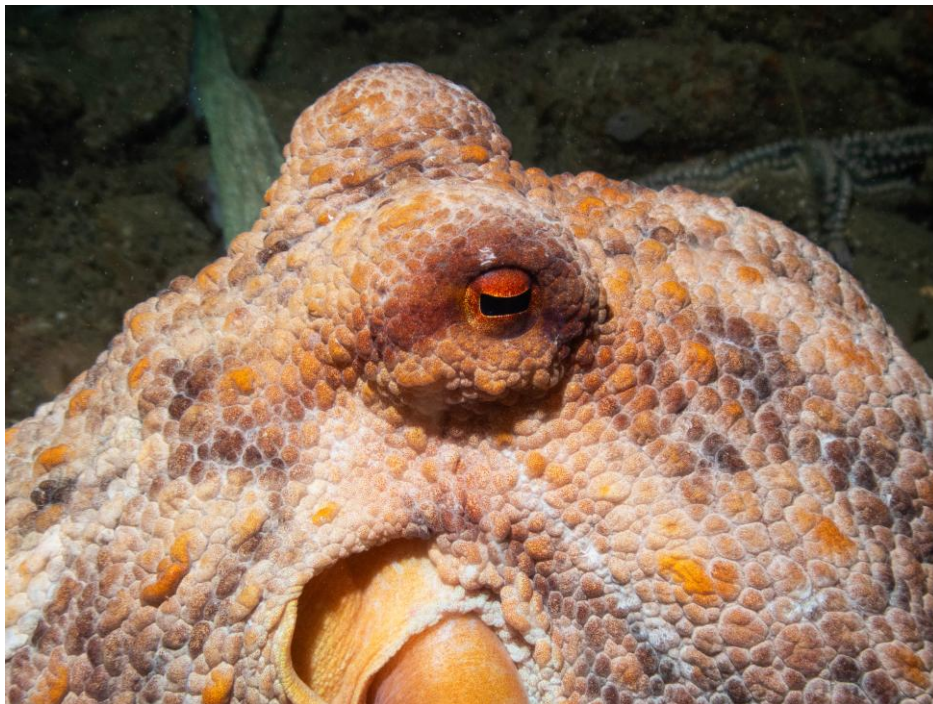


Photo: Olivia Langmead

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1 Executive Summary

Since early 2025, a dramatic bloom in population numbers of the common octopus (*Octopus vulgaris*) has occurred off the southwest (SW) coast of the UK. Although common octopus are a native species in the UK, they are usually rare in our waters. In this context, the octopus bloom in 2025 was the largest seen in at least 75 years. While a significant quantity of octopus has subsequently been landed and sold by commercial fishermen, these octopus also regularly preyed on commercially important shellfish species such as brown crabs (*Cancer pagurus*), European lobster (*Homarus gammarus*) and king scallops (*Pecten maximus*) in fishing gear and on the seabed. Commercial landings of all three of these species dropped dramatically in the SW of the UK in 2025, presumably in response to this predation, causing hardship for many fishermen, particularly those fishing inshore in small boats.

Given the significant effects of octopus blooms on the fishing industry and the wider ecosystem, and the potential for such blooms to increase in the future due to climate change, we were commissioned in August 2025 to undertake a rapid response project to assess the history of such octopus blooms, recent and evolving trends in abundance, the potential causes, and the current effects.

We separated our work programme into two parts: Work package 1 was designed to assess the current situation and to document both historical and contemporary reports of octopus blooms, their potential causes, and the challenges they imposed on the fishing industry. Work package 2 ran concurrently but was a slightly longer-term element designed to produce fisheries-independent estimates of octopus abundance and to monitor how they evolved over time. Work package 1 was funded by Defra, Plymouth City Council and Devon County Council, while work package 2 was solely funded by Defra. Our report on work package 1 was published in January 2026. This new report focuses on our outputs from work package 2.

Methods for obtaining fisheries independent estimates of octopus abundance and behaviour:

Methods investigated in this study included scientific trawl surveys, Baited Remote Underwater Videos (BRUVs), fitting underwater cameras to fishing gear and SCUBA diving and snorkelling surveys, in particular by citizen scientists. While all these methods detected common octopus in our study, or showed potential to do so, some appeared to hold more promise than others.

Scientific trawl surveys are a common and widely used method for assessing fish and shellfish stocks. In the SW of the UK, the Marine Biological Association (MBA) holds an almost unprecedented time series of these types of surveys extending back to 1911. However, despite these surveys having caught octopus in the past, none were captured when we repeated these surveys in July 2025 and in March and May 2026. Probable reasons for this are the relatively short time frame and limited spatial scale of the latest surveys. This issue could likely be overcome by a more extensive survey programme, but clearly the financial investment would need to be increased to allow this to happen.

We also conducted BRUV surveys in Plymouth Sound and surrounding areas in August 2025. Our BRUVs did detect common octopus, albeit a small number. However, the data collected by BRUVs went well beyond just abundance, it also allowed observations of habitat association, behaviour in the presence of both potential predators and prey, and measurements of body size and condition (senescence). Given the relatively extensive number of BRUV stations that have been surveyed across the SW of the UK in recent years, and their proven ability to detect octopus, we therefore think there is a strong argument for continuing to deploy further BRUVs in future years. This will help

build up a more extensive fisheries independent dataset of octopus distribution, abundance, behaviour and demography.

We also fitted remote cameras to shellfish pots (Pot Cams) in an aim to document octopus predatory behaviour during the operation of fishing gear. Although this method didn't detect any octopus during our small trial, it produced excellent footage with clear potential to record octopus interactions in the future. We therefore recommend scaling up this approach to deploy more cameras over a more extensive time period, potentially in collaboration with local fishermen. Observations from this method could help design ways to reduce octopus predation in shellfish pots, and / or help refine new methods for those fishermen wanting to specific target octopus.

Finally, we conducted a survey of recreational SCUBA divers and snorkellers who had seen common octopus in 2025 (citizen scientists). This survey produced 120 responses and a range of extremely valuable and extensive observations. It would have required a much more significant investment in funding and personnel to have obtained so much information through a traditionally scientific SCUBA diving survey. As with BRUVs, the information collected by the divers and snorkellers in our survey went well beyond just abundance. There were considerable observations on habitat selection, general behaviour and reproduction. We therefore strongly recommend that data on octopus continues to be collected from divers and snorkellers. Given the limited number of octopus records being submitted to existing and more general citizen science repositories, we recommend the development of a user-friendly App dedicated to gathering ongoing octopus observations on a national scale.

Summary of recommendations:

In addition to the recommendations we made in our report on work package 1, we wish to re-emphasize or add the following list of recommendations:

- Continue to conduct BRUV surveys off the SW coast of the UK to build up a more extensive fisheries independent database on common octopus abundance, habitat selection, size and behaviour.
- More extensively use cameras on shellfish pots (Pot Cams) to better understand octopus behaviour into relation to fishing gear and how to design pots to either catch more octopus or to help exclude them.
- Continue engaging with citizen scientists (such as divers) including through the development of a dedicated App for divers, snorkellers and other sea users (e.g. recreational fishermen) to report their observations of common octopus on an ongoing basis.
- Gather data on octopus size and age to better understand population dynamics. This would ideally be done through market sampling (in addition to size data from BRUV surveys). Age data can be obtained using increments in octopus beaks.
- Use the above age data in combination with larval dispersal modelling to better understand where octopus larvae have come from and where offspring from UK breeding is likely to be advected to.
- Conduct a genetic analysis of octopus caught off the SW of the UK in collaboration with European collaborators to assess the degree of mixing between populations
- An acoustic tagging study would help further refine our understanding of how octopus distribution changes in the juvenile and adult phases.
- Conduct a dietary analysis using observations from fishermen, divers and Pot Cams, in combination with a bioenergetic study, to estimate population effects on key prey species

- Conduct a social and economic study to assess the full effects of the octopus bloom on the UK fishing industry and to share lessons among fishermen for how best to adapt.
- Conduct a social and economic study of SCUBA divers and businesses and associated tourist operators to assess if and how the octopus bloom is affecting them.

2 Background and goals of project

Since early 2025, a dramatic bloom in population numbers of the common octopus (*Octopus vulgaris* – hereafter referred to as ‘octopus’) has occurred off the southwest (SW) coast of the UK ([Hiscock, 2026](#)). Although common octopus are a native species in the UK, they are usually rare in our waters. In this context, the octopus bloom in 2025 was the largest seen in at least 75 years. A significant quantity of octopus was subsequently landed and sold by commercial fishermen, a trend which has continued into 2026, with April 2026 seeing the highest monthly landings to date (Figure 2.1). The quantity of common octopus landed in 2025 was at least 65 times higher than the recent UK average (2021-24). However, these octopus have also regularly preyed on commercially important shellfish species such as brown crabs (*Cancer pagurus*), European lobster (*Homarus gammarus*) and king scallops (*Pecten maximus*) in fishing gear and on the seabed. Commercial landings of all three of these species dropped dramatically in the SW of the UK in 2025, presumably in response to this predation, causing hardship for many fishermen, particularly those fishing inshore in small boats.

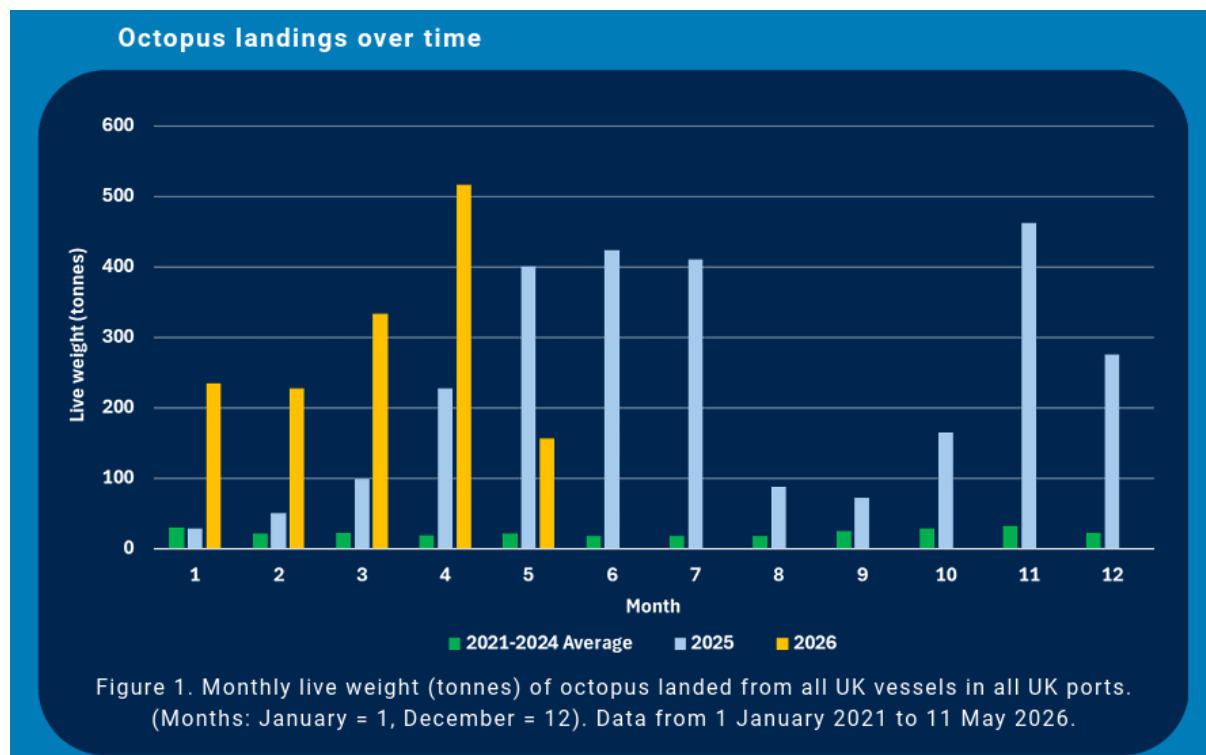


Figure 2.1. Infographic of octopus landings into UK ports from 2021 to May 11th, 2026, produced by the [Marine Management Organisation](#).

Given the significant effects of octopus blooms on the fishing industry and the wider ecosystem, and the potential for such blooms to increase in the future due to climate change, we were commissioned in August 2025 to undertake a rapid response project to assess the history of such octopus blooms, recent and evolving trends in abundance, the potential causes, and the current effects.

We separated our work programme into two parts: **Work package 1** was designed to respond rapidly to the current situation and to document both historical and contemporary reports of octopus blooms and the challenges being experienced by the fishing industry. **Work package 2** ran concurrently but was a slightly longer-term element designed to produce fisheries-independent

estimates of octopus abundance and to monitor how they evolved over time. **Work package 1** was funded by Defra, Plymouth City Council and Devon County Council, while **Work Package 2** was solely funded by Defra.

Our research addressing **Work Package 1** was published in January 2026 ([Stewart et al., 2026](#)). This report confirmed the large and unusual scale of the octopus bloom in 2025 and quantified the effects on the fishing industry through analysis of commercial landings and a survey of fishermen in the SW of the UK. We also found a strong link between unusually warm waters before and during both the octopus bloom in 2025, and those recorded historically. Larval dispersal modelling and long periods of easterly winds indicated that the octopus in UK waters in 2025 likely originated from breeding in the waters of the Channel Islands and northern France, where there have also been blooms in recent years ([Le Bourg et al., 2026](#)). Given the apparent link with climate change, we predicted that the current UK octopus bloom is likely to continue and / or reoccur in the near future.

This new report covers **Work package 2 (WP2): Fisheries Independent Estimates of Octopus Abundance and Behaviour**

We addressed **two key deliverables** in WP2:

- Fisheries independent estimates of the current abundance of octopus and how this evolved during 2025
- Novel insights into octopus behaviour and how they interact with shellfish pots

To produce fisheries independent estimates of abundance, we trialled the use of trawl surveys through a long-term programme conducted by the Marine Biological Association (MBA), and the use of Baited Remote Underwater Videos (BRUVs) through a research programme conducted by the University of Plymouth. We also opportunistically conducted a survey of SCUBA divers and snorkellers in the SW of the UK to gather their observations in 2025. Finally, we aimed to gather novel insights into octopus behaviour by fitting time-lapse cameras to shellfish parlour pots in areas where octopus were known to occur.

Our research was guided by a steering group which includes representatives from the fishing industry in Devon and Cornwall, the Devon and Severn IFCA, the Cornwall IFCA, Defra and the MMO.

3 Demersal trawl surveys of common octopus abundance

3.1 Introduction:

The Marine Biological Association (MBA) has conducted demersal [trawl surveys](#) off the southwest of the UK since 1911. Although survey effort has been rationalised in recent years, three sites; the ICES station known as L4, Whitsand Bay and Bigbury Bay (Figure 3.1) were surveyed at least once a year until 2020 when the Covid 19 pandemic and funding constraints caused a pause in the time series.

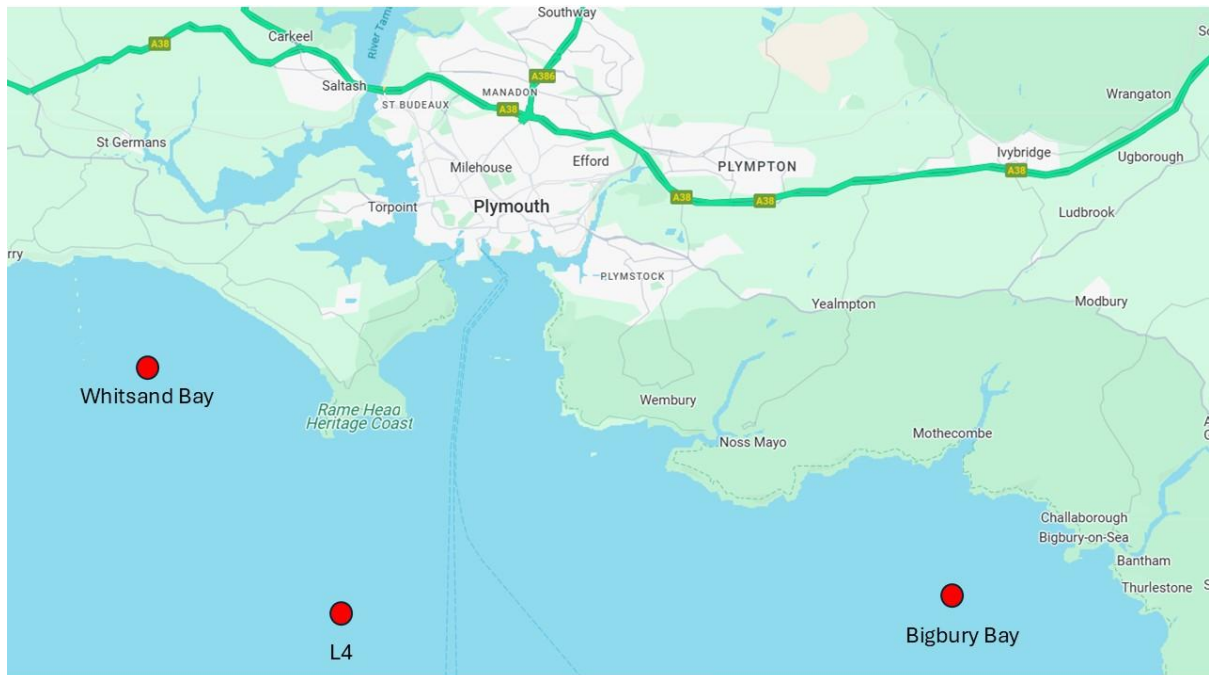


Figure 3.1: The three main sites off Plymouth that have been surveyed consistently by the Marine Biological Association using standard demersal trawls between 1911 and 2020.

These surveys are focused on demersal fishes, but invertebrate species, including cephalopods, are also recorded. The 1899 / 1900 octopus bloom predates these surveys, but the surveys did cover the period of the 1932/3 bloom and the 1950 bloom. During Work Package 1 of this project ([Stewart et al., 2026](#)) we were unable to find any quantitative data on octopus catches from the 1930s but significant captures of octopus by the MBA research vessel in 1950 and 1951 are described in [Rees and Lumby \(1954\)](#). In line with the lack of an octopus bloom between then and 2025, no more common octopus were caught in surveys subsequently, apart from a single specimen which was captured during an experimental trawl in June 2023. However, the trawl surveys did detect a bloom of the smaller curled octopus species *E. cirrhosa* during the later part of this period, peaking between 2015 and 2018 ([Stewart et al., 2026](#)). In total, 2476 *E. cirrhosa* were caught in trawls during those years, with a mean of almost 30 per trawl recorded in 2017. Most of these curled octopus were caught at the offshore site L4. The ability of the MBA trawl surveys to detect the common octopus bloom in 1950 and 1951, along with the curled octopus bloom from 2015 to 2018, gave us confidence that these surveys would also be useful for quantifying the common octopus bloom which started in 2025.

3.2 Methods:

Three historically sampled sites off south Devon and Cornwall: Bigbury Bay, Whitsand Bay, and the [Western Channel Observatory](#) site L4 (see Figure 3.1, Table 3.1) were surveyed using the [MBA RV](#)

[Sepia](#), a custom built 15.45 m Category 2 Coded Workboat, which has been doing these surveys since 2008. All sites were surveyed using a demersal otter trawl (Figure 3.2), but the trawl net traditionally used on the two inshore sites (Bigbury and Whitsand Bays) was slightly smaller and lighter than the trawl used to survey L4 (Table 3.2).

Table 3.1. Co-ordinates and ancillary information about the sites surveyed in this study

Site	Co-ordinates	Notes
Whitsand Bay	Bounded by latitudes 50° 21.0'N and 50° 19.0'N, and longitudes 004° 16.5'W and 004° 13.5'W	Partly within Whitsand and Looe Bay Marine Conservation Zone
Bigbury Bay	Area is bounded by latitudes 50° 16.0'N and 50° 14.0'N, and longitudes 003° 52.5'W and 003° 56.5'W	Excluding areas where bottom trawling is prohibited under the Devon & Severn IFCA's Mobile Fishing Permit Byelaw
L4	Area is bounded by latitudes 50° 19.0'N and 50° 13.0'N, and longitudes 004° 16.5'W and 004° 10.0'W	

Table 3.2. Specifications of the trawls traditionally used on the different sites surveyed in this study.

Site	Gear type	Headline length (m)	Foot rope length (m)	Mesh Type	Mesh size (mm)	Cod-end mesh size (mm)	Fine mesh cod-end cover (Y/N)
Whitsand Bay	Demersal otter trawl	14.5	18.2	Diamond	90	80	Y 10 mm
Bigbury Bay	Demersal otter trawl	14.5	18.2	Diamond	90	80	Y 10 mm
ICES station L4	Demersal otter trawl	16	22	Diamond	150	80	Y 20mm

The MBA has current dispensations from both the Cornwall IFCA and the Devon and Severn IFCA to conduct the trawl surveys described above at these sites.

The goal of this study was to survey all three of these sites twice, once in July 2025 (summer) and again in February 2026 (winter), to examine both spatial and temporal variation in the abundance of common octopus. We aimed to conduct 2 to 3 replicate tows during each survey at each site. Tows were 30 minutes long, at a speed of approximately 2.5 knots, giving us a mean tow length of 1.16 nm or 2150.73 m (Figure 3.2).

For each trawl, the entire catch was identified to species or the highest taxonomic level possible. Octopus (common and curled) were to be weighed and measured (total length and mantle length)

and sexed (based on the presence of the modified arm in males). The abundance of other species (fish, elasmobranchs, shellfish, other cephalopods and other selected macroinvertebrates) was to be counted, with the total length of the first 20 individuals of each fish and elasmobranch species per replicate trawl to be measured to the nearest millimeter (Figure 3.3).



Figure 3.2. Deploying the inshore demersal otter trawl net from the RV MBA Sepia off Bigbury Bay, Devon in July 2025 (photo: Bryce Stewart).



Figure 3.3. Measuring the catch from the trawl surveys on board the RV MBA Sepia (photo: Chris Parkes).

3.3 Results:

Bigbury and Whitsand Bays were surveyed as described above, through two replicate trawls at each site in both July 2025 and March 2026. The 2026 surveys of Bigbury and Whitsand Bays were originally planned for February, but unfavorable weather early in 2026 delayed these surveys by approximately one month – until March. Unfortunately, L4 could not be surveyed in August 2025 due to damage to the appropriate net, which needed extensive and timely repairs. The survey of L4 was further delayed in 2026 due to new damage to the net, resulting in L4 being surveyed with two replicate trawls of the slightly smaller inshore trawl net (as used at Bigbury and Whitsand Bays) in early May 2026.

3.3.1 Species abundance and composition

Species richness

The catches in the trawl surveys were dominated by teleost (bony) fish across all sites and dates (Table 3.3). However, various species of elasmobranchs, cephalopods, and other invertebrates were also commonly caught. In total, we caught 35 fish species, 8 elasmobranch, 4 cephalopod and another 8 other invertebrate species. Unfortunately, we did not catch any octopus, neither common (*Octopus vulgaris*) nor curled (*Eledone cirrhosa*) in any of our trawl surveys at any of the sites. For a full species list, see appendix 9.1. In terms of spatial and temporal variation, the highest mean species richness (23.5) was found at Bigbury Bay in July 2025 and at L4 in May 2026 (24). Mean species richness at all other sites and dates was remarkably consistent, being either 14.5 or 15. In the July 2025 surveys at Bigbury and Whitsand Bays, the most captured fish species were whiting (*Merlangius merlangus*) and horse mackerel (*Trachurus trachurus*), while the most common elasmobranchs were small spotted catsharks (*Scyliorhinus canicula*) and the most common

cephalopods were European common squid (*Alloteuthis subulata*). In the March 2026 surveys at Bigbury and Whitsand Bays, the most captured fish were seabass (*Dicentrarchus labrax*) and smelt (*Osmerus eperlanus*) while the most common elasmobranchs were small eyed rays (*Raja microocellata*) and small spotted catsharks, while the most common cephalopods were again European squid. In the May survey at L4 the most captured fish were poor cod (*Trisopterus minutus*) and horse mackerel, the most common (only) elasmobranchs were small spotted catsharks, and the most common cephalopods were again European common squid.

Table 3.3. Mean species richness of organisms captured by the trawl surveys at Bigbury and Whitsand Bays in July 2025 and March 2026 and at L4 in May 2026.

Bigbury Bay				
Species group	July 25	SE	March 26	SE
Teleosts (bony fish)	13	3	7	0
Elasmobranchs	4	0	3.5	0.5
Cephalopods	2.5	0.5	1	0
Other invertebrates	4	0	3	1
All species combined	23.5	3.5	14.5	0.5
Whitsand Bay				
Species group	July 25	SE	March 26	SE
Teleosts (bony fish)	9.5	4.5	10.5	0.5
Elasmobranchs	2	0	2	0
Cephalopods	2	0	1	0
Other invertebrates	1.5	0.5	1	0
All species combined	15	4	14.5	0.5
L4				
Species group	July 25	SE	May 26	SE
Teleosts (bony fish)			17	1
Elasmobranchs			1	0
Cephalopods			2	0
Other invertebrates			4	1
All species combined			24	2

Cephalopod abundance

Given the specific interest in cephalopods (i.e. octopus) in this study, we decided to examine the mean density of various cephalopod species in more detail, even though we didn't catch any octopus (Table 3.4). In general, the mean density of all cephalopod species was relatively consistent across sites and dates, ranging between 0.35/100m² and 0.61/100m². The exception was at Whitsand Bay in July 2025, when a mean density of 1.93 cephalopods /100m² was captured. This was largely driven by a high abundance of the European squid (*Alloteuthis subulata*) and the long-finned squid (*Loligo forbesii*) at that time and site. These two species were also the most common cephalopods across all times and sites. There was also a relatively high density of cephalopods at L4 in May 2026 (1.29 / 100m²), but that was almost entirely driven by European squid.

Table 3.4. The mean density (no./100m²+/-SE) of different cephalopod species captured by trawl surveys at Bigbury and Whitsand Bays in July 2025 and March 2026, and at L4 in May 2026.

Bigbury Bay					
Species	Latin name	July 25	SE	March 26	SE
Common octopus	<i>Octopus vulgaris</i>	0.00	0.00	0.00	0.00
Curled octopus	<i>Eledone cirrhosa</i>	0.00	0.00	0.00	0.00
European common squid	<i>Alloteuthis subulata</i>	0.28	0.09	0.61	0.23
Long finned squid	<i>Loligo forbesii</i>	0.00	0.00	0.00	0.00
Little cuttlefish	<i>Sepiola atlantica</i>	0.00	0.00	0.00	0.00
Elegant cuttlefish	<i>Sepia elegans</i>	0.02	0.02	0.00	0.00
Common cuttlefish	<i>Sepia officinalis</i>	0.05	0.00	0.00	0.00
All species combined		0.35	0.11	0.61	0.23
Whitsand Bay					
Species	Latin name	July 25	SE	March 26	SE
Common octopus	<i>Octopus vulgaris</i>	0.00	0.00	0.00	0.00
Curled octopus	<i>Eledone cirrhosa</i>	0.00	0.00	0.00	0.00
European common squid	<i>Alloteuthis subulata</i>	1.03	0.56	0.43	0.43
Long finned squid	<i>Loligo forbesii</i>	0.85	0.85	0.00	0.00
Little cuttlefish	<i>Sepiola atlantica</i>	0.00	0.00	0.00	0.00
Elegant cuttlefish	<i>Sepia elegans</i>	0.00	0.00	0.00	0.00
Common cuttlefish	<i>Sepia officinalis</i>	0.05	0.05	0.00	0.00
All species combined		1.93	1.36	0.43	0.43
L4					
Species	Latin name	July 25	SE	May 26	SE
Common octopus	<i>Octopus vulgaris</i>			0.00	0.00
Curled octopus	<i>Eledone cirrhosa</i>			0.00	0.00
European common squid	<i>Alloteuthis subulata</i>			1.24	0.19
Long finned squid	<i>Loligo forbesii</i>			0.00	0.00
Little cuttlefish	<i>Sepiola atlantica</i>			0.00	0.00
Elegant cuttlefish	<i>Sepia elegans</i>			0.05	0.00
Common cuttlefish	<i>Sepia officinalis</i>			0.00	0.00
All species combined				1.29	0.19

3.4 Discussion

Octopus populations are often highly variable and difficult to monitor and assess (Rosa et al., 2024). As a result, their abundance is generally monitored using fisheries dependent data such as trends in landings or catch per unit effort, as we did in our work package 1 report (Stewart et al., 2026). However, fisheries data is clearly non-random, as fishers tend to target the areas with the highest catch rates, which can mask true trends in population size (Pauly et al., 2013). The alternative is to use fisheries independent approaches, such as scientific trawl surveys, baited remote underwater videos (BRUVs) and underwater censuses on SCUBA (Katsanevakis and Verriopoulos 2006; Leite et

[al., 2009](#); [Sobrino et al., 2020](#); [Exeter et al., 2025](#)). Further chapters in this report will examine the utility of BRUV and SCUBA surveys, while this chapter has focused on the use of trawls. We were confident that trawl surveys would be suitable for quantifying the abundance of common octopus off the SW of the UK as they have provided useful information in other parts of the world ([Sobrino et al., 2020](#)), and the MBA surveys have captured octopus in the past, particularly during other surges in abundance.

The failure to capture any octopus during these latest MBA trawl surveys was therefore disappointing, especially given the large numbers of octopus caught in these surveys during the common octopus bloom in 1950 and 1951 and the curled octopus bloom from 2015 to 2018 ([Stewart et al., 2026](#)). In the SW UK commercial trawl fishery in 2025, the vast majority of common octopus were caught in beam trawls rather than in otter trawls of the type used in our surveys ([Stewart et al., 2026](#)). Beam trawls maintain closer contact with the seabed and are towed at higher speeds than otter trawls (4 to 5 knots compared to approximately 2.5 knots in our surveys, [Depestele et al., 2016](#)). These differences could help explain the increased catches of octopus in beam trawls. However, it is difficult to be certain as [beam trawls are used more commonly](#) than otter trawls in commercial fisheries in the SW of the UK.

The timing of our surveys may also have affected our chance of detecting octopus. Peak commercial landings of common octopus off the SW of the UK were achieved during May, June and July 2025 (MMO, 2026), whereas our surveys only commenced towards the end of that period in 2025. Likewise, our surveys in March 2026 were conducted while octopus were mostly being caught further offshore (Beshlie Pool, South Devon and Channel Shellfishermen, *pers. comm*). We had higher hopes for catching octopus at L4 in May 2026, during to an overlap with commercial catches. However, we were still unsuccessful. Limited spatial coverage may also have been an issue, given the patchy distribution of common octopus during the 2025 UK bloom (Stewart et al., 2026) and in 2026 (Beshlie Pool, South Devon and Channel Shellfishermen, *pers. comm*). Despite each of our trawl tows covering over 2 km, we only surveyed two sites in July 2025, and 3 sites in March and May 2026. If useful numbers of common octopus are to be detected in our future surveys, we will likely need to increase both the spatial spread and frequency of our sampling, should funding allow.

Despite the above findings for octopus, our MBA trawl surveys still provided a large amount of information on the size and abundance of many other species, including teleosts, elasmobranchs, and other cephalopod and invertebrate species. In an era of rapid climate change and changing marine ecosystems ([Rutterford et al., 2023](#)), these data remain extremely valuable, especially given the near unprecedented long running nature of the MBA trawl survey dataset, which extends for over a century back to 1911.

4 Baited Remote Underwater Video (BRUV) surveys of common octopus

4.1 Introduction:

To gain an understanding of reported increased cephalopod abundance along the south coast of England, the University of Plymouth expanded on their previous long term data sets. Baited Remote Underwater Video (BRUV) sampling is a non-destructive technique commonly used to sample mobile populations. Long term monitoring projects have been using BRUV analysis to assess biodiversity of various species. In work package 1 we analysed previous datasets for the presence of cephalopod species such as *O. vulgaris*, *Eledone cirrhosa*, *Loligo* sp., and *Sepia officinalis*. In work package 2 we have expanded on the 'Plymouth Sound National Marine Park – Long-term Monitoring Research Project' ('Plymfish') which had previously been used to assess the health of the Plymouth Sound National Marine Park across 29 sites since 2020 ([Longstaff et al 2025](#)).

4.2 Methods:

In August 2025, 54 sites were surveyed for common octopus (*O. Vulgaris*) in the Plymouth Sound and the surrounding areas (Figure 4.1, Table A9.2.1). The sites chosen were a mixture of already existing sites from the 'Plymfish' study and sites where *O. vulgaris* had been observed recently by divers and commercial fishers.

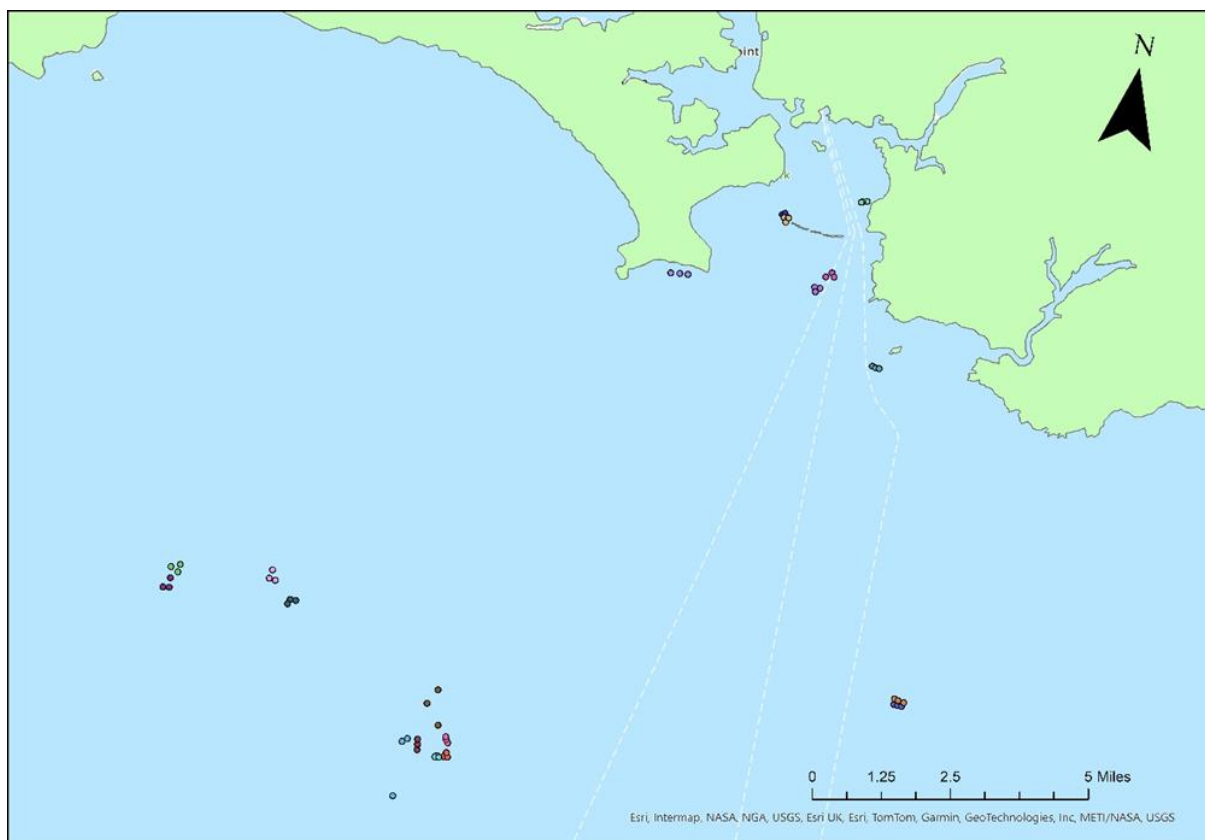


Figure 4.1: Baited remote underwater video (BRUV) survey for Plymouth Sound and surrounding areas in 2025.

4.2.1 BRUV methodology

Each BRUV system was equipped with a high-definition camera mounted inside an underwater housing with an LED light. A pole held a wire mesh bait box 1m away from the camera and contained 100g of mackerel (*Scomber scombrus*, replenished for each replicate) as an attractant. Each BRUV was weighted with two 15kg lead weights to provide stability against tidal currents (Figure 4.2).



Figure 4.2: Baited remote underwater video (BRUV) systems in the field.

BRUVs were deployed from local survey vessels at each site. Within each treatment unit, at two randomly predetermined sites, sets of three BRUVs were deployed haphazardly approximately of 100m apart (per site) from each other for 45 min. BRUVs were given 5 min to allow disturbed sediments to settle and to allow an olfactory trail to be established.

Video analysis

For 27 of the 54 sites, each 45-minute video was reviewed at standard playback speed, and all observed mobile species (including teleosts, invertebrates, and elasmobranchs) were recorded (Table A9.2.2). Due to time and budget constraints, at the remaining 27 sites videos were subsampled at 10-second intervals, and only cephalopod species (*Loligo* sp., *Sepia officinalis*, and *Octopus vulgaris*) were documented.

4.2.2 Octopus specific measurements

Octopus mantle length was measured using the computer software 'ImageJ'. Videos containing octopus were screenshotted at points where the octopus were directly adjacent to the bait box of the BRUV camera. In the ImageJ software the set measurement tool was utilised to set the known 12cm length of the bait box, this 12cm measurement was then used as a scale to measure mantle length. The mantle length was measured as the posterior edge of the mantle to the midpoint in between the eyes ([Dimensions, 2026](#)). The mantle length was then measured using the straight line and measure tool to the nearest 0.01 cm.

4.2.3 Senescence

Mature octopus undergo a terminal post-reproductive stage known as senescence ([Anderson et al., 2002](#)) which is characterised by progressive physiological and behavioural deterioration. During this process their cellular density declines ([Holst et al., 2022](#)) causing necrosis of the tentacles ([Roura et al., 2024](#)), degradation of the skin, shrinking of the mantle and the cessation of feeding ([Anderson et al., 2002](#)). To assess the life stage of the octopus seen on the BRUV footage, a simple scoring system was used assessing the four known parameters that decline during senescence: mantle fullness, tentacle condition, colour/skin condition and behaviour (movement and feeding).

Previous literature has categorised the senescence process in octopus into five stages 1: ‘Pre-Senescent’ (mature healthy octopus before death), 2: ‘Early Senescence’ (beginning of process), 3: ‘Mid Senescence’ (halfway through the process), 4: ‘Late Senescence’ (towards the end of the process) and 5: ‘Perimortem Senescence’ (the period surrounding death’) (Figure 4.3).

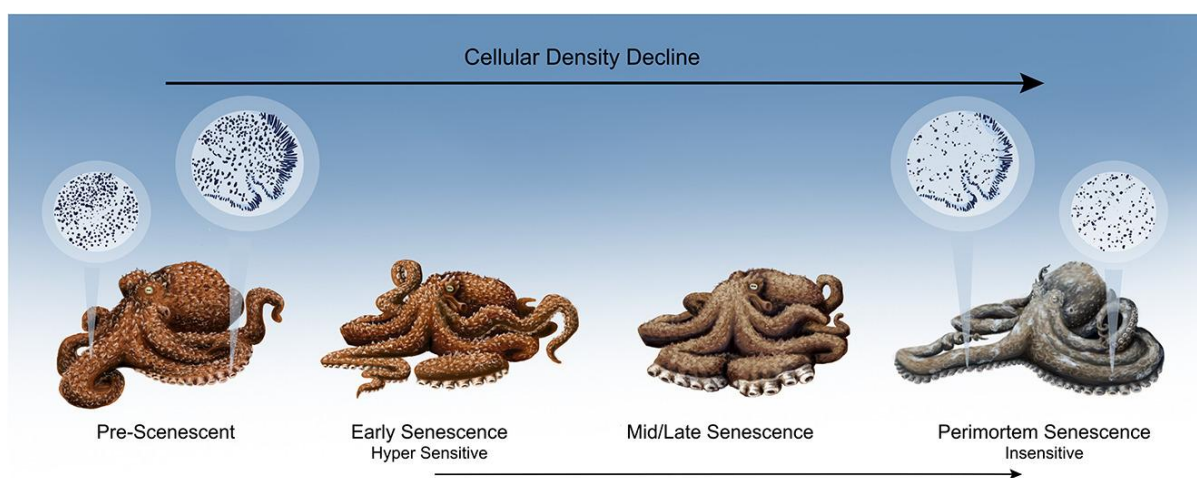


Figure 4.3: Stages of senescence in Pacific Giant Octopus, sourced from [Holst et al \(2022\)](#)

An overall senescence score (1 – 5) was calculated by averaging the following four parameters:

Table 4.1: Four parameters used for calculating overall senescence score (1-5)

Score	Parameters			
	Mantle Condition Score	Tentacle condition	Behaviour: Movement/ Interaction with bait	Colour/ Skin Condition
1	Full and robust – mantle large, rounded, well filled; no visible shrinkage	All tentacles present	Active movement; feeding on bait	Normal coloration; intact skin

2	Slightly reduced – still rounded but slightly less full	Missing 1–2 tentacles	Slightly inhibited movement; limited feeding	Minor skin alterations (white dots indicating early chromatophore failure)
3	Moderately reduced – visibly smaller, less firm; slight flattening and loss of roundness	Missing 3–4 tentacles	Slow or uncoordinated movement; interest in bait but no feeding	Small mantle lesions
4	Severely reduced – noticeably shrunken, loose, or flaccid	Missing 5–6 tentacles	Restricted movement; minimal interest in bait	Extensive white lesions showing clear degradation
5	Extremely reduced – very small, thin, or collapsed; pronounced loss of volume	Missing 7–8 tentacles	Severely impaired movement; no interest in bait	Severe, widespread skin deterioration (white lesions covering body)

4.3 Results:

4.3.1 Species Richness

In total 34 different species were observed on the fully analysed BRUV footage during the study, comprising of teleosts (19 species), elasmobranchs (3) and invertebrates (12), full list of species names can be found in appendix 9.2 (Table A9.2.2). Of the invertebrates recorded, three species of cephalopod were observed; *Sepia officinalis* (L.), *Octopus vulgaris* (L.) and *Loligo* sp. In total out of the 54 sites investigated, octopus were only observed at three sites. Two of the three sightings occurred near the Eddystone (Eddystone West 2b and 2c) and one sighting occurred at the Hands Deep reef (Hands Deep 1c) (Figure 4.4).

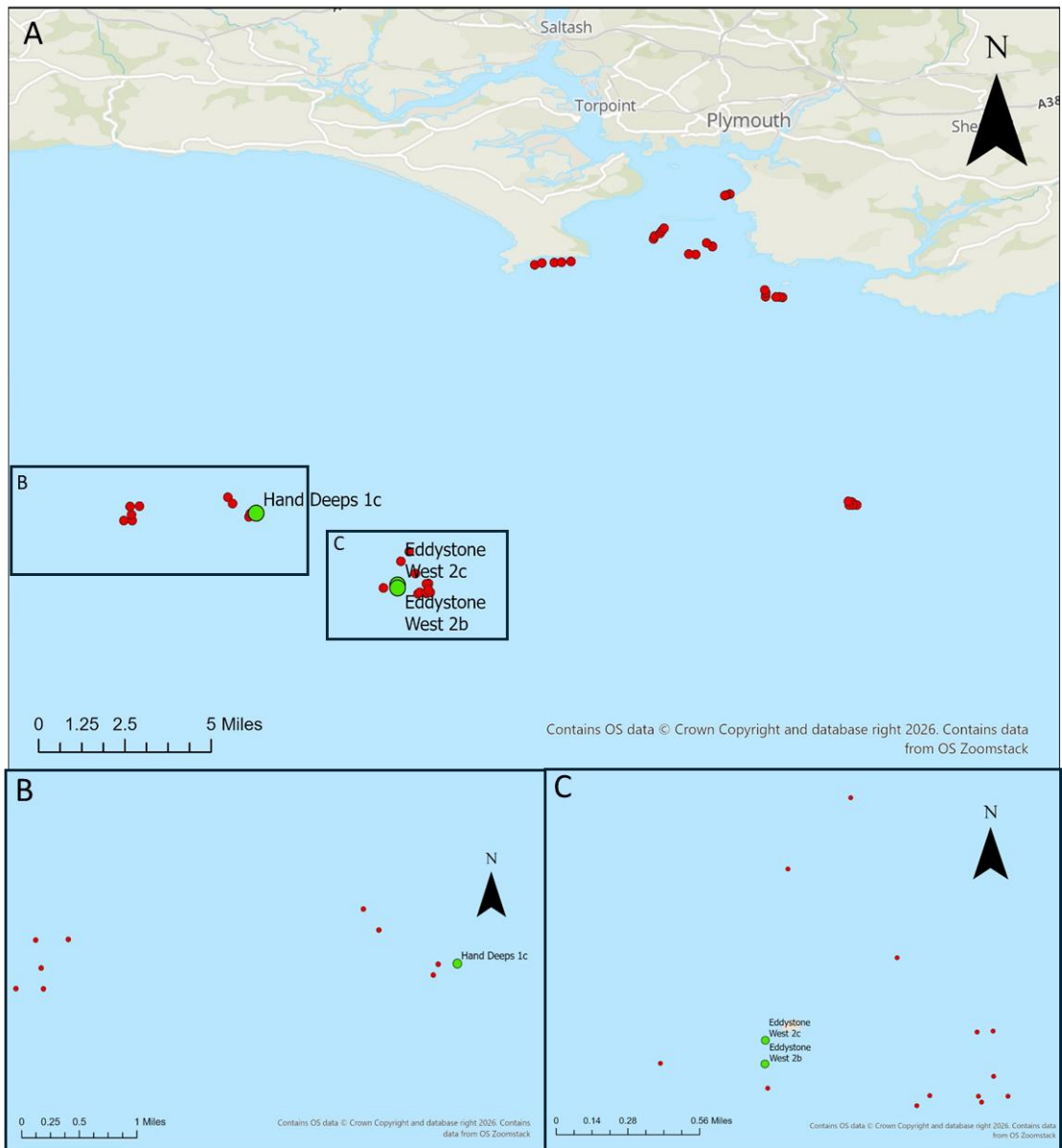


Figure 4.4: 55 sites surveyed with BRUVs for the octopus project as part of Long-Term Monitoring Project of Plymouth Sound National Marine Park (A). Zoomed map of survey sites around Hand Deeps (B). Zoomed map of survey sites around the Eddystone (C). Red dots indicate no octopus observations and green dots indicate octopus were present during the BRUV surveys.

The number of octopus recorded as part of Plymouth Sound National Marine Park – Long-term Monitoring Research Project had increased on previous years (Figure 4.5)

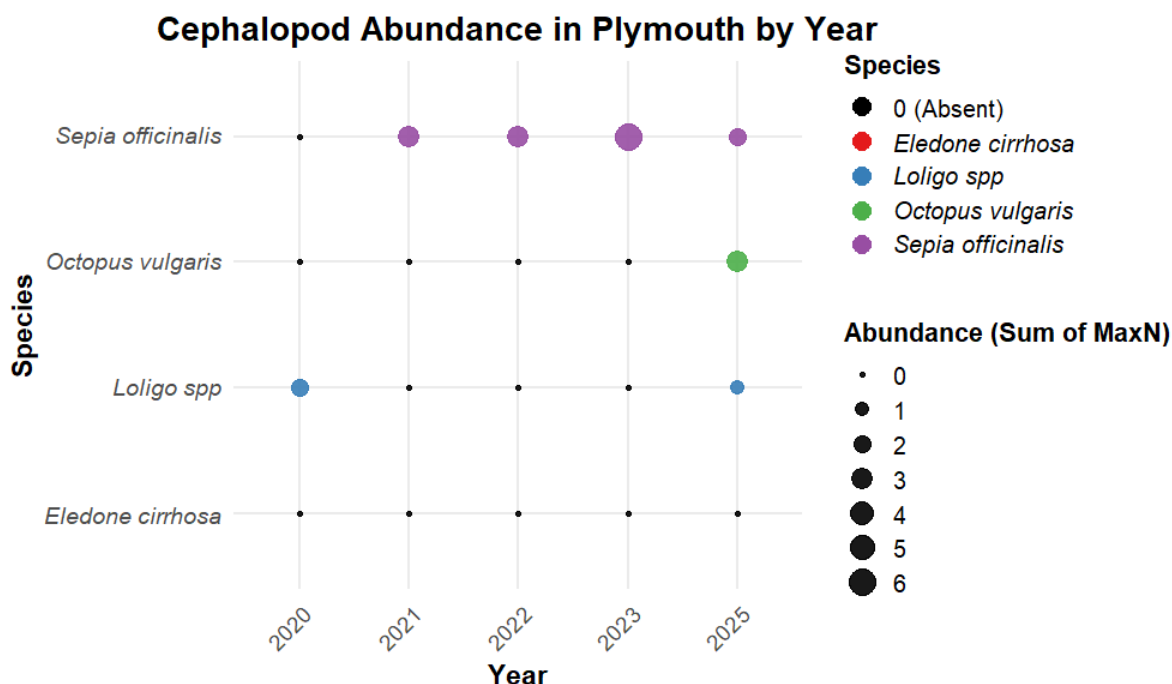


Figure 4.5 - Maximum abundance (MaxN) of individual cephalopod species recorded on Baited Remote Underwater Video (BRUV) surveys conducted as part of Plymouth Sound National Marine Park – Long-term Monitoring Research Project. Small black dots represent absence. Figure updated to include the Octopus BRUV surveys as part of the Plymouth Sound National Marine Park project.

4.3.2 Habitat and timing of sightings

All three octopuses recorded in the BRUV footage were seen in rocky reef habitats at depths ranging from 26 to 54 m (Table 4.2). Notably, all the sighting occurred around midday on two consecutive days (13th and 14th of August 2025).

Table 4.2 -Results from BRUV surveys: Habitat, site, date, time of day and depth (m) that the octopus were recorded.

<u>Record</u>	<u>Time on screen</u>	<u>Site</u>	<u>Date</u>	<u>Time of Day</u>	<u>Habitat</u>	<u>Depth (m)</u>
Octopus 1 https://youtu.be/1YAL_VqDx7E	Video 1 – 27:30 to 28:05 (30s total)	Eddystone West 2c (N 50° 10.9786, W 004° 16.1706)	13/08/25	12:20pm	Rocky reef	31
Octopus 2 https://youtu.be/goaJ-Fc4bi8 https://youtu.be/9hxUOeAu_7g	Video 1 – 25:16 to 25:25, 26:22 to 27:33, 33:43 to 33:54, 34:36 to	Eddystone West 2b (N 50° 10.8985, W 004° 16.1720)	13/08/25	12:24pm	Rocky reef	26.2

	35:02 (1 min 48s total)					
Octopus 3 https://youtu.be/KQlvj_VE-WY	Video 2 – 0:39 to 06:55 (6 mins 16 secs total)	Hands Deep 1c (N 50° 12.7456, W 004° 19.7321)	14/08/25	12:48pm	Rocky reef	53.2

4.3.3 Species and bait interactions

Through analysis of the BRUV footage several interactions between octopus, teleost and elasmobranch species were observed (Table 4.3). The BRUV footage successfully identified two possible predator species of *O. vulgaris*, these were conger eels (*Conger conger* L.) and nursehound (*Scyliorhinus stellaris* L.). In addition, octopus 2 was also seen interacting with prey species such as pouting (*Trisopterus luscus* L.) and cuckoo wrasse (*Labrus mixtus* L.). Only one octopus was seen actively feeding on the bait in the BRUV (Table 4.3).

Table 4.3 Interactions with other species and interactions with bait.

<u>Octopus</u>	<u>Interactions with prey species</u>	<u>Interactions with predator species</u>	<u>Interactions with bait</u>	<u>Time on Bait</u>
1	NA	NA	NA	NA
2	NA	Actively swims away from nursehound.	More interested in camera than bait.	NA
3	Aggressively swiping at pouting that are trying to get to the bait box. Not deterred by pouting or cuckoo wrasse.	Actively swims away as chased by conger.	Goes straight to bait box and guards it from the pouting and cuckoo wrasse. Actively feeding on bait.	5 mins 45 secs.

4.3.4 Octopus size- mantle length

Two out of the three octopus seen on the BRUV footage were able to have their mantle accurately measured when adjacent to the bait box. Whereas octopus 1 was in the distance and consequently too far away from the bait box to measure. Octopus 2 mantle length measured 17.5cm (Figure 4.6) and Octopus 3 measured 25.1cm (Figure 4.7).



Figure 4.6: Octopus #2 recorded at Eddystone West 2b, mantle length (17.5cm) measured using ImageJ using the 12cm bait box for scale.

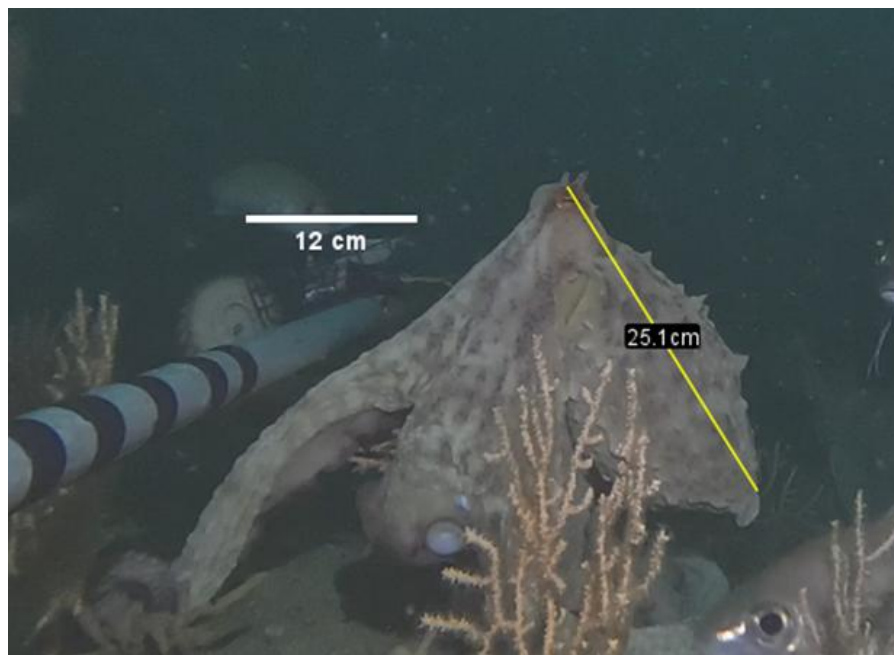


Figure 4.7 Octopus #3 recorded at Hands Deep 1c, mantle length (25.1cm) measured using ImageJ using the 12cm bait pole for scale.

4.3.5 Octopus condition assessment

All three of the octopus seen during the study demonstrated varying stages of senescence (Table 4.4). Octopus 1 was dark in colour with no signs of skin degradation but only had three complete tentacles indicating some tentacle necrosis. The mantle was slightly reduced in size compared to the tentacles, and despite the movement seeming unrestricted it showed no interest in the bait. Therefore, was categorised as early/mid senescence.

Octopus 2 was pale in colour and had large white patches of skin degradation across its mantle, it only had one complete tentacle indicating severe tentacle necrosis. The mantle was flattened and almost flaccid looking at times. Despite coming back into the field of view repeatedly it showed no interest in the bait, and due to the lack of tentacles its movement was restricted. Therefore, octopus 2 was categorised as late senescence.

Octopus 3 was the healthiest octopus of the three. It had half of one tentacle missing with the rest all complete and in good condition. It had perfect skin condition with no signs of any lesions or degradation and a full and rounded mantle. Octopus 3 went straight to the bait and spent a considerable amount of time on top of the bait box actively eating mackerel through the wire box. Consequently octopus 3 was categorised as pre-senescent.

Table 4.4 Scores for different senescence parameters and overall senescence score and category:

Octopus	Tentacle condition (1-5)	Colour/skin condition (1-5)	Mantle fullness (1 – 5)	Behaviour score (1 – 5)	Senescence score (ave)	Senescence category
1	4	2	2	2	2.5	Early/mid senescence
2	5	4	3	4	4	Late senescence
3	2	1	1	1	1.25	Pre-senescent

4.4 Discussion

Although only a small number of octopus were seen during this survey (n = 3), the results demonstrate an increase in *O. vulgaris* in 2025 compared to previous surveys between 2009 and 2024 (n = 0). The observed increase aligns with the findings of the ‘Octopus Bloom of 2025’ outlined in work package 1. The study successfully demonstrated that BRUV surveys are an effective method to monitor *O. vulgaris* distribution. Furthermore, all three octopus were recorded around midday, which indicates that conducting BRUV surveys in the daytime does not prevent octopus from being detected. In addition, the analysis indicated that this approach could also be useful to monitor the species interactions, habitat preferences, condition and life stages of octopus.

All three octopus observed were present on rocky reef substrate, which likely explains the high number of encounters with commercial crab and lobster fishers, as these fisheries target rocky habitats where lobsters and edible crabs are known to occur. Despite diver sightings of octopus in other habitats such as kelp forests and seagrass meadows, the results of the BRUV surveys suggests that octopus primarily inhabit rocky reef habitats. Although the small number of sightings make these findings speculative.

Octopus during senescence stop eating on average for 131 days ([Anderson et al., 2002](#)) therefore octopus #1 and #2 which did not interact with the bait could indicate cessation of feeding in those individuals. Furthermore, the two octopus showing other signs of senescence, such as necrosis of the tentacles and white lesions on the skin, are likely males because they are outside of a den, whereas females are thought to go through senescence inside of dens with their brood of eggs ([Anderson et al., 2002](#)). Notably, octopus #2 retained only one intact tentacle. This observation aligns with findings by [Roura et al. \(2024\)](#) which report that during senescence all tentacles in male

O. vulgaris undergo necrosis except the hectocotylus (specialised arm used for mating). This supports the identification of octopus #2 as male.

The study demonstrated that footage obtained from the BRUV survey could be used to estimate mantle length, in subsequent studies this could be advanced to relate mantle length to age of the octopus. Furthermore, by measuring the mantle width and length simultaneously, the mantle volume could be calculated which is an additional parameter that can be used for assessing senescence ([Holst et al., 2022](#)).

The footage captured in the study demonstrates how BRUV surveys can be used to understand *O. vulgaris* interactions with other species in the ecosystem. Two possible predators of octopus were identified: conger eel and nursehound, due to the octopuses' behaviour of actively swimming away when these predator species came in close proximity. These findings are consistent with earlier work that report conger eels as a major predator of *O. vulgaris* ([Salvador et al., 2024](#)) and reports of sucker-shaped scars observed on conger eels caught by anglers, indicating predation interactions between conger eels and octopuses ([Stewart et al., 2026](#)). In contrast, observations of nursehounds as a predator of octopuses may represent a novel finding, however more investigation is needed to confirm predation of octopus by nursehounds.

Both teleost species (*T. luscus* and *L. mixtus*) observed interacting with octopus #3 were not intimidated by the octopus and kept trying to access the bait that the octopus was guarding. Seemingly, the octopus was getting frustrated at the fishes trying to steal the mackerel it was eating and was seen to be aggressively swiping at several individual pouting to discourage their advances. Previous researchers have suggested possible symbiotic relationships between octopus and teleost species, including collaborative interspecific hunting events ([Sampaio et al., 2021](#)). Similarly, prior studies have reported octopus species to 'punch' fish during these interactions ([Sampaio et al., 2021](#)) which aligns with octopus #3 swiping at pouting.

A significant limitation of the study was the time of year it was conducted, by only conducting the BRUV surveys in August the population of octopus had already started diminishing. In line with known life cycle patterns ([Roura et al., 2024](#)), two out of the three octopus recorded were showing symptoms of senescence and showed signs of being at the end of their life cycle. Future studies including a set number of sites with monthly BRUV surveys commencing at the start of the year could be utilised to understand growth rates, seasonal changes in populations and behaviour of *O. vulgaris*.

In conclusion, this study demonstrates that BRUVs are a promising tool for monitoring *O. vulgaris* distribution, body condition, species interactions, life stages, and habitat use. Furthermore, daytime BRUV surveys were shown to be effective for detecting octopus. The primary limitation of this study was its restricted temporal scope; future research should extend sampling across additional months to provide a more accurate assessment of *O. vulgaris* abundance and its temporal and seasonal dynamics.

5 Common octopus interactions with fishing gear

5.1 Introduction

Given the widespread predation of crabs, lobsters, scallops other species by common octopus inside commercial fishing gear in SW UK throughout 2025 ([Stewart et al., 2026](#)) we decided to conduct an underwater study of octopus predatory behaviour using remote cameras. This was designed to produce similar observations to those from the BRUV surveys (section 4), but more specifically in connection with actively fished crab and lobster pots (creels). It was hoped that a better understanding of octopus predatory behaviour would help more fully quantify the effects of octopus and potentially inform how fishing gear could be adapted to mitigate octopus interactions.

5.2 Methods

To film common octopus interactions with fishing gear, we used brackets to attach remote cameras ([DJI Osmo Action 4](#)) to commercial shellfish creels (parlour pots) so that they were looking down at the entrance and the field of view included the whole pot (Figure 5.1). The pots we used were 60 cm long, 40 cm wide, and 36 cm high, with a 7.5 cm mesh and an opening of 20 cm in diameter. Each pot was baited with half a mackerel (*Scomber scombrus*) approximately 300 g in weight. Pots fitted with cameras (herein called 'Pot Cams') were deployed in a variety of locations in and around Plymouth Sound in both August 2025 (summer) and March 2026 (winter) (Figure 5.2; Table 5.1). No artificial lighting was used. Although the DJI Osmo cameras are excellent at filming in low light, at a certain point during overnight deployments the image went dark.



Figure 5.1. The setup used to film species interactions with a shellfish parlour pot. The camera is a DJI Osmo Action 4 which was normally set to time lapse with an image taken every 15 seconds.

To maximise recording times with the battery capacity available, we trialled several different filming settings. An initial deployment which filmed at full speed (standard video) lasted 1 hour and 48 minutes before the battery ran out. We therefore switched to time lapse filming with an image being taken every 15 seconds. In most cases we set the filming end time at 5 hours, as pots were either hauled again before that time was reached (during daytime deployments), or it got fully dark (during overnight deployments). However, when we set the timelapse run time to ‘infinity’ as an experiment, we were able to achieve a filming time of 15 hours. Filming on a time lapse setting was also dramatically less demanding on memory card storage capacity.

Table 5.1. Times, locations and camera settings of ‘Pot Cams’ deployed in July 2025 and March 2026. Apart from the first video, which was filmed in real time, all other deployments were filmed in time lapse mode, with an image taken every 15 seconds.

No.	Site	Date IN	Time IN	Date OUT	Time OUT	Habitat	Depth (m)	Film time
1	Jennycliff Bay	11/08/2025	15:03	12/08/2025	08:45	Rocky reef	6.00	1:48 hours
2	Jennycliff Bay	11/08/2025	15:15	12/08/2025	08:55	Rocky reef	6.00	5:00 hours
3	Jennycliff Bay	12/08/2025	16:59	13/08/2025	08:30	Rocky reef	8.00	5:00 hours
4	Jennycliff Bay	12/08/2025	16:57	13/08/2025	08:40	Rocky reef	8.00	5:00 hours
5	Whitsand Bay	03/03/2026	09:35	03/03/2026	12:56	Rocky reef	12.70	3:21 hours
6	Whitsand Bay	03/03/2026	09:57	03/03/2026	13:20	Rocky reef	9.70	3:23 hours
7	Mewstone	03/03/2026	14:20	04/03/2026	08:45	Rocky reef	6.50	5:00 hours
8	Mewstone	03/03/2026	14:25	04/04/2026	08:50	Rocky reef	6.50	5:00 hours
9	Bigbury Bay	04/03/2026	10:10	04/04/2026	13:25	Sandy	31.00	3:15 hours
10	Bigbury Bay	04/03/2026	10:12	Lost		Sandy	31.00	N/A
11	Mewstone	04/03/2026	14:20	05/03/2026	08:30	Rocky reef	12.00	5:00 hours
12	Jennycliff Bay	31/03/2026	10:00	01/04/2026	09:30	Rocky reef	7.00	15:00 hours

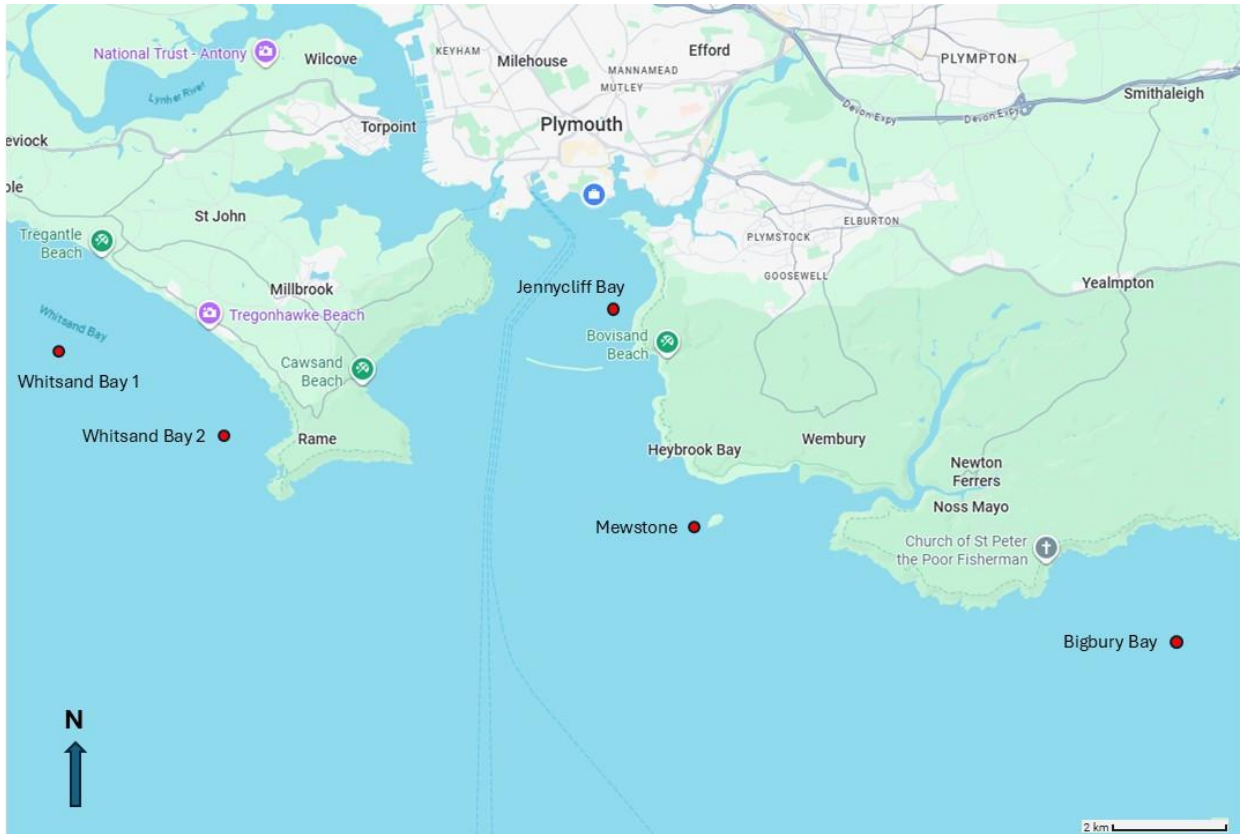


Figure 5.2. Locations (red circles) of ‘Pot Cam’ deployments in August 2025 and March 2026.

5.3 Results

Pot Cams were deployed on 12 occasions; 4 times in August 2025, and 8 times in March 2026. Seven of the deployments filmed during the afternoon and evening, while the other 5 filmed during the daytime. Unfortunately, one of the setups deployed in Bigbury Bay in March 2026 was lost due to strong currents.

The Pot Cam set up that we used produced excellent quality videos on almost all occasions. The only exception was from the Pot Cam that was successfully retrieved at Bigbury Bay in March 2026 but had been dragged along the seabed due to strong currents. Using the time-lapse mode was also highly effective. Although it was difficult to keep track of the timelapse videos when they were played back at normal speed, slowing down the speed to 0.25 allowed the movement and identity of species interacting with the pots to be clearly followed. For an example of the footage we achieved, [see this recording on YouTube](#).

Species recorded interacting with the shellfish pots included various crustaceans (e.g. brown crabs, *Cancer pagurus*; Spider crabs, *Maja squinado*; Hermit crabs, *Pagurus spp.*) and fish, especially wrasses (Labridae) and conger eels (*Conger conger*), (Figure 5.3). On several occasions conger eels were seen swimming in and out of shellfish pots with apparent ease (Figure 5.4). Our shellfish pots often included captured organisms upon retrieval, indicating that they were fishing normally. Species included brown crabs, spider crabs, spiny starfish (*Marthasterias glacialis*), small spotted catsharks (*Scyliorhinus canicula*), and conger eels.



Figure 5.3. Screenshot of a spider crab (*Maja squinado*) entering a shellfish pot in Jennycliff Bay, Devon, in August 2025.

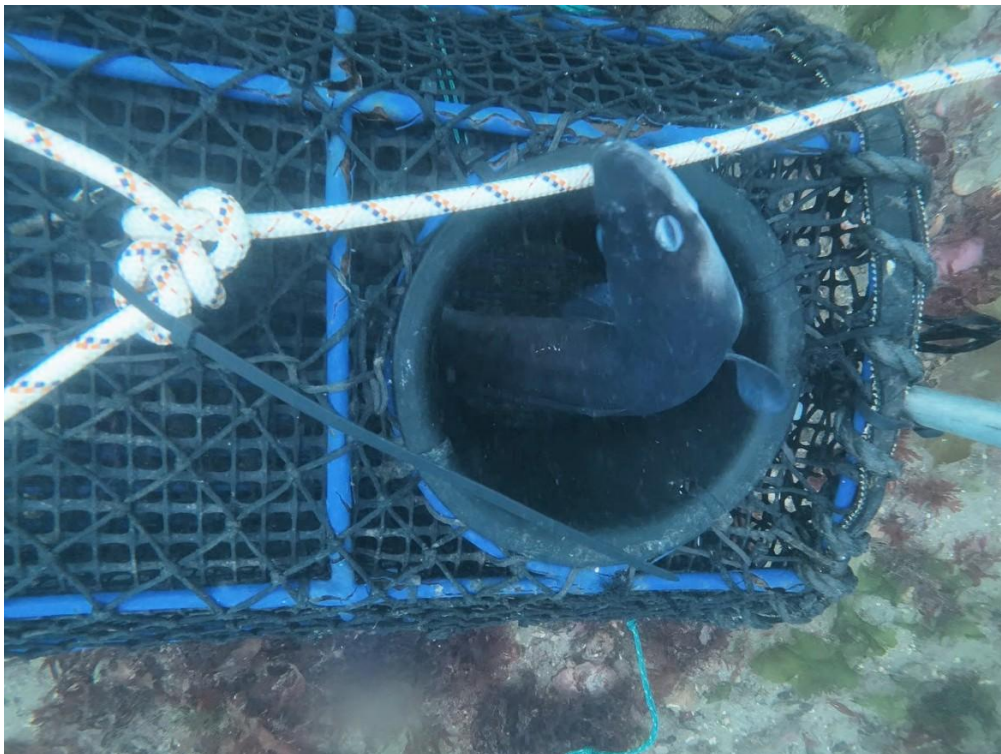


Figure 5.4. Screenshot of a conger eel (*Conger conger*) leaving a shellfish pot in Jennycliff Bay, Devon, in August 2025.

Unfortunately, we did not record any octopus (common or curled) interacting with the shellfish pots.

5.4 Discussion

The use of remote cameras to record animal behaviour and abundance underwater is becoming increasingly widespread ([Bicknell et al., 2018](#)). This has included filming how various species interact with shellfish pots ([Gall et al., 2020](#); [Fishing News, 2023](#)), but to our knowledge this approach has not been targeted at filming octopus predatory behaviour in pots before. Other authors (e.g. [Rosa et al., 2024](#); [Salvador et al., 2024](#)) have noted the potential for remote underwater videos to improve our understanding of octopus behaviour. Unfortunately, we did not manage to record any octopus during this trial, but we are pleased to have proved the concept of our approach.

Our 'Pot Cam' set up produced excellent footage over long periods of time, well into near complete darkness. If any octopus had interacted with the pots used in our trial, we would certainly have obtained valuable footage. Despite the absence of octopus in our study, our videos still provided new insights into the fishing effectiveness of commonly used commercial shellfish pots. Several species, particularly fish, were seen swimming in and out of pots on a regular basis. Some of the smaller crustacean species (e.g. hermit crabs) were also easily able to escape. Seeing this behaviour in conger eels was particularly interesting. Like octopus, congers are well known for preying on shellfish both in shellfish pots and on the seabed ([Xavier et al., 2009](#); [Howarth et al., 2017](#)). In the absence of cameras this would allow them to enter pots, kill and consume shellfish catches, and then escape again without being otherwise detected. Likewise, their presence in shellfish pots can deter other species from entering them, including crustaceans ([Howarth et al., 2017](#)), and presumably octopus as well, since congers are also known to prey on octopus ([Xavier et al., 2009](#); [Salvador et al., 2024](#); [Stewart et al., 2026](#)).

Given the very patchy spatial distribution of common octopus, even during the UK bloom ([Stewart et al., 2026](#)) it is perhaps not surprising that we did not manage to film any in our limited trial. Although we deployed our Pot Cams in a variety of sites at two different times of the year (summer and winter), each deployment consisted only of a single pot. Future deployments would benefit from deploying a string of pots each time (e.g. at least 4 or 5), both to increase the probability of detection and to increase the power of attraction due to there being more bait in a local area at one time. As was the case with both our trawl and BRUV surveys (see sections 3 and 4), the timing of our deployments was also after the peak catch rates in May, June and July 2025 ([Stewart et al., 2026](#)) and before octopus had come back inshore in 2026 (Beshlie Pool, South Devon and Channel Shellfishermen, *pers. comm.*).

Based on both our proof of concept, and the limited extent of our initial trial, we feel there is a strong argument for deploying our 'Pot Cams' more widely in the future. Octopus predation is a major issue in several other crab and lobster fisheries around the world ([Rosa et al., 2024](#)) where attempts have been made to reduce the problem using different baits, soak times, and changes to pot design ([Brock et al., 2003](#); [Groeneveld et al., 2006](#)). Pot Cams could help assess the effectiveness of such approaches should they be trialled both here in the UK and elsewhere, in the future. Likewise, for those fishermen who choose to specifically target octopus in the UK using new or adapted fishing gear ([MMO, 2025](#)), Pot Cams could also help assess and develop methods as that new technology is adopted.

6 SCUBA diver and snorkeller observations of common octopus

6.1 Introduction:

Citizen science projects are becoming increasingly well known for their ability to collect large amounts of data in near real time, especially on [marine species being affected by climate change](#), including [octopuses](#). As part of Work package 1 for this project, we conducted an online survey of fishermen in the southwest of the UK to collect their observations and views of the common octopus bloom in 2025 and how it had affected their industry. At the same time, we also released an online survey of recreational SCUBA divers and snorkellers in the SW of the UK to gather their observations of the common octopus bloom. Although this was not part of our original funding proposal, we decided to take advantage of the public and media attention that this octopus project was garnering at the time in that hope that it would encourage SCUBA divers and snorkellers to send in their observations. It was hoped that these observations would provide a fisheries independent record of common octopus abundance, distribution, and behaviour. Key objectives were to increase our dataset on the common octopus bloom in general, and to analyse how the observations of divers and snorkellers compared to those of fishermen.

6.2 Methods:

To elicit the observations of recreational divers and snorkellers who had seen common octopus in the SW of the UK in 2025, we developed a structured survey in questionnaire format that could be delivered both online and in person. It is important to note that this survey was deliberately targeted at people who had seen common octopus firsthand; it was not a random survey of all people who had dived or snorkelled in the SW of the UK in 2025.

6.2.1 Design of the survey

The survey questionnaire was developed and hosted using [Alchemer software](#). The survey was split into four sections in line with the aims of the study. The first section gathered details on the respondent, such as their home town or city, and whether they were predominantly a SCUBA diver or snorkeller.

The second section focused on gathering information on the abundance of common octopus. We began by checking whether the respondent had actually seen common octopus, as opposed to curled octopus (*Eledone cirrhosa*) or no octopus. It also asked how many dives or snorkels the respondent had done to date during 2025 to put their observations into perspective. The survey then asked about the abundance of common octopus that had been observed, including the percentage of dives when octopus had been seen, the maximum and average number of octopus seen on a dive, and the most seen at one time. Further questions explored the depth and habitat of octopus observations, along with the specific dive sites or locations where octopus had been seen. To gauge any potential economic effects of the octopus bloom on the diving sector, we then asked if respondents had travelled to any particular sites specifically to see octopus, and whether they had used commercial diving operations. Finally, we asked if the number of octopus they saw had changed during the year to date, and how their observations in 2025 compared to previous years.

In the third section of the questionnaire, we asked if any of the common octopus seen showed signs of injury or stress, if they had observed any octopus eggs and if they had other observations they wished to share. Finally, respondents were invited to upload photos and videos of their octopus observations.

In the fourth section, respondents were optionally asked to provide their name and email address if they wished to receive updates on the progress of the project.

The questionnaire was preceded by a consent form that described the background and aims of the project and explained that by filling in the questionnaire the respondents were giving consent for their replies to be used for research purposes. At the end of the questionnaire, respondents were given the option of providing their email address for further correspondence. These data are to be held securely by the MBA until analysis of the results is complete. Both the consent form and questionnaire were reviewed by a panel at the MBA for ethical approval and to ensure they were compliant with GDPR regulations in the UK.

Prior to finalisation of the questionnaire, a draft was circulated to three different staff members at the MBA (one with extensive diving experience), and they were given a week to provide feedback. The questionnaire was modified in response to their comments before being released publicly online on the 21st of August 2025. The questionnaire was kept open for approximately 5 weeks, being closed on the 30th of September.

A full copy of the consent form and questionnaire is available at Appendix 9.3.

6.2.2 Distribution of survey

The questionnaire was hosted on the [website of the MBA](#) and circulated online using a combination of [a press release by the MBA](#), social media, and direct emails to key stakeholders and fishing industry groups who were asked to share the survey with their members (Table 6.1). We also created a Facebook page: [‘Octopus UK: Where, when, why and what to do?’](#) to share the survey and news from the project.

Table 6.1: Organisations and people involved in distributing the diver and snorkeller’s octopus survey via social media and direct emails.

Media / social media: Press releases, Facebook, Instagram, LinkedIn, Bluesky	Marine Biological Association, University of Plymouth (School of Biological and Marine Sciences & central University), Plymouth Marine Laboratory, Steering Group, Project Team
Emails	Tamar Estuaries Consultative Forum (via Amelia Sturgeon) Port of Plymouth Marine Liaison Committee (via Amelia Sturgeon) Seasearch coordinators observers and volunteers from the Isles of Scilly, Cornwall, Devon and Dorset (via Keith Hiscock)

6.3 Results:

6.3.1 Details of respondents

There was a total of 120 responses to the survey, although not all of these answered every question. While the hometowns of respondents were clearly concentrated in the SW of the UK, there was a wide geographical distribution with inland respondents clearly travelling to the SW to dive or snorkel, some from as far afield as Dowra in Ireland and Glasgow in Scotland (Figure 6.1). One respondent was from Kilwinning on the west coast of Scotland, but they provided observations of common octopus from that area, rather than the SW of the UK. Of the respondents, 82 (73.2% of 112) identified as SCUBA divers, with 16 (12.5%) identifying as snorkellers. Fourteen respondents

identified as 'Other' – which included 11 spearfishermen and 3 freedivers. Given all these other categories are all technically diving on snorkeling gear, this raises the total number of snorkelers to 30 (26.8%). For simplicity, we will call all respondents 'divers' in the results below.



Figure 6.1. The distribution of hometowns or cities of respondents who completed the octopus survey for SCUBA divers and snorkellers (n=120).

6.3.2 Octopus abundance

Of the original 120 respondents, 112 said they had seen common octopus, although 4 of them were not sure if they had seen curled octopus instead. However, from the descriptions provided at least 2 of those were clearly common octopus, bringing the definitive total up to at least 110 respondents.

Respondents were then asked how many dives or snorkels they had done in Devon and Cornwall during the year to date (January to September 2025). Although the median was 1 to 10 dives, 14 respondents (12.3%) had done between 51 and 100 dives, and three respondents (2.6%) had done more than 100 (Figure 6.2).

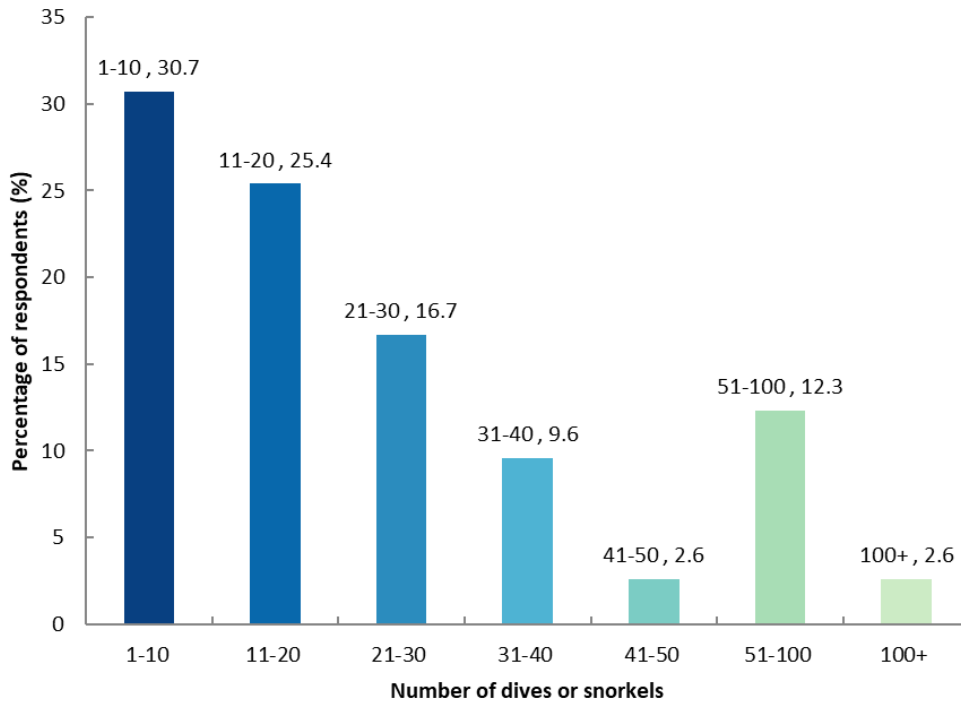


Figure 6.2. The number of dives or snorkels in Devon and Cornwall done by respondents from January to September 2025 (n=114).

Respondents were then asked on what percentage of those dives they had seen common octopus. Again, although the median response was 1 to 10% (28% of respondents), many gave much higher figures, with 6% of divers saying they had seen common octopus on every dive (Figure 6.2).

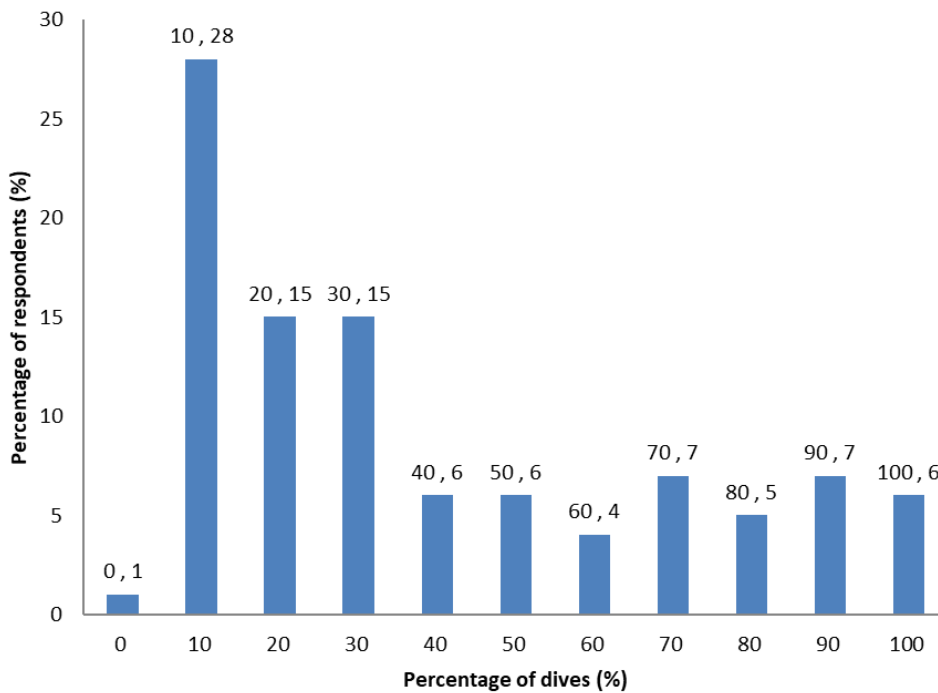


Figure 6.3. The percentage of dives or snorkels during which respondents saw common octopus (n=110).

In terms of the most common octopus seen at the same time during a dive or snorkel, the median was 2 to 4 (43.8%) but 8 respondents (7.1%) had seen between 11 and 20 at one time (Figure 6.4). It is unclear if this was interpreted as on a single dive or within their field of view at one time.

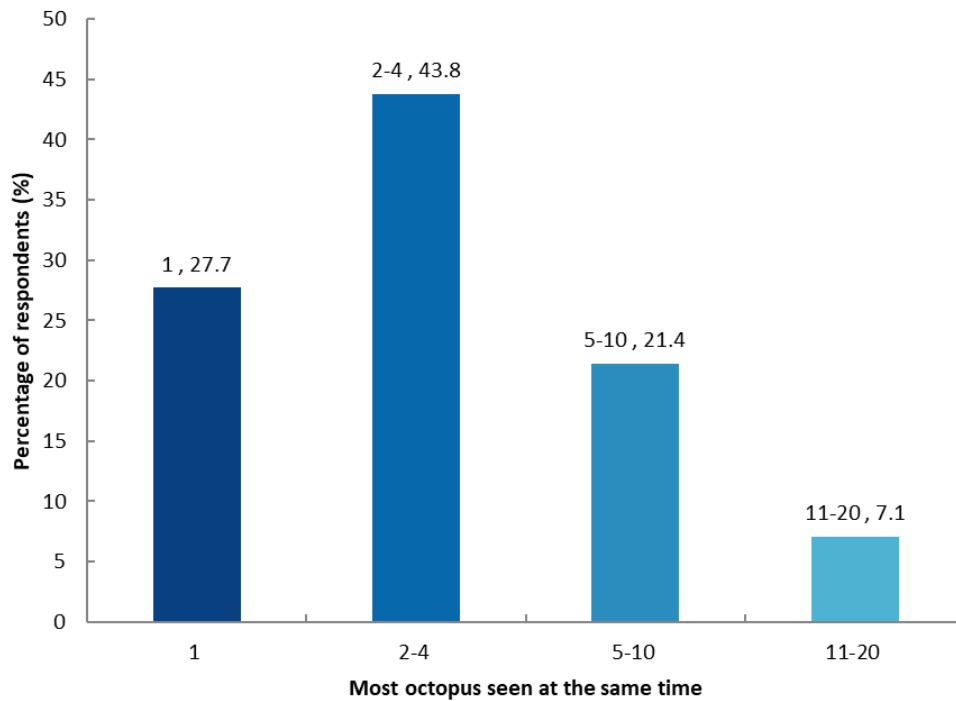


Figure 6.4. The most common octopus seen at the same time by respondents (n=112).

In comparison, the median average number of common octopus seen during a dive or snorkel was 1 to 2 (62.7% of respondents), however, 3 respondents (2.7%) said they had seen an average of more than 20 (Figure 6.5).

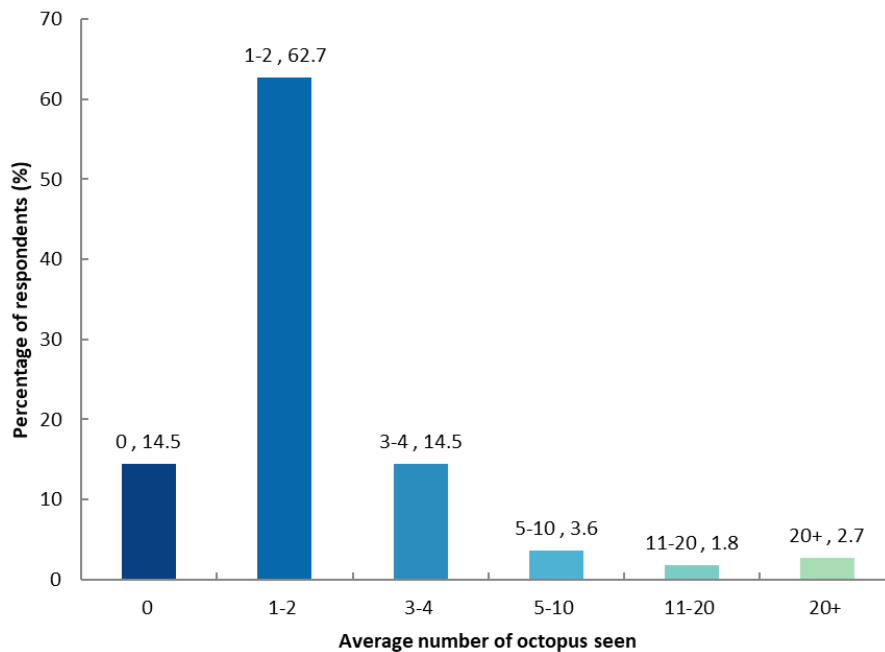


Figure 6.5. The average number of common octopus seen by respondents on a single dive (n=110).

In terms of the depths at which respondents had seen common octopus, over 90% were seen in water less than 20 m deep, with 55.4% of the respondents seeing them in depths of 10 m or less. In comparison, only a few divers had seen them in water over 20 m deep, with only 1 observation from more than 30 m deep.

Observations from divers and snorkellers indicated that common octopus have an overwhelming preference for rocky reefs, with 74.1% of respondents saying that is where they saw the most common octopus (Figure 6.6). In terms of other habitats where common octopus had been seen, the next most important (in order) were kelp forests, wrecks, algal beds and sandy bottoms. Other uncommon but noteworthy habitats included seagrass and under a pier.

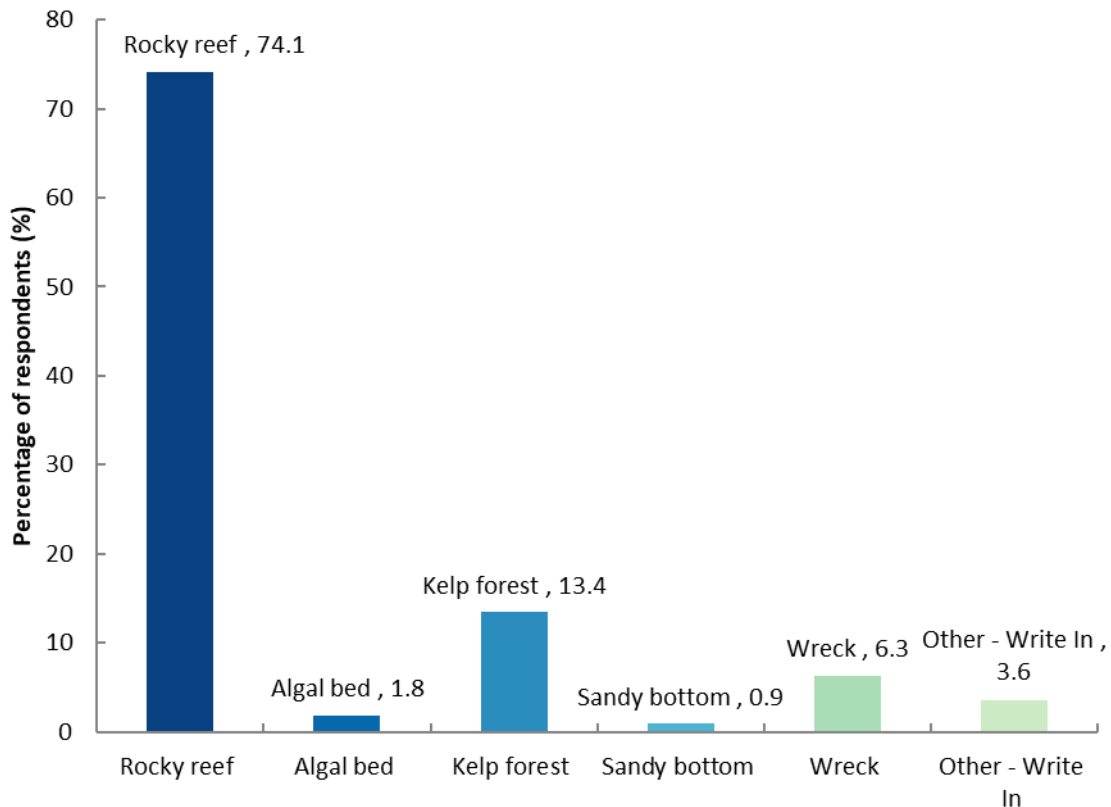


Figure 6.6. The different habitats where respondents saw the most common octopus (n=112)

The next question asked respondents to name the dive sites or nearest landmarks where they had seen the most common octopus. There were 128 responses to this question from 108 respondents due to several respondents reporting more than one location. In total, 54 different locations or dive sites were reported, with the top 5 locations being: Porthkerris, Cornwall (24 reports), Babbacombe, Devon (15 reports), Mewstone Rock, near Plymouth, Devon (9 reports), Brixham, Devon (8 reports), and the Ore Stone and Thatcher’s Rocks, near Torquay, Devon (4 reports each). On a more general level, almost all locations were concentrated along the south coasts of Devon and Cornwall between Babbacombe, Devon and the Lizard, Cornwall. The only exceptions were single reports from St Peter Port harbour, Guernsey; Chesil Beach, Devon; Budleigh, Devon; Penzance Promenade, Cornwall; the Runnel Stone, near Land’s End, Cornwall; the Italia shipwreck, St Agnes, Isles of Scilly; Newquay, north Cornwall; and Kilwinning, Ayrshire, Scotland (verified by us), (Figure 6.7).

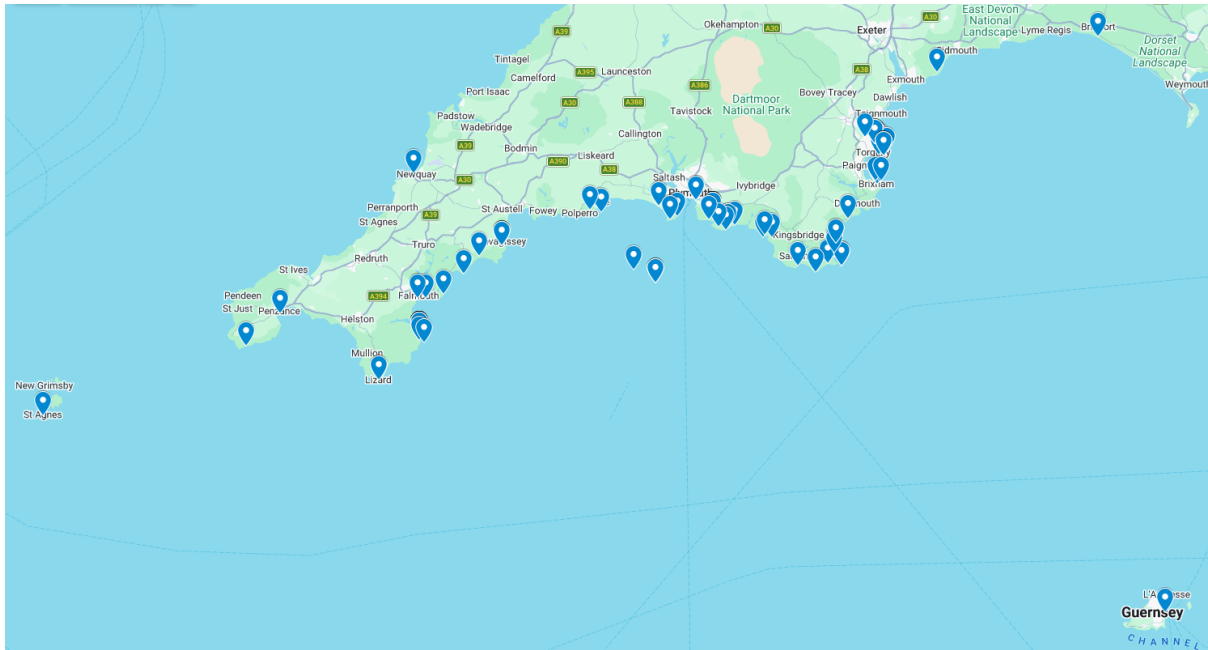


Figure 6.7. Locations (dive or snorkel sites) where respondents reported to have seen the most common octopus from January to September 2025 (n=108 respondents). Note that the sightings in Kilwinning, Scotland are not shown.

Respondents were then asked if they had travelled to any particular dive or snorkelling sites specifically to see common octopus during 2025 (up to September). This question was answered by 114 respondents, with 70.8% saying no, but 30.1% saying yes. Of those who said yes, 7.1% (8) respondents said they had done so with a commercial diving operation. This relatively high amount of travel corresponds fairly well with the number of respondents who lived outside of the SW of the UK (see figure 6.1), suggesting that many had made the journey specifically to see octopus. By far the most common destination for people to travel to was Porthkerris in Cornwall, accounting for nearly half (42.86%) of the 42 different reported locations. Next most popular was Babbacombe in Devon (9.52% reports), while 3 people travelled to Plymouth / Plymouth Sound, and another 3 to the Mewstone off Wembury, Devon. In a similar area, two people travelled to the Pier Cellars dive site on Rame Head, while two others travelled Portmellon in Cornwall. All the other reported locations were only visited by one respondent.

To investigate any seasonal changes in octopus abundance and behaviour, respondents were asked if the number of common octopus seen had changed over the course of the year (2025). This question was answered by 109 respondents, with 68 (62.39%) saying yes, and the remainder saying no. Of those who said yes, 48 respondents provided further comments about the nature of those changes. More than half (56.25%) of those comments noted seasonal changes, with most reporting highest octopus numbers in May and June 2025, with declines since then, particularly in recent weeks (i.e. in September 2025). A common reason given for the declines was fishing pressure, while others suggested it was due to natural breeding cycles (e.g. octopus dying after breeding and / or hiding in dens to guard eggs). One person speculated that seal predation had taken its toll. Nine people (18.75%) noted longer term changes, saying they had either never seen common octopus before, or never seen so many. For example, one respondent said,

“I had never seen a common octopus in the UK before and have been snorkelling all my life around Cornwall.”

There were exceptions, with some people saying they had seen them in 2024 or even before that, but such comments were rare. For full responses to this question about changes, see Appendix 9.4.1.

Following on from the above question, respondents were then asked if they had seen common octopus in the SW of the UK before this year (2025). This question was answered by 112 people, with half saying no. Another 27.7% said they had seen much less common octopus in previous years, with a further 15.2% saying less and 3.6% saying they had seen similar numbers in previous years. Surprisingly, 2.7% (3 people) said they had seen more in previous years, while one said they had seen much more in previous years (Figure 6.8).

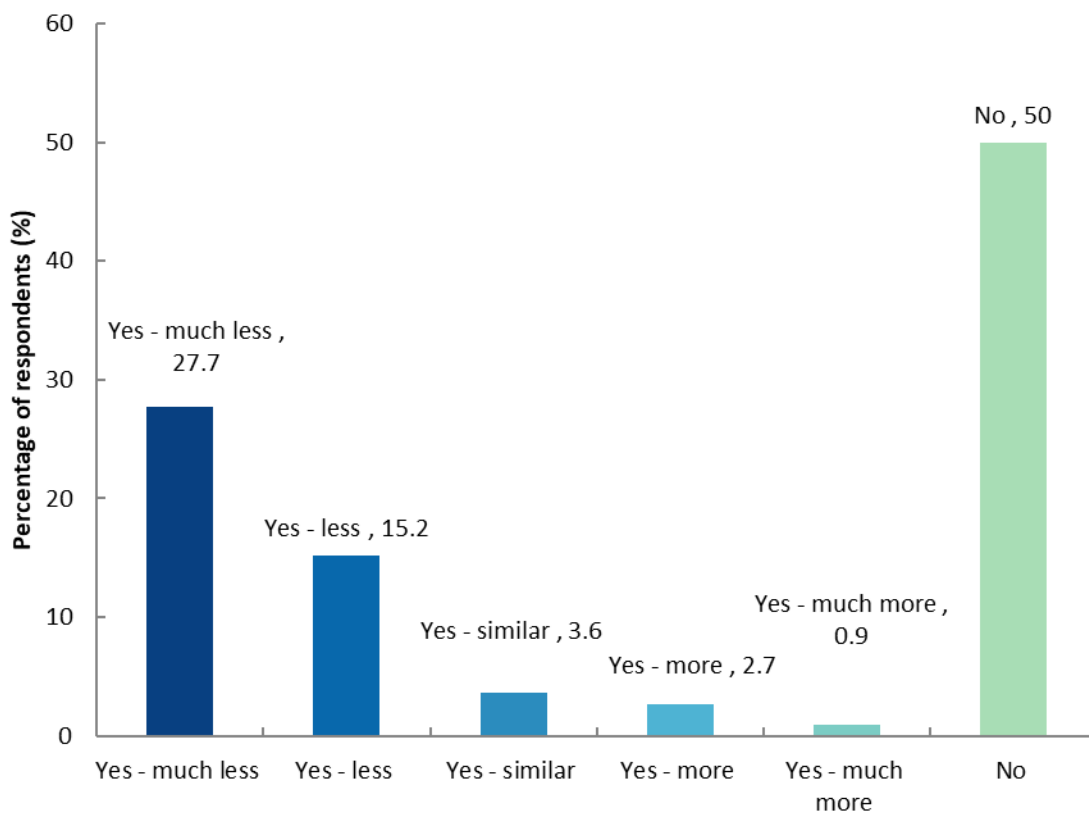


Figure 6.8. Responses to the question ‘Have you seen common octopus in the SW of England before this year?’ (n=112).

6.3.3 Octopus biology and behaviour

The next two questions explored aspects of octopus biology. Firstly, respondents were asked if any of the common octopus they saw appear to be injured or show signs of stress, and if yes, to describe. This question was answered by 110, with 75 (68.2%) saying no, 29 (26.4%) saying yes, and 6 (5.5%) saying they were not sure. All of those who said yes provided descriptions, which can be seen in full in appendix 9.4.2. Most descriptions (22 or 75.86%) were focused on damage to tentacles – sometimes mentioning that entire limbs were missing, sometimes mentioning that just the ends were damaged. Eight respondents (27.59%) also reported having seen dead octopus, while a few others reported seeing octopus that were faded / whitish or in very poor condition. Damage was only attributed in 5 cases, with potential reasons including predation, action of fishermen and mating / fighting.

Following on from the above question, respondents were asked if they had seen any octopus eggs, and if so, where. This question was answered by 110 people, with 14 (12.7%) reporting that they had seen eggs. In line with where the most octopus had been seen, Porthkerris was also had the most observations (from 7 people) of octopus eggs. There were also 3 reports from Babbacombe and 2 at Ore Stone off Torquay. Other locations with eggs were Brixham and Beacon cove, Torquay. Notably, observations at some locations described multiple dens with eggs, e.g. *“There are at least dozen [places] on Porthkerris reef that I know of with eggs”* and *“There are at least 9 dens at Babbacombe”* and *“Babbacombe (5 dens with eggs) and Porthkerris (1 den).”*

In the final open question, respondents were asked if they wished to provide any other comments, unusual observations or stories related to the octopus they had seen. This produced 61 responses on a range of topics, some of them very detailed. The full details of these responses can be seen in appendix 9.4.3.

A common thread in many responses was to re-emphasise the extraordinary nature of the bloom or surge in numbers of common octopus in 2025. Divers with several decades of experience noted that while they had only seen a handful of octopus in the past, in 2025 there had been a transformation which led to them seeing up to 10 or more on a single dive, sometimes without really having to search. As above, the most noted dive sites were Porthkerris and Babbacombe. Almost all of the other dive sites were in the SW of the UK, although one diver had seen three common octopus (verified by us from photos) at the same site on the west coast of Scotland.

“In 30 years of diving (approx. 30 UK dives per year – mainly in Cornwall), myself and my husband have seen maybe half-a-dozen Octopus – curled and common – but this year, we’ve seen 1-4 on almost every dive.”

“Previously dived regularly in the SW over the last 30 years and have never seen common octopus before”

Information in the responses fell into four main categories; behavioural observations, trophic interactions, seasonal shifts, and ecological and commercial tensions.

Behavioural observations:

The divers provided a rich tapestry of information about of octopus behaviour. For example, one diver reported having seen an octopus *“running”* along the seabed, while others were seen swimming high in the water column. On one occasion a diver noted that, *“During a navigation exercise one just fell out of the sea above us landing between myself and my colleague. No more than a meter away. It just sat and watched us.”* However, octopus were more commonly spotted hiding in holes or crevices.

Many divers noted that the octopus they saw appeared "fearless" or curious, touching cameras and even climbing on divers. They were also observed hunting during the day and mating in front of divers.

Trophic interactions:

Even though we did not ask a specific question about predation by octopus, we still received a lot of useful observations from the divers and snorkelers. It was often reported that the presence of octopus could be detected by *“crab graveyards”* and piles of empty scallop shells outside their dens. Divers witnessed them eating spider crabs and digging in the silt/sand, presumably in search of bivalves to eat. Some divers thought the threat of octopus to shellfish stocks was overrated, but

more commonly it was acknowledged that they were significant predators. Some speculated that octopus' predation was heaviest on bivalves and crabs, and that lobster and crawfish were less affected. However, others provided strong evidence of predation on these species e.g. "On one dive in an area with octopus I saw a lot of broken lobster claws lying on the seabed." A summary and count of all the reported observations of octopus predation (or likely predation) is in Table 6.2. The most common prey species was the king scallop, *Pecten maximus*, followed by crabs. Although the species was not always specified, it seems likely that most of these were brown crabs, *Cancer pagurus*. Spider crabs and European lobsters appeared to be preyed on less commonly, but sample sizes were low, so it is difficult to be conclusive.

Table 6.2. Numbers of times that common octopus were reported to have been observed or thought to have predated on other species by the divers and snorkelers in our survey

Common name	Scientific name	No. reports	Observations
King scallops	<i>Pecten maximus</i>	6	Empty shells on seabed / around dens
Crabs	N/A	5	Empty shells; "Crab graveyard"
Spider crab	<i>Maja brachydactyla</i>	3	Octopus seen eating a spider crab; Several spider crab carapaces on seabed
Bivalves	N/A	3	Broken / empty shells on seabed / around dens
Lobsters	<i>Homarus gammarus</i>	3	Injured, empty shells; Claws on seabed; Filmed an octopus eating a lobster
Brown crabs	<i>Cancer pagurus</i>	2	Large empty shells
TOTAL		22	

Octopus were also occasionally seen interacting with non-prey species, for example, one diver noted, "One on the wreck of the Marie in Plymouth at 42m [an octopus] put its tentacle too near a conger eel resting under some wreckage and the conger eel bit it. The octopus escaped, seemingly unharmed."

Reproductive behaviour:

Significant reproductive activity was also recorded, including mating activity, apparent mating pairs in the same hole or crevice and females guarding eggs in dens. Several divers noted seeing juvenile octopus, one as small as 20 cm, likely indicating successful breeding in UK waters.

Octopuses demonstrated apparent intelligence in their choice and construction of dens, using rocks and scallop shells as "doors." But there were also several reports of octopus occupying abandoned / lost lobster pots, often appearing quite 'relaxed' inside them.

Seasonal shifts:

Many divers suggested a shift in behaviour over the summer. In late spring, octopuses were often noted to be mobile and active during the day. By late August, they appeared to become more reclusive, staying in deep crevices or burrows. Some divers noted a decrease in the size of individuals toward the end of the season, suggesting a transition to a younger generation or the natural senescence of the larger adults that participated in the spring mating.

Ecological and commercial tension

A relatively common theme in the observations was to describe tension between the octopus bloom and the local fishing industry. Several respondents said they didn't like the way that fishers had 'demonised' the octopus, that the octopus bloom was likely to be a short-term phenomenon, and that they were loving seeing them. However, many more divers reported evidence of octopus predation on shellfish stocks, indicated the tension is justified.

"I had a lovely 10 minutes filming one in the open where it reached over to me. I know they kill crustaceans and possibly seahorse, but it is so lovely to see them."

In the final question in the survey, respondents were asked if they had any photos or videos of the octopus they had seen, and if they wished to upload them. This resulted in 24 responses, examples of which can be seen in figure 6.9. Ninety respondents also provided their email addresses for them to be updated on the progress of this project.

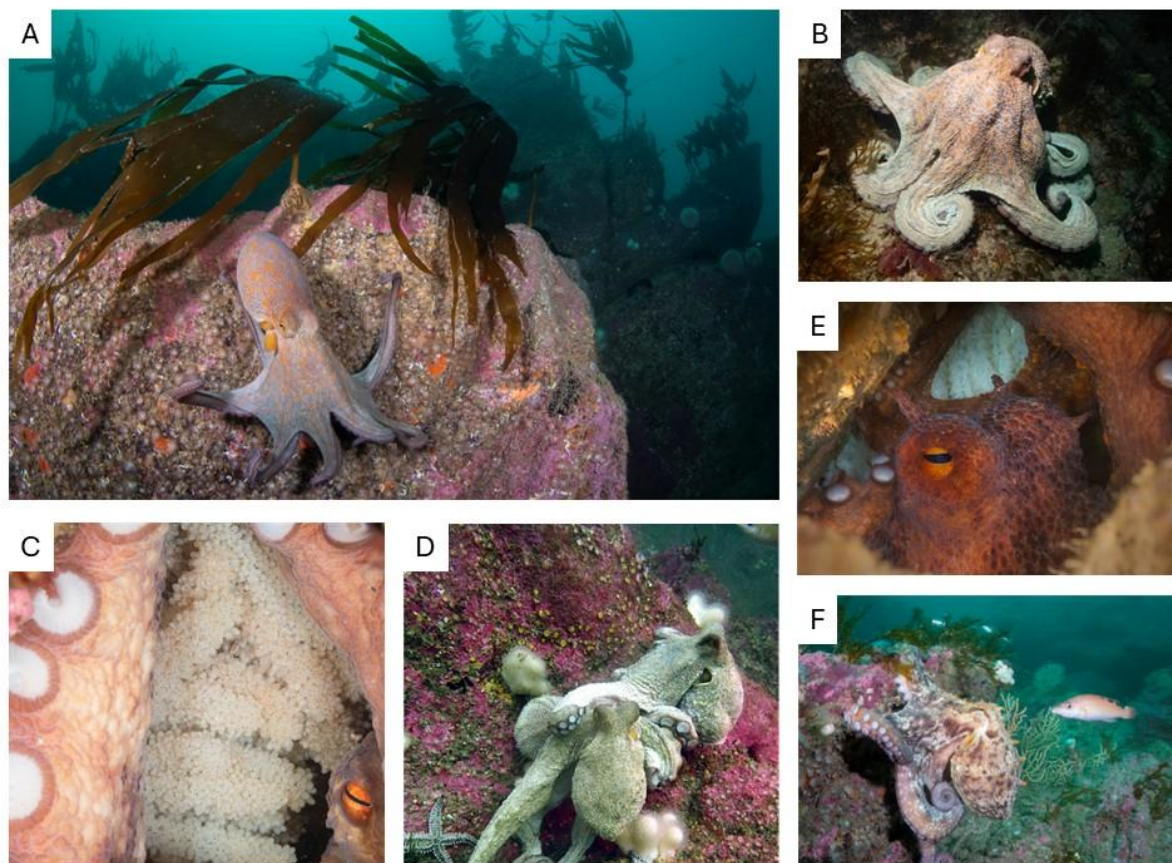


Figure 6.9. Example photos of common octopus provided by respondents to the diver and snorkeller survey. **A.** Octopus on boulder (Kirsty Andrews), **B.** Common octopus on reef (Olivia Langmead), **C.** Common octopus guarding eggs (Kirsty Andrews), **D.** Common octopus potentially mating (Chris Wood), **E.** Common octopus guarding eggs (Dan Bolt), **F.** Common octopus and wrasse (Kirsty Andrews). All photos are copyrighted in the names of the photographers and should not be copied or reproduced without permission.

6.4 Discussion:

Our survey of recreational snorkellers and divers provided a wealth of observations about the common octopus (*Octopus vulgaris*) bloom off the SW of the UK in 2025. This included information

on abundance and distribution, how that changed over the year, and observations of behaviour which included habitat selection, predation, reproduction and senescence. Although our survey was only open for 5 weeks, we had 120 complete responses, with at least 110 divers or snorkellers (and likely 112) having seen common octopus around the UK in 2025. In comparison, at the time of writing the popular citizen scientist platform, [iNaturalist](#) only contained 35 observations of common octopus around the UK since 2020, with 27 of those in 2025 (from 16 observers in total). The response we had to our survey highlights the value and potential of a dedicated and ongoing survey or App for divers and snorkellers to track the evolution of the octopus bloom around the UK in the current and coming years.

It is interesting and worthwhile to compare the results from this survey of divers and snorkellers with the results from our survey of fishermen at the same time ([Stewart et al., 2026](#)). Before doing so it is important to acknowledge the inherent biases and limitations of both datasets. In both cases, observations were restricted to either where fishermen were operating or where divers and snorkellers were diving. In both cases we also specifically asked both fishermen and divers to only report where they had caught or seen common octopus, not where they hadn't seen them. In that way neither dataset is as independent as either our trawl or BRUV surveys described in sections 3 and 4 of this report. However, no survey method is perfect, and both the fishermen and diving surveys elicited many responses across a broad geographical range.

Although the respondents to our diver and snorkeller survey were concentrated in the SW of the UK, a considerable number lived further afield, especially around London, the Midlands, and even Ireland. This indicates that people were travelling to the SW to dive and snorkel, therefore bringing economic benefits by renting accommodation and spending money on food and other necessities ([Schuhbauer et al., 2025](#)). Later responses to our survey indicated that many divers and snorkellers travelled to specific sites to see common octopus, in some cases bringing further economic benefits by utilising the services of local diving companies.

The locations where divers and snorkellers had seen the most common octopus during 2025 were very much concentrated between Babbacombe in Devon, and the Lizard, Cornwall, with very few exceptions. A comparison between these dive sites and where fishermen landed the most common octopus during the same time (January to September 2025) shows a similarly restricted distribution, although there were considerable landings by fishermen further offshore where divers and snorkellers rarely operated ([Stewart et al., 2026](#); Figure 6.10). The highest commercial landings were around Start Point in Devon, where divers also saw a lot of common octopus. However, the most sightings by divers were further west, largely driven by the concentration of reports from around Falmouth and particularly at Porthkerris in Cornwall.

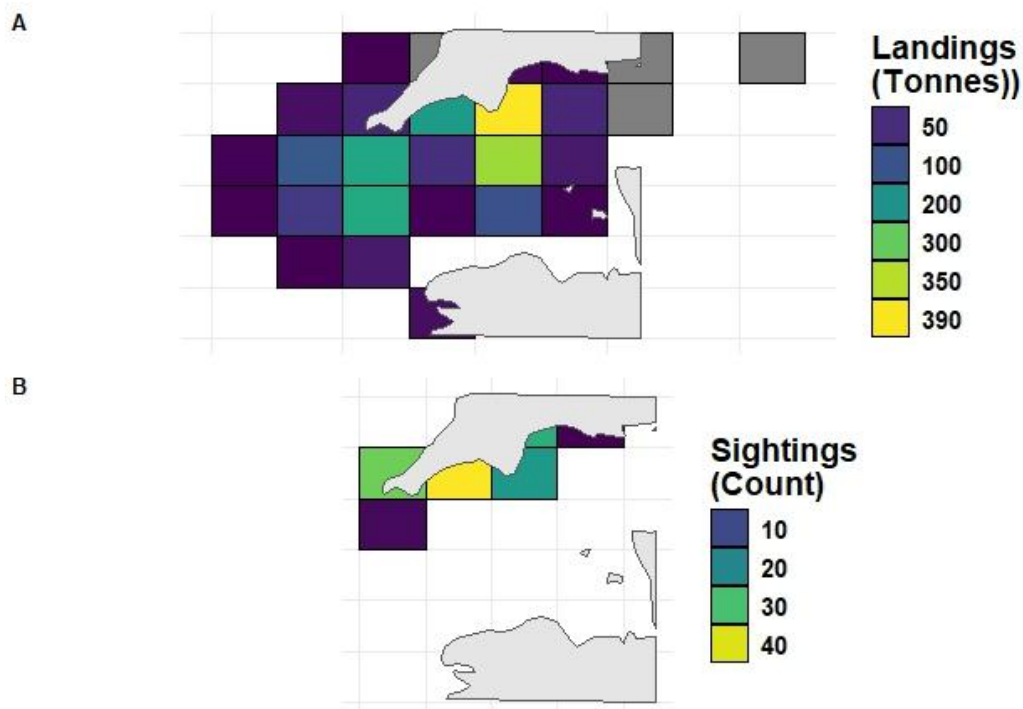


Figure 6.10. A comparison of common octopus landings by (A) commercial fishermen (data from the Marine Management Organisation, [Stewart et al., 2026](#)) with (B) the locations where divers and snorkellers reported to have seen the most common octopus. January to September 2025 in both cases.

Where the information from divers really shone was in their observations of octopus underwater, particularly with respect to habitat selection, evidence of predation, and reproductive behaviour. Descriptions of sophisticated den construction and other behaviour matched those from other parts of the species' range ([Rosa et al., 2024](#)). Importantly, although some divers debated the effect of octopus predation on commercially valuable shellfish species, many others provided evidence of extensive predation on species such as brown and spider crabs, and king scallops. This is significant because observations from fishermen had only provided evidence of predation in fishing gear (pots and creels), where shellfish will have been much more vulnerable to capture by octopus. However, the observations by divers and snorkellers indicate that predation on the seabed is also significant. There is a clear need for further research into the full effects of octopus predation on shellfish at the population level, to establish how much this explains the recent declines in commercial landings and what the future may hold if the octopus bloom continues.

The considerable observations of octopus reproductive behaviour provided by divers and snorkellers are also significant. As noted in Stewart et al (2026), breeding of common octopus had almost never been reported in UK waters before last year. The results of our divers' survey leave no doubt that this situation has now changed; breeding was extensive in 2025, with a peak of activity in late spring and early summer (see also [Hiscock, 2026](#)). Several observations of juvenile octopus suggest this breeding is also being successful, although these juveniles may still have originated from outside UK waters (see [Stewart et al., 2026](#)). Further modelling of larval dispersal could shine light on where the offspring from breeding UK octopus are advected to, and therefore how the geographical distribution of common octopus in the UK is likely to develop into the future. This understanding would be further enhanced by a tagging study to predict how the distribution of adult octopus changes both seasonally and in the longer term.

7 Conclusions and Recommendations

This project has investigated the effectiveness of various survey methods for quantifying the abundance and behaviour of common octopus (*Octopus vulgaris*), particularly in light of the bloom in numbers in UK waters since early 2025. Methods investigated include scientific trawl surveys, Baited Remote Underwater Videos (BRUVs), fitting underwater cameras to fishing gear and SCUBA diving and snorkelling surveys, particularly by citizen scientists. While all these methods have detected common octopus, or shown potential to do so, some hold more promise than others.

Scientific trawl surveys are a common and widely used method for assessing fish and shellfish stocks ([Sobrino et al., 2020](#)). In the SW of the UK, we are lucky to have an almost unprecedented time series of these types of surveys extending back to 1911. However, despite these MBA surveys having caught octopus in the past, none were captured during our most recent surveys in 2025 and 2026. Probable reasons for this are the relatively short time frame and limited spatial scale of the latest surveys. This issue could likely be overcome by a more extensive survey programme, but clearly the financial investment would need to be increased to allow this to happen.

The BRUV surveys were only done in August 2025, however they did detect common octopus, albeit a small number. However, the data collected by BRUVs went well beyond just abundance, it also allowed observations of habitat association, behaviour in the presence of both potential predators and prey, and measurements of body size and condition (senescence). Given the relatively extensive number of BRUV stations that have been surveyed across the SW in recent years, and their proven ability to detect octopus, we therefore think there is a strong argument for continuing to deploy further BRUVs in future years. This will help build up a more extensive fisheries independent dataset of octopus distribution, abundance, behaviour and demography.

The use of cameras on shellfish pots (Pot Cams) also showed great promise. Although they didn't detect any octopus during our small trial, they clearly have the potential to do so. We recommend scaling up this approach to deploy more cameras over a more extensive time period, possibly in collaboration with local fishermen. Observations from this method could help design ways to reduce octopus predation in shellfish pots, and / or help refine new methods for those fishermen wanting to specific target octopus.

Finally, observations from recreational divers and snorkellers were extremely valuable and extensive. Such data could potentially have also been gathered through a dedicated scientific SCUBA survey ([Pak and Leite 2025](#)) but at nowhere near the scale achieved through our survey, without significant personnel and financial investment. Again, the information collected by divers and snorkellers went well beyond just abundance, with considerable observations on habitat selection, general behaviour, reproduction and senescence. We therefore strongly recommend that data on octopus continues to be collected from recreational divers and snorkellers. Given the limited number of octopus records being submitted to existing and more general citizen science repositories, we recommend the development of a user-friendly App dedicated to gathering ongoing octopus observations on a national scale.

In work package 1 of this project ([Stewart et al., 2026](#)) we reported on the near unprecedented scale of this common octopus bloom which has occurred in UK waters since January 2025. Through our survey of fishermen and analysis of fisheries landings data we also highlighted the dramatic impact this was having on the SW fishing industry and likely marine ecosystems in the area in general. On the flip side, our divers and snorkellers survey in this report highlighted the enjoyment that many have gained from sighting common octopus, in some cases travelling considerable distances and

using local diving businesses to do so. Based on a clear link with climate change, and ongoing abnormally warm sea temperatures, we also predicted in work package 1 that the current octopus bloom was likely to continue or reoccur soon and potentially expand. This already seems to be happening; despite high fishing pressure on octopus populations, recent landings of common octopus have been at their highest ever levels and have been reported as widely as Shoreham in East Sussex (Alex Maydew, MMO, *pers. comm.*) and Pembrokeshire in Wales (Emma Wooton, SAGB, *pers. comm.*), along with from the original locations in the SW of the UK. Therefore, there is clearly an ongoing need for further research and collaboration to help the fishing industry and other sea users to adapt to this climate-driven and evolving phenomenon.

7.1 Summary of recommendations:

In addition to the recommendations we made in our report on work package 1, we wish to re-emphasize or add the following list of recommendations:

- Continue to conduct BRUV surveys in the SW of the UK to build up a more extensive fisheries independent database on common octopus abundance, habitat selection, size and behaviour.
- More extensively use cameras on shellfish pots (Pot Cams) to better understand octopus behaviour and how to design pots to either catch more octopus or exclude them.
- Continue engaging with citizen scientists (such as divers) including the development a dedicated App for divers, snorkellers and other sea users (e.g. recreational fishermen) to report their observations of common octopus on an ongoing basis.
- Gather data on octopus size and age to better understand population dynamics. This would ideally be done through market sampling (in addition to size data from BRUV surveys). Age data can be obtained using increments in octopus beaks (see [Le Bourg et al., 2026](#)).
- Use the above age data in combination with larval dispersal modelling (e.g. [OctoPulse](#)) to better understand where octopus larvae have come from and where offspring from UK breeding is likely to be advected to
- Conduct a genetic analysis of octopus caught off the SW of the UK in collaboration with European collaborators to assess the degree of mixing between populations
- An acoustic tagging study would help further refine our understanding of how octopus distribution changes in the juvenile and adult phases (see [Stewart et al., 2026](#))
- Conduct a dietary analysis using observations from fishermen, divers and Pot Cams, in combination with a bioenergetic study, to estimate population effects on key prey species
- Conduct a social and economic study to assess the full effects of the octopus bloom on the UK fishing industry and to share lessons among fishermen for how best to adapt.
- Conduct a social and economic study of SCUBA divers and businesses and associated tourist operators to assess if and how the octopus bloom is affecting them.

8 Acknowledgements

Huge gratitude to our funder, Defra, without whom this project would clearly never have been possible.

Many thanks also to our Steering Group - Devon and Severn Inshore Fisheries and Conservation Authority (Sarah Clark), Cornwall Inshore Fisheries and Conservation Authority (Colin Trundle), South Devon and Channel Shellfishermen (Beshlie Pool), Marine Management Organisation (Alex Maydew and colleagues), Cefas (Vladimir Laptikhovsky), Defra (David Carlin) and Sam Jago - for ongoing support, feedback and advice.

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We would also like to thank everyone involved in the long term monitoring data collection and analysis of the BRUV surveys, particularly Rebecca Turley for the Isles of Scilly Trawling Impact Study on Reef Sediment Veneer Habitats data, and Matilda Longstaff, Frith Dunkley and Jean-Luc Solandt for the Plymouth Sound National Marine Park – Long-term Monitoring Research Project data.

The response to our survey of SCUBA divers and snorkellers was amazing – thank you so much to everyone who took part, especially for all your detailed observations and fabulous photos. Your responses have provided new and unprecedented information about octopus behaviour, habitat selection and reproduction in UK waters. Thanks also to those who helped circulate the survey, especially Amelia Sturgeon, Chris Webb, Dom Robinson, Keith Raven, Izzy Allsop, Mike Markey, Nick Owen, Lin Baldock, Steve Trehwella, Julie Hatcher and Matt Slater.

Last but not least, massive thanks to the Comms team at the MBA - Amy Schofield, Pierre Ehmann and Maya Plass who provided ongoing support, helping to develop the diver survey and sharing it widely, liaising with the media, and generally promoting the project. Similar thanks extend to the Comms teams at the Plymouth Marine Laboratory (particularly Ari Winfield), the School of Marine and Biological Science at the University of Plymouth and the central Comms team at the University of Plymouth.

9 Appendices

9.1 MBA Trawl Surveys – Full list of species captured

Teleosts	Common name	Scientific name
	Anchovy	<i>Engraulis encrasicolus</i>
	Boarfish	<i>Capros aper</i>
	Blenny - butterfly	<i>Blennius ocellaris</i>
	Bream - axillary	<i>Pagellus acarne</i>
	Bream - black	<i>Spondylisoma cantharus</i>
	Bream - red	<i>Pagellus bogaraveo</i>
	Conger eel	<i>Conger conger</i>
	Dab	<i>Limanda limanda</i>
	Dragonet - common	<i>Callionymus lyra</i>
	Flounder	<i>Platichthys flesus</i>
	Goby - crystal	<i>Crystallogobius linearis</i>
	Gurnard - grey	<i>Eutrigla gurnardus</i>
	Gurnard - red	<i>Chelidonichthys cuculus</i>
	Gurnard - streaked	<i>Chelidonichthys lastoviza</i>
	Gurnard - tub	<i>Chelidonichthys lucerna</i>
	Horse mackerel	<i>Trachurus trachurus</i>
	John dory	<i>Zeus faber</i>
	Monkfish	<i>Lophius piscatorius</i>
	Plaice	<i>Pleuronectes platessa</i>
	Poor cod	<i>Trisopterus minutus</i>
	Pouting	<i>Trisopterus luscus</i>
	Red bandfish	<i>Cepola macrophthalma</i>
	Red mullet	<i>Mullus surmuletus</i>
	Sand smelt	<i>Atherina presbyter</i>
	Sandeel - greater	<i>Hyperoplus lanceolatus</i>

	Sardine	<i>Sardina pilchardus</i>
	Scaldfish	<i>Arnoglossus laterna</i>
	Seabass	<i>Dicentrarchus labrax</i>
	Sole	<i>Solea solea</i>
	Solenette	<i>Buglossidium luteum</i>
	Sprat	<i>Sprattus sprattus</i>
	Turbot	<i>Scophthalmus maximus</i>
	Whiting	<i>Merlangius merlangus</i>
	Wrasse - cuckoo	<i>Labrus mixtus</i>
	Wrasse - goldsinny	<i>Ctenolabrus rupestris</i>
Elasmobranchs	Nurse hound (Huss)	<i>Scyllorhinus stellaris</i>
	Ray - blonde	<i>Raja brachyura</i>
	Ray - small eyed	<i>Raja microocellata</i>
	Ray - spotted	<i>Raja montagui</i>
	Ray - thornback	<i>Raja clavata</i>
	Small spotted catshark	<i>Scyliorhinus canicula</i>
	Smooth hound - common	<i>Mustelus mustelus</i>
	Smooth hound - starry	<i>Mustelus asterias</i>
Cephalopods	Cuttlefish - common	<i>Sepia officinalis</i>
	Cuttlefish - elegant	<i>Sepia elegans</i>
	Squid - European	<i>Alloteuthis subulata</i>
	Squid - long finned	<i>Loligo forbesii</i>
Other invertebrates	Crab - common spider	<i>Maja spinado</i>
	Crab - Bernhard's hermit	<i>Pagurus bernhardus</i>
	Crab - Prideaux's hermit	<i>Pagurus prideaux</i>
	Crab - spider (other)	<i>Macropodia spp.</i>

	Crab - spider (other)	<i>Inachus spp</i>
	Scallop - king	<i>Pecten maximus</i>
	Scallop - queen	<i>Aequipecten opercularis</i>
	Starfish - spiny	<i>Marthasterisas glacias</i>

9.2 Baited Remote Underwater Video

Table A9.2.1 Baited remote underwater video survey locations in Plymouth Sound and surrounding waters 2025.

Site	Rep/Cam	Lat	Long
SW Mewstone 1	Rep1_Cam1	50°18.0791	004°6.4898
SW Mewstone 1	Rep2_Cam2	50°18.0845	004°6.5639
SW Mewstone 1	Rep3_Cam3	50°18.0873'	004°6.6553
SW Mewstone 2	Rep1_Cam4	50 18.1011	004 06.9248
SW Mewstone 2	Rep2_Cam5	50 18.1908	004 06.910
SW Mewstone 2	Rep3_Cam7	50 18.2609	004 06.9412
Ramscliff Point 1	Rep1_Cam1	50°20.626'	004°7.817'
Ramscliff Point 1	Rep2_Cam2	50°20.606'	004°7.919'
Ramscliff Point 1	Rep3_Cam3	50°20.595'	004°7.950'
Eddystone North 2c	Rep1_Cam2	50 11.7993	004 15.8816
Eddystone North 2b	Rep2_Cam3	50 11.5583	004 16.0943
Eddystone North 2a	Rep3_Cam4	50 11.2580	004 15.7246
Eddystone North 1a	Rep1_Cam5	50 11.0099	004 15.4000
Eddystone North 1b	Rep2_Cam6	50 11.0066	004 15.4542
Eddystone West 2c	Rep1_Cam2	50 10.9786	004 16.1706
Eddystone West 2b	Rep2_Cam3	50 10.8985	004 16.1720
Eddystone West 2a	Rep3_Cam4	50 10.8161	004 16.1624
Eddystone West 1c	Rep1_Cam5	50 10.7692	004 15.4388
Eddystone West 1a	Rep2_Cam6	50 10.9007	001 16.5256
Eddystone East 2b	Rep1_Cam2	50 10.7570	004 15.6581
Eddystone East 2a	Rep2_Cam3	50 10.7909	004 15.6142
Eddystone East 1a	Rep1_Cam4	50 10.7894	004 15.4499
Eddystone East 1b	Rep2_Cam5	50 10.7890	004 15.3495
Eddystone East 1c	Rep3_Cam6	50 10.8563	004 15.3983
Long Edge 1a	Rep1_Cam2	50 12.5641	004 23.0534
Long Edge 1b	Rep2_Cam3	50.12.5623	004 22.8461
Long Edge 1c	Rep3_Cam4	50 12.7122	004 22.8638
Long Edge 2a	Rep1_Cam5	50 12.9158	004 22.9047
Long Edge 2a	Rep2_Cam6	50 12.9191	004 22.6602
Hand Deeps 2b	Rep1_Cam2	50 13.1386	004 20.4391
Hand Deeps 2a	Rep2_Cam3	50 12.9875	004 20.3218
Hand Deeps 1b	Rep3_Cam4	50 12.6620	004 19.9120
Hand Deeps 1a	Rep1_Cam5	50 12.7399	004 19.8751
Hand Deeps 1c	Rep2_Cam6	50 12.7456	004 19.7321
SW Rutts 1c	Rep1_Cam2	50 12.9470	004 04.6313
SW Rutts 2b	Rep2_Cam3	50 13.0245	004 04.7417
SW Rutts 1b	Rep3_Cam4	50 12.9473	004 04.7307
SW Rutts 1a	Rep1_Cam5	50 12.9523	004 04.8233
SW Rutts 2a	Rep2_Cam6	50 13.0385	004 04.8413

Penlee Point 2b	Rep1_Cam2	50 18.8796	004 12.7293
Penlee Point 2a	Rep2_Cam3	50 18.9319	004 12.5431
Penlee Point 1c	Rep1_Cam4	50 18.9347	004 12.2301
Penlee Point 1b	Rep2_Cam6	50 18.9443	004 12.0475
Penlee Point 1a	Rep3_Cam8	50 18.9626	004 11.8110
Tinker Shoal 1c	Rep1_Cam2	50 19.3392	004 08.2603
Tinker Shoal 1b	Rep2_Cam3	50 19.3319	004 08.2535
Tinker Shoal 1a	Rep3_Cam4	50 19.4202	004 08.4005
Tinker Shoal 2b	Rep1_Cam6	50 19.1439	004 08.6745
Tinker Shoal 2a	Rep2_Cam8	50 19.1463	004 08.8547
Panther Shoal 2b	Rep1_Cam6	50 19.5256	004 09.7376
Panther Shoal 2a	Rep2_Cam4	50 19.6010	004 09.7144
Panther Shoal 1c	Rep1_Cam2	50 19.6609	004 09.5711
Panther Shoal 1b	Rep2_Cam3	50 19.7273	004 09.5288
Panther Shoal 1a	Rep3_Cam8	50 19.7874	004 09.4685

Table A9.2.2 List of all species seen on the 2025 BRUVS:

Group	Common Name	Scientific Name
Teleosts: 19	Cuckoo wrasse (male + female)	<i>Labrus mixtus</i>
	Goldsinny	<i>Ctenolabrus rupestris</i>
	Comber	<i>Serranus cabrilla</i>
	Ballan wrasse	<i>Labrus bergylta</i>
	Scad	<i>Trachurus trachurus</i>
	Sand goby	<i>Pomatoschistus minutus</i>
	Sand eel	<i>Ammodytes tobianus</i>
	Bass	<i>Dicentrarchus labrax</i>
	Poor cod	<i>Trisopterus minutus</i>
	Pout	<i>Trisopterus luscus</i>
	Pollack	<i>Pollachius pollachius</i>
	Conger eel	<i>Conger conger</i>
	Rock cook	<i>Centrolabrus exoletus</i>
	Black bream	<i>Spondyliosoma cantharus</i>
	Auxiliary bream	<i>Pagellus acarne</i>
Topknot	<i>Zeugopterus punctatus</i>	

	Ling	<i>Molva molva</i>
	Anglerfish	<i>Lophius piscatorius</i>
	Sunfish	<i>Mola mola</i>
Elasmobranchs (sharks & rays): 3	Nursehound	<i>Scyliorhinus stellaris</i>
	Dogfish	<i>Scyliorhinus canicula</i>
	Spurdog	<i>Squalus acanthias</i>
Invertebrates: 12	Octopus	<i>Octopus vulgaris</i>
	Squid	<i>Loligo vulgaris</i>
	Cuttlefish	<i>Sepia officinalis</i>
	Spiny starfish	<i>Marthasterias glacialis</i>
	Brittle star	<i>Ophiothrix fragilis</i>
	Spider crab	<i>Maja brachydactyla</i>
	Dog whelk	<i>Nucella lapillus</i>
	Hermit crab	<i>Pagurus bernhardus</i>
	Pycnogonida (sea spiders)	-
	Lobster	<i>Homarus gammarus</i>
	Sea cucumber	-
	Tube worms	-

SCUBA Diver & Snorkeller Common Octopus Sightings Survey – Southwest England

Background:

Since early 2025, there has been a significant increase in sightings and landings by fishermen of common octopus (*Octopus vulgaris*) off the Southwest coast of the UK. Concerns have been raised by the commercial fishing industry about the impact this is having on crab, lobster, and scallop fisheries across the Southwest region. Conversely, many divers have enjoyed seeing this unusual but spectacular marine animal in our waters.

The Marine Biological Association, along with the University of Plymouth, the Plymouth Marine Laboratory and an independent consultant, have been commissioned to investigate the history and potential environmental causes of such blooms, the effects they are having on the fishing industry, and the potential for such blooms to happen again in the future. This work is funded by Defra, Plymouth City Council and Devon County Council. We are guided by a Steering Group which includes local fishermen, IFCA's, Cefas, the MMO and Defra.

As part of the above project, we are surveying the fishermen to better understand both the negative and positive effects on their industry and their thoughts for the future. We are also keen to hear from SCUBA divers to better understand the abundance and distribution of common octopus and how it has changed this year. We are also interested in any interesting octopus behaviour or breeding you may have seen.

If you are a SCUBA diver or snorkeller and have seen a common octopus off the SW of the UK this year, please fill out this survey.

Results of this survey will be fed back to Defra, Plymouth City Council and Devon County Council. We will produce a publicly available report and also hold a public webinar in October to share our results more widely. If you wish to be contacted about these outputs please provide your contact details at the end of this survey.

You have the right to not answer any question if you do not feel it is appropriate. If you wish to withdraw your answers then close the survey without submitting it. You are welcome to remain anonymous, but if you do provide your name and / or vessel name, these will be kept confidential and will not be used in any reports or presentations. If you have any queries, please contact Bryce Stewart (bryste@mba.ac.uk). The data collected will be held confidentially and protected appropriately. Data will be held until the results have been analysed and disseminated appropriately.

By taking part in this survey, you give your consent for the answers you provide to be used as described above.

The survey closes **at midnight on Sunday September 14th 2025**



A common octopus (*Octopus vulgaris*). A medium to large sized octopus reaching up to 1.3 meters in length, with a distinctly warty body. The arms are thick and stout bearing two rows of longitudinal suckers. The colour varies from grey-yellow-brown-green and can change according to the situation (MarLIN). Photo taken by Keith Hiscock

SECTION 1: About you

1. Home location (city/town):
2. Please select the most appropriate following category: I am mostly a [SCUBA diver, Snorkeller]

SECTION 2: Octopus abundance

3. Have you seen any octopus while diving or snorkelling off the Southwest (SW) coast of England this year (2025)? [Yes, No]
 - If yes, were some of the octopus you saw common octopus (*Octopus vulgaris*)? See photo and description above [Yes, No]
4. How many dives or snorkels have you done in Devon and Cornwall this year? [Tick box: 1-10, 11-20, 21-30, 31-40, 41-50, 50-100, 100+]
5. On what percentage of dives or snorkels have you seen common octopus? [Sliding scale in 10% increments]
6. What is the most number of common octopus you have seen on a single dive or snorkel? [Tick box: 1, 2-4, 5-10, 10-20, 20+]
7. What is the most common octopus you have seen at the same time on a single dive or snorkel? [Tick box: 1, 2-4, 5-10, 10-20, 20+]
8. What is the average number of common octopus you have seen on your dives or snorkels off the SW this year? [0, 1-2, 3-4, 5-10, 10-20, 20+]

9. At what depth have you seen the most common octopus? [Tick box: 0-10m, 10-20m, 20-30m, 30m+, Not applicable]
10. In what type of habitat have you seen the most common octopus [Select one: Rocky reef, Algal bed, Kelp forest, Sandy bottom, Seagrass, Wreck, Other (describe)]
11. In what other habitats have you seen common octopus? [Tick all that apply: Rocky reef, Algal bed, Kelp forest, Sandy bottom, Seagrass, Wreck, Other (describe)]
12. Please name the dive site or nearest landmark (e.g., Porthkerris Reef or Looe Island) where you have seen the most common octopus [Free text]
13. Please name any other dive sites or nearest landmarks (e.g., Porthkerris Reef or Looe Island) where you have seen any common octopus [Free text]
14. Have you travelled to any particular dive or snorkel sites specifically to see common octopus this year?
 - If yes, please name them [free text]
 - If yes, did you use a commercial diving operation [No, Yes (please specify)]
15. Has the number of common octopus that you have seen changed over the course of this year? [Free text]
16. Have you seen common octopus in the SW of England before this year? [Yes, No]
 - If yes, how would you compare common octopus abundance this year to previous years [Tick box: Much less, Less, Similar, More, Much more]

SECTION 3: Octopus observations

17. Did any of the common octopus that you saw appear injured or show signs of stress? [Tick box: Yes, No, Not sure]
18. Have you ever observed octopus eggs or juveniles? [Tick box: Yes, No, Not sure]
 - If yes, please describe (location, date, etc.) [Free text]
19. Any other comments, unusual observations, or stories related to octopus sightings?
20. If possible, please upload any photos or video (optional):
(Include upload link if this is digital or give email address)

SECTION 4: Your details

You are welcome to remain anonymous, but if you provide the name of your name and contact details below we will be able to keep you updated as this project progresses.

Your name: [free text]

If you would like to be contacted about the outputs of this project (report and webinar), please leave your contact information (email address or phone number) [free text]

Thank You!

9.4 Full responses of divers and snorkellers to open questions:

9.4.1 Has the number of common octopus that you have seen changed over the course of this year?

If yes, please describe any changes observed.
I've been seeing octopus for years around Torbay and in Cornwall, but this year I've seen the most numbers and seen them mating and out hunting during the day
Always see them - but recognise this occurs every 70 years - also see lots of lobsters and shellfish so find it hard to believe it is their fault the fisherman are struggling - generally less fish
Declining in recent weeks
Decreased since May/June
Fewer later in year
Fewer recently.
Fewer sited from mid-August
Have never seen them before this year
Haven't seen any in last few weeks
I didn't see any in previous years
I had never seen a common octopus in the UK before and have been snorkeling all my life around Cornwall.
I have never seen an Octopus diving in the UK until this year
Increase in quantity and size
Increase in sightings and easier to spot
Increase until late June then sudden drop and slow increase again.
Increased
Increased in spring, and now mostly gone (apart from females in dens)

Large increase in early summer
Less of them around now
Less than before
Lots before breeding (May) then as females started to hunker down less out and about (June/July) then recently as well as females on eggs more spotted out about hunting again (August/September) but highest numbers in may
May be starting to reduce regularity in last month
More
More seemed to arrive in June/July
Most abundant in June
Most seen May-July; none in August-September
Moved into the area of spider crab congregation
Never seen one before
Never seen one before in U
Never seen one pre 2025 having dived sincec2013
No octopus until spring, then consistently seeing at least one Octopus from june-August. In early August the octopus are less common and hiding in rocks. In June/ July octopus were more active and seen in the multiple
Not sure
Only seen during one dive
Reduced
Reduced in numbers probably because been captured by pots
Reduced in recent weeks, from a peak in early june
Sadly, they diminished as people got to hear about them and they were getting caught by fisherman and eaten by the seals

Seen many this year and only a few in previous years. Started seeing them at the end of April, there was a peak of behaviour around May-June, saw several females on dens between late June and late August but fewer adults out and about during this time. In early September we saw dead adults outside the dens.
Seen regularly at the start of the year but not seen since mid-May despite repeated visits.
Shore diving at Porthkerris, our group spotted them every dive
Slow decline since late spring
There was a peak in numbers in June
There was often an octopus in the crab pots of the promenade. The crab pots moved somewhere else in August, and we've not seen so many octopus.
They were a lot in May and June but that tailed off mostly I think because they were being slaughtered by the fisherman. How unusual!
Went from not seeing any to seeing a lot by May/June time
Never seen this many before
We had started seeing them last year, but it's more regular to see in 2025 now

9.4.2 Did any of the common octopus that you saw appear to be injured or show signs of stress?

If yes - please describe
A couple had one or two tentacles that were re-growing.
A few had lost their limbs.
A few were missing an arm.
A few with cut off limbs.
Female guarding eggs slowly die.
From mid-August onwards some of the octopus noted were dead or in very poor condition.

Have seen multiple dead carcasses on the seabed with the body physically separated from the head and legs

I did see a dead octopus clipped to a spearfisherman's belt as he exited the water at Portmellon. I also saw a dead one next to a lobster pot and an alive one in a lobster pot that I believe may have been waiting for food, both also at Portmellon

Large whitish individuals with missing arms and looking very frayed

Many had arms missing from June onwards - assumed these were male that had been fighting

Missing limbs and wounds to the head.

Missing tentacles

Missing tentacles

Non-responsive

Occasionally missing a tentacle or faded in colour

Some octopus had some shorter tentacles that were regrowing. These are typical signs of past encounters with congers or other predators

Often damage to the arms. Dead individuals towards the end of the season.

One had a leg missing

One had been recently decapitated, presumably by the crab potter I saw emptying pots near to Start Point

One large one was missing half a tentacle.

One of them had a small injury.

One was missing a couple of ends of its tentacles, but otherwise healthy.

Some dead and some with tentacle tips missing/damaged

Some individuals had legs missing

Some missing limbs

A few arms missing on one or two

Damaged arms

Several octopus had parts of tentacles that were missing. Dead ones seen at Porthkerris and Shoalstone.

Some had short tentacles.

9.4.3 Any other comments, unusual observations or stories related to your octopus sightings?

Response

One of the Octopus I saw was 'running'!

Fabulous making the most of these amazing creatures see living shell fish around them too - very much less fish this year - south west waters very depleted- can't blame octopus for this - every 70 years we see influx of octopus in southwest - see them Every year - they are not unusual Amazing creature not to be blamed for humans over fishing - we are biggest danger to ocean - reluctant to complete and share as blaming octopuses very sad - need protected areas only way forward - not sharing footage

Also saw couple under rocks off Chesil cove. Most of the ones we saw in Porthkerris were not very skittish and seem quite interested in us divers. often on the dives at Porthkerris we didnt know which way to look for the amount of octopuses about. in fact seen more on uk dives than we have aboard on a single dive. we saw older pale coloured ones as well as smaller juveniles

Came across octopus burying in silt and sand for significant period of time, pushing sediment in front of it and also exhaling sediment. Very preoccupied with this activity. Was engaged in the activity before I was near the octopus ... searching for food? Bivalves?

Spotted two very large octopus living within 10m of each other. Hines noted by the abundance of empty crab and scallop shells littered around them.

Earlier this year they were mobile around reefs but are now mostly in burrows or rocky crevasse

On one occasion, 8 in one abandoned lobster pot, not trapped, but relaxed.

Around Falmouth, near to Pendennis castle, twice I've seen an octopus hiding in the rocks, one was using a rock as a door, was holding onto the side. It looked like it was hiding inside the rock. This was around 7pm. Other dive the octopus was in a hole but was using seaweed to cover.

The other Divers on the same dive boat saw a few too on their dives. We only saw 1 octopus, on 1 out of 4 dives during that weekend. It was heavily camouflaged, so we were lucky to spot it on a drift dive.

All sightings of octopus have been on shores which are sheltered from the southwesterly wind. I have seen zero octopus on west facing sites. Also noticed that holes in the rocks often have more than one octopus in. Though most of the individuals I have seen are proactively moving out in the open.

I had a lovely 10 minutes filming one in the open where it reached over to me. I know they kill Crustaceans and possibly Seahorse but it is so lovely to see them. I used to dive in Malta all the time but they have almost all been killed there. The worry I have is that the Crawfish are just coming back after being wiped out by over fishing. How many of them were killed?

I would love to see octopus. I know quite a few spear-fishers and vast majority will not hunt them despite the culinary value!

Octopus in holes that you would usually find crab or lobster. Far fewer crab and lobster. Lots of broken up shells that look like they've been eaten by an octopus.

I've seen them swimming high in the water column, in cracks in the reef and out on the seabed in 6-10m

Hiding places usually revealed by discarded scallop shells.

Have noticed a lot more injured brown crab, spider crabs and lobster this year. Many having lost one or more limbs/claws. There are also a lot more crab shells in and amongst the rocky reef. Rather large brown crab shells.

We have observed nesting and garden building

In Blackpool sands, the octopus was camouflaged in Kelp like colour, and it was eating a spider crab, this was at 6 meters deep.

Friends were regularly reporting that they had seen octopus near Falmouth four years ago. I saw some last year but now see them regularly. There are quite a few pictures of octopus on Totnes Sub Aqua Club facebook page and descriptions of where they were diving.

They are easily spotted by the number of scallop shells outside of their burrows

Empty Edible crab and scallop shells scattered around reefs and seabed have been very prolific this year. Lobsters seem to be very little impacted by octopus.

If I hadn't got a buddy with exceptional eyesight i would not have had the priviledge to see them

Not seen any - seen a million spider crabs and a few lobsters but no octopus

Less spider crab sighting at this site

Mostly seen in around 3m- 7m of water at low tide. a few in deeper water of around 10m

I heard a lot of divers seeing multiple octopus up to 12 in one dive off of Lacombe beach

I've seen signs of them eating crabs and scallops I.e. empty shells completely devoid of any contents /edible material.

I'm very pleased that octopus are now a common sight and I don't like the way fishers have demonised them. The bloom is likely to be short lived and shellfish populations will recover especially if potting becomes better managed (effort limits are long overdue). Octopuses have proved valuable to our fishers. Blooms are not a new phenomenon and although it's possible that this one was aided by warming seas it is wrong to say the bloom is due to climate change. It's been a good year for survival of octopus to adulthood and this is the result of many factors in combination, not just sea temperatures. Lack of cod and other gadoid fish predators , abundance of spider crabs, favourable currents bringing larvae from further south are all just as important as water temperatures. I've seen octopus living alongside lobsters and crawfish all summer at Porthkerris - they seem to only bother eating lobsters if they are in a pot! - where the lobster can't escape. Octopuses feel safe in crab pots and rarely leave (I don't think escape gaps let them out-they can get through the mesh easily) which is why potters have been landing so many. Cameron Henry told me that in June this summer with 100 pots, fishing out of Falmouth you could expect to land three tonne of octopus a week! The Facebook group @seasearchcornwall is a great place to trawl to get an idea of increased frequency of sightings (obviously data squeezed due to divers favouring certain sites). Also seasearch data (once MCS have caught up with backlog) will be very helpful.

8 common octopus currently in Babbacombe cove

Many were larger than previous years, there holes adorned with scallop shells. I saw plenty of small lobster but few large, some of the octopus were in pots including abandoned ones.

Very active on dive at around dusk time. About the time of sunset. One very tiny common octopus at this evening time, it was about 20cm across with its tentacles out. I confirmed it was a common octopus due to its two rows of suckers. This was in late July.

First year diving so its all new to me, but one particular specimen seemed particularly fearless around divers at Porthkerris. During a navigation exercise one just fell out of the sea above us landing between myself and my colleague. No more than a meter away. It just sat and watched us.

Several were in lobster pots

Large mature adults and a small juvenile, have photos and video but can't upload as files to large.

Five years ago it was lots of cuttlefish around but there are very few now, but lots of octopus. I don't know if this is relative... I use Facebook as my dive Log and there are lots of pictures and videos on there of octopus... my Facebook is under Stephen Rendle if you would like to look.

Mating behavior in June

I havent seen many if any before so all of the sightings were unusual. I have seen them.free swimming, sitting in kelp and in rock holes when look for lobster

Octopus seen mating on 3rd May. Could have been fighting but looked much more like mating behaviour. Pair separated when I arrived but came back once I backed off. I was able to watch for a brief moment before giving them some space.

Surveys in Plymouth sound, mostly circalittoral, no octopus seen. Other survey in kelp forests around Falmouth SAC - no octopus seen

I spent quite a few dives visiting various octopus dens at Babbacombe in the hope of getting some photographs of the eggs in various stages of development. This became harder as the season progresses as they tend to hole themselves in using stones gathered from just outside the den and so taking these images was a technical challenge. The images are of just one female and cover the period 25 May to 15 August.

Previously dived regularly in the SW over the last 30 years and have never seen common octopus before. This year saw two together interacting with each other, on damaged but appeared to be more affectionate than aggressive encounter

Other divers in our group reported a juvenile octopus and "crab graveyard" when shore diving Porthoustock beach on 24/08.

One on the wreck of the Marie in Plymouth at 42m put its tentacle too near a conger eel resting under some wreckage and the conger eel bit it. The octopus escaped, seemingly unharmed.

Hunting during the day Mating infront of divers Interacting with divers touching us climbing on us and also climbing on the camera

Hunting during the day Mating infront of divers Interacting with divers touching us climbing on us and also climbing on the camera

I saw the octopus hiding in a portion of the wreck. It was surrounded by crab shells which I assume it had been eating. It was also using a shell to hide behind.

Well concealed in small crevice in reef

I saw 5 different octopus mating in separate locations in the span of 15 minutes so wandering if mating happens at the same/similar times on a reef. Seem to hunt Bivals more than crabs/lobsters/crawfish as they are most commonly seen outside their den however the odd crab shell is also seen More abundance of crustaceans (particularly crawfish) this year also Seems to be some spots where octopus are hanging around females that have been on eggs for a while On some of Sophie's photos some eggs appear to have hatched prematurely or at least a while before others I'll attach a photo of what I think is an octopus digging for bivals I have some other photos but I can't seem to upload multiple

Quite sedate, apparently tame or lethargic behaviour from large octopus in June. Possibly senescent individuals in late stage of their life cycle.

In 30 years of diving (approx 30 UK dives per year – mainly in Cornwall), myself and my husband have seen maybe half-a-dozen Octopus – curled and common – but this year, we've seen 1-4 on almost every dive. However, in the last few weeks we haven't seen any. We dived Vase Rock yesterday, on Manacles, and didn't see any.

They are frequent in crab pots.

All of my sightings have been in Scotland. But I was invited to fill out this survey anyway. I was surprised to find 3 different octopus under a working pier no deeper than 10m on the same dive. 2 were relatively out in the open, with the third under a rubble bag.

I had stumbled across lots of octopus near a headland close to Towan beach by completely chance, as this is a spot I've snorkelled before but had never seen any. I then went back multiple times in the coming weeks to hopefully encounter and observe this incredible creature. I saw about 10 without even having to search. I could tell the numbers were dropping each time I went back and found many in lobster pots - even witnessed one go in! A few weeks from the initial finding (early June) I couldn't find any... However, I've found a few recently in various spots around The Roseland, but all in crevices and not out in the daytime like late spring-early summer. Is this behaviour common for this time of year or are they retreating due to human interference? Love all the work you've been doing and interested to follow the report to find out more about the bloom. I have lots of photographs/videos but says they are too large of a file to upload! Thanks, Heather

At Babbacombe, I only saw dens (three). On the same day, Kirsty Andrews counted seven dens. There were two together at the end of a small and narrow cave at Porthkerris on 10 June. When they separated, I could see (in the photos) that the inner one likely had a hectocotylus. Possibly, I disturbed a mating pair (see pics).

Guides at Porthkerris explained that they don't see a decrease in crustaceans or other prey items around their shores, due to octopus.

No

Still seeing octopus in late August on offshore reefs (Eddystone) but smaller than the large individuals earlier in the year - potentially younger?

Their nests are very distinctive with decorations of shellfish, but I am surprised at how far outside of their "houses" we have seen them i.e. - they've been full out hunting on the reef.

On one dive in an area with octopus, I saw a lot of broken lobster claws lying on the seabed - I have uploaded a photo. I have a lot of other footage including octopus being harassed by cuckoo wrasse

One in a den, another was found in a lobster pot with several spider crab carcasses.

9.5 Presentations of the project

- Marine Management Organisation, Octopus Bloom update (Stakeholder workshop) – presentation by Bryce Stewart (Overview of project) – 6th August, 2025.
- SAGB Crustacea Committee meeting – presentation by Bryce Stewart (Overview of project) – 17th September, 2025.
- Meeting with Baptiste Le Bourg (Station Marine de Concarneau, France) & Angela Larivain (University of Caen Normandy, France) – presentations by Bryce Stewart (Fishermen’s survey) and Tim Smyth (Environmental causes of the UK octopus bloom) – 10th October 2025.
- Seafish Shellfish Industry Advisory Group – presentation by Bryce Stewart (Overview of research into the octopus bloom) – 17th December 2025.
- PlymSEF Spring Lecture, National Marine Aquarium in Plymouth – presentation by Bryce Stewart and Molly James (Overview of research into the octopus bloom) - 11th May 2026
- South West Marine Ecosystems webinar series – presentation by Bryce Stewart ‘UK octopus bloom – threat or opportunity?’ – 14th May 2026
- Scottish Fisheries Federation (Non-quota species working group) – presentation by Bryce Stewart ‘UK octopus bloom – threat or opportunity?’ – 20th May 2026
- [“Bloomin Octopus – A Tentacular Spectacular”](#) – Film of our project by David Palfrey
- All Party Parliamentary Group on Fisheries – presentation by Bryce Stewart ‘Eyes on the ocean: The importance of data from fishermen and citizen scientists in an era of rapid climate change.’ Part of a session on climate smart fisheries management – 3rd June 2026.