



2017 Annual Report

Marine Strandings in Cornwall and the Isles of Scilly

Report by
Cornwall Wildlife Trust
Marine Strandings Network

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Cornwall Wildlife Trust

Protecting Cornwall's wildlife and wild places



**Recording
Mapping
Informing**

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Photo 1: Common Dolphin, St Ives. Photo by Clare Riley

I. Executive Summary

Data on marine organisms that stranded on the shores of Cornwall in 2017 were collected by the Cornwall Wildlife Trust Marine Strandings Network (CWT MSN). All species were recorded in the database. However, when possible, the majority of cetaceans, seals, basking sharks and turtles were examined and recorded in detail by trained volunteers of the Network.

A total of 250 cetacean strandings were recorded in Cornwall during 2017, making this year the second highest number of stranded cetaceans in Cornwall since records began. Short-beaked common dolphins (*Delphinus delphis*) represented the majority of strandings cases (54.6%, n=136), followed by harbour porpoises (*Phocoena phocoena*) (20.9%, n=52). Due to decomposition, 49 stranded cetaceans could not be identified to species level. Strandings reports during the first 3 months of 2017 were extremely elevated, but returned to more average numbers through the rest of the year.

Post mortem examinations (PME) were conducted on 10% (n=26) cetacean strandings reported to MSN. Post mortem examinations concluded that bycatch was the most common cause of death, accounting for 26% (n=7) of the cetacean strandings. Death caused by disease and parasitism was the second most commonly found cause of death at 19% (n=5) of cetacean strandings examined post mortem, followed by starvation/hypothermia (15%, n=4), live stranding (12%, n=3) and acute physical trauma (8%, n=2). Of the remaining 224 cetaceans, 71 cases were reported to MSN but a volunteer was not able to attend for a wide range of reasons or we have insufficient data, therefore these cases have not been included in the analysis. The Bycatch Evidence Evaluation Protocol (BEEP) was used to assess the 152 cases where sufficient information and photographs were available. This is a process of examining the detailed photos of the stranded animal to identify the external features of bycatch and entanglement. The BEEP examinations concluded that 20% (n=30) showed features consistent with bycatch or entanglement in fishing related gear.

161 Atlantic grey seals (*Halichoerus grypus*) and 1 common seal (*Phoca vitulina*) were recorded by the CWT MSN in 2017. These seal strandings consisted 24% (n=39) males, 19% (n=30), females and 57% (n=93) of unknown gender due to either limited or no supporting photos, or because the animal was too decomposed and/or had genital scavenging. 33% (n=54) were categorised as pups measuring less than 120cm, 22% (n=35) were juvenile (measuring between 120cm and 160cm), 27% (n=43) were adult and 19% (n=30) were unknown due to lack of data. There was a clear peak in seal pup strandings from September to January, coinciding with the main pupping season (which peaks in October) and period during which weaned pups are teaching themselves to feed. Dead seal stranding numbers were particularly high during October, due to two severe storms hitting the coast of Cornwall. Adult seal strandings were relatively consistent throughout the year, but with a slight increase during the winter and early spring months, coinciding with periods of rough weather, the annual moulting season and with usual seal stranding patterns. The August spike may result from complications during late stages of pregnancy.

15 of the 162 seals reported were retrieved for post-mortem examination in 2017. Post-mortem examination was carried out by veterinary pathologist James Barnett at University of Exeter Cornwall Campus. Of those examined by PME, bycatch or entanglement (27%, n=4) and cases of bacteraemia/septicaemia (27%, n=4) were the most frequently diagnosed causes of death in 2017.

The Marine Strandings Network collects records of all species of stranded marine life in Cornwall including birds, sharks and turtles. However, we recognise that these taxon groups are under reported and therefore these numbers do not give the full picture of seabird strandings and mortality. There were 65 birds reported, including gulls associated with a multi-species mass stranding event in Marazion, and 5 other reports of seabird entanglement. There were 13 reports of stranded sharks in Cornwall in 2017, including basking shark, porbeagle and the smaller inshore species of shark and ray. There were 5 records of leatherback turtles reported to MSN, 1 in March and 4 during September. There were 256 reports of other species groups, comprising 19 different species and involving thousands of individual animals. Most notably the mass stranding event of Portuguese Man-of-War that involved thousands of animals across Cornwall between September and November 2017.

MSN successfully trained 36 new Callout Volunteers, during two training events in 2017, who are now an active part of the network. The 2017 MSN Forum was a celebration of 25 years of the project as well as celebrating the life and contributions of Stella Turk, one of the project founders who sadly passed away in 2017.

2. Introduction

Records of stranded marine organisms have been collected in Cornwall and the Isles of Scilly for many years, the earliest record being logged from 1354. To date, the Cornwall Wildlife Trust Marine Strandings Network (CWT MSN) database holds over 8,000 records, comprising data relating to stranded cetaceans (whales, dolphins and porpoises), seals, turtles, birds, cephalopods, fish (including sharks), seeds, hydrozoa, molluscs, echinoderms and crustaceans.

The records are shared with a number of other partner organisations including the Natural History Museum (NHM) which has collated records of all stranded cetaceans in the UK since 1913. In 1990, the NHM began working in collaboration with the Institute of Zoology (IoZ) to research the mortality, biology and ecology of cetacean populations around the British Isles, under contract to Defra (Department for Environment Food and Rural Affairs). This project, now known as the UK Cetacean Strandings Investigation Programme (CSIP), is currently under the management of the Institute of Zoology and contributes to the UK's programme of research on the North Sea and its response to ASCOBANS (the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas).

The CWT MSN operates under the CSIP license (granted by Natural England) for the possession and transportation of cetacean carcasses. Over the last 26 years, in response to the increasing number of stranded cetaceans in Cornwall, more detailed data has been collected by the team in Cornwall. Building on over a decade of work by volunteer Strandings Coordinator Stella Turk MBE and other dedicated researchers, a more formal network of volunteer recorders was established by Cornwall Wildlife Trust in 2003, led by MSN Coordinators Jan and Jeff Loveridge, to provide a comprehensive reporting and recording system for strandings, in particular of marine mammals. Procedures for reporting and recording stranded marine animals were introduced, together with training for volunteers in investigating carcasses. In 2012, the management of the Marine Strandings Network was passed to the Living Seas Team of the Cornwall Wildlife Trust, with data management provided by the Environmental Records Centre for Cornwall and Isle of Scilly (ERCCIS).

The Marine Strandings Network now consists of a team of over 150 trained volunteers throughout Cornwall and the Isles of Scilly who record all reported strandings of organic organisms from over 360 miles of coastline. All MSN volunteers are given detailed training to ensure accurate and consistent data collection, and are continually supported by the CWT. Detailed reports and photographs are obtained where possible, as well as some tissue samples for analysis by various partner organisations. The data and photographs collected by MSN volunteers is then assessed by experienced experts following the Bycatch Evidence Evaluation Protocol and methods, developed by MSN. Analysis of the data collected by the CWT MSN and partners is ongoing.

The CWT MSN has a 24-hour Strandings Hotline telephone number (0345 201 2626), for the reporting of stranded marine animals. The Hotline number operates year-round and is staffed by a rota of dedicated volunteer Hotline Coordinators. Carcasses reported to CWT MSN are either examined *in-situ* by trained volunteers, or via post-mortem examination by a veterinary pathologist affiliated to the University of Exeter (UofE) Cornwall Campus under the aegis of the Defra-funded Cetacean Strandings Investigation Programme (CSIP).

For more information about the protocols and methods which are used for the Marine Strandings Network please contact strandings@cornwallwildlifetrust.org.uk.

3. Recordings

3.1 Cetaceans

A total of 250 cetacean strandings were recorded in Cornwall during 2017, making this year the second highest for stranded cetaceans in Cornwall since records began. Short-beaked common dolphins (*Delphinus delphis*) represented the majority of strandings (54.6%, n=136), followed by harbour porpoises (*Phocoena phocoena*) (20.9%, n=52). Due to decomposition, 49 stranded cetaceans could not be identified to species level.

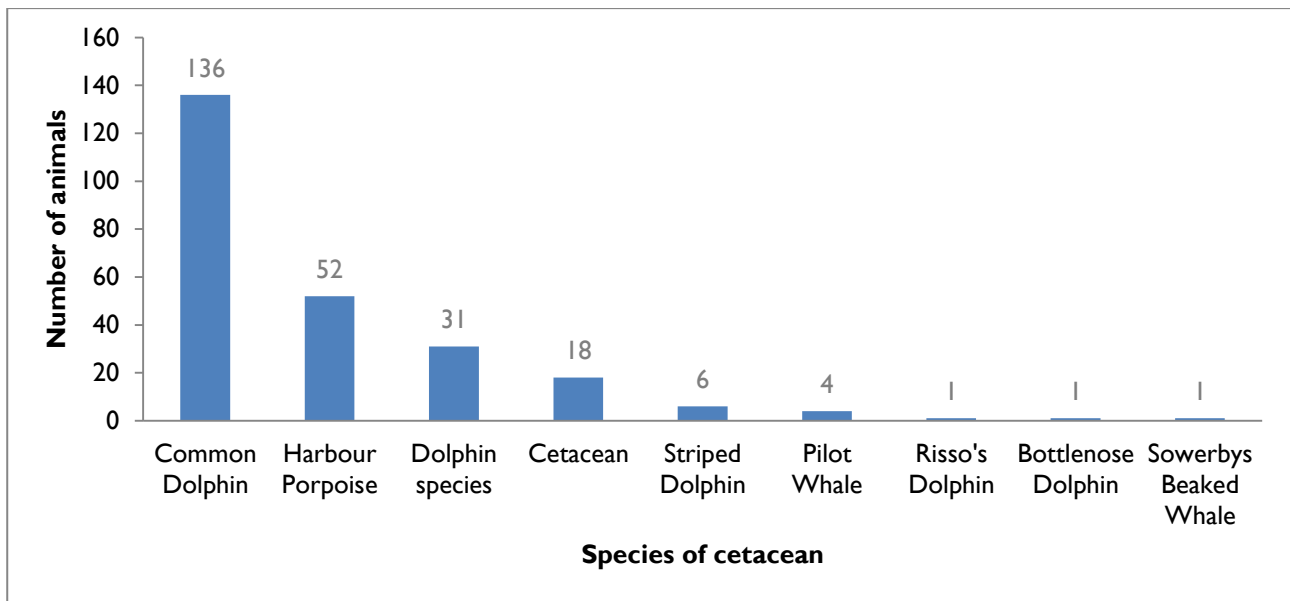


Figure 1: Number of cetacean strandings by species during 2017

The vast majority of cetacean strandings in 2017 occurred during January to March along the South Cornish coast, predominantly of common dolphins. 70 common dolphins were reported during January alone. This is the second highest rate of cetacean strandings during one month in 15 years; the highest monthly rate was January 2003 (n=82).

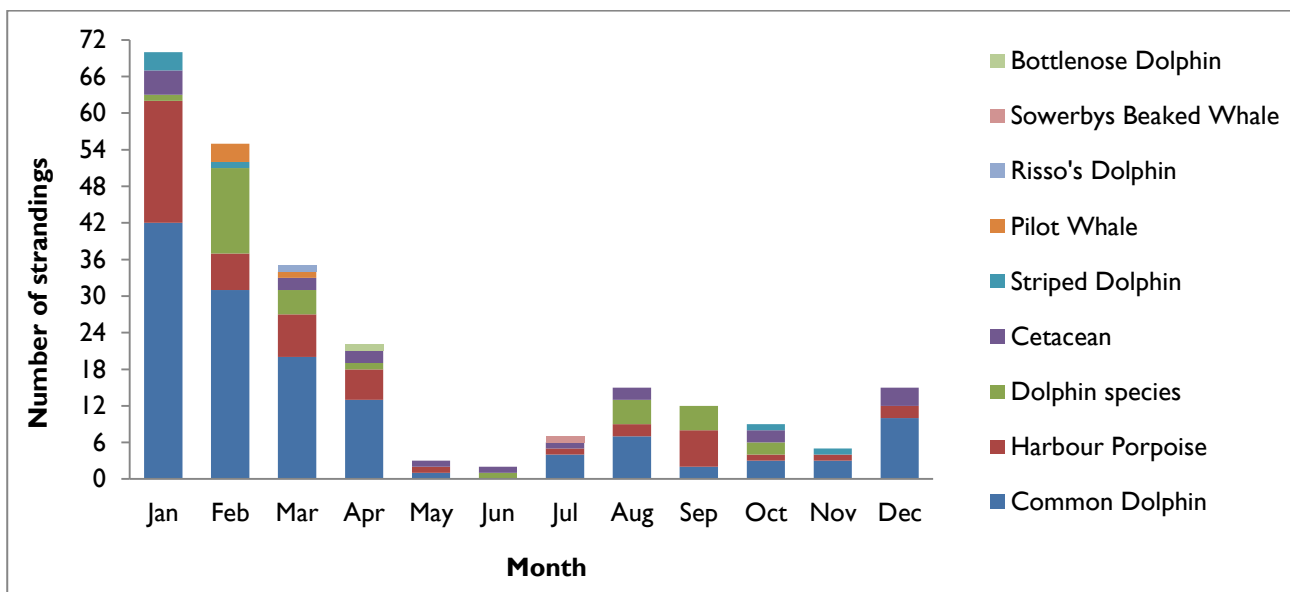


Figure 2: Cetacean strandings by species/month during 2017

Figure 3 shows the locations of all cetacean strandings in 2017, and highlights the wide geographical spread of cetacean strandings during this year.

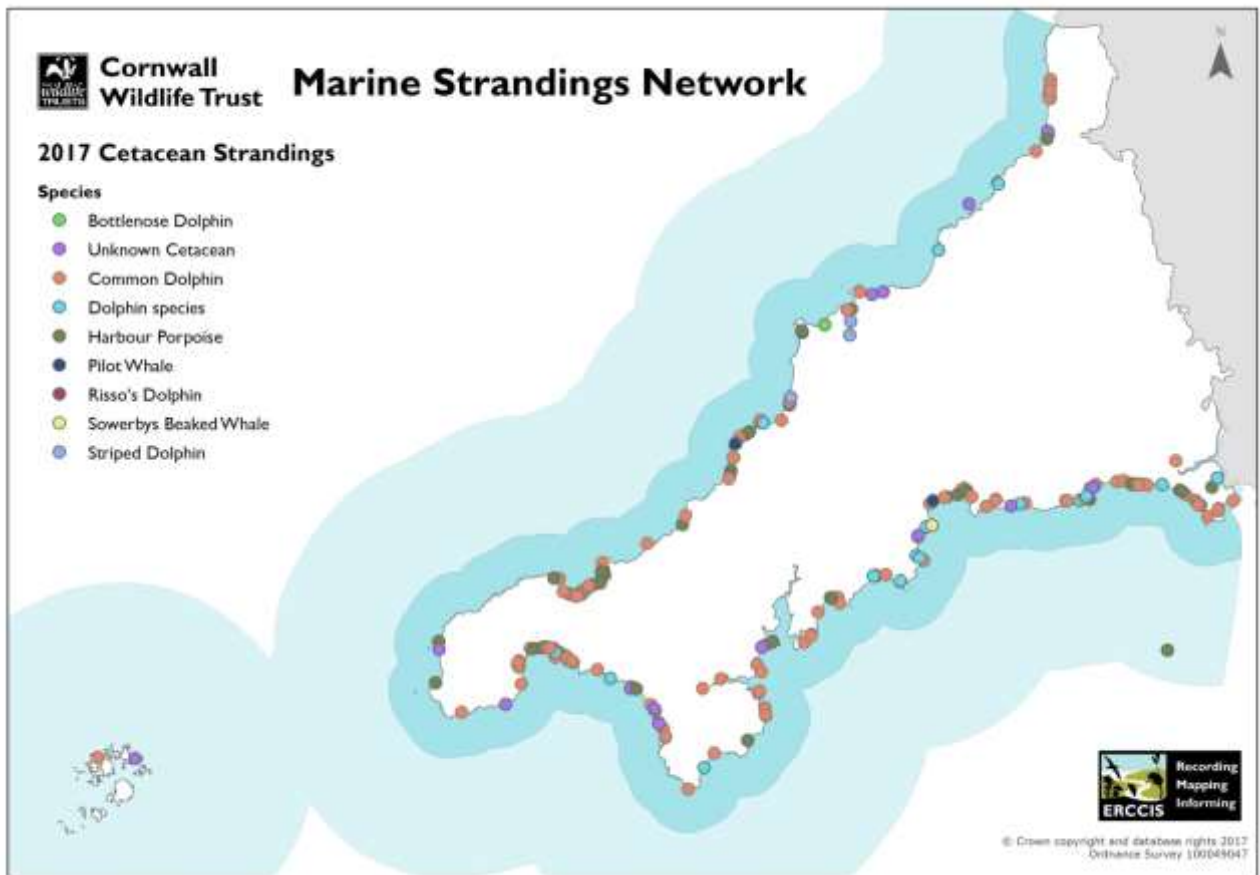


Figure 3: Locations of cetacean strandings in 2017 (n=250)



Photo 2: Harbour porpoise, Porthmeor beach St. Ives. Photo by Jeff Loveridge

3.1.1 Comparison with previous years

In total, 250 cetaceans were reported to, and examined by, CWT MSN in 2017 which is a continuation of the high numbers seen during 2016 (n=205). 2017 was the second highest annual total since stranding records began in Cornwall, following the peak in 2003. (see Figure 4). The high total number of recorded cetacean strandings per year in the last two years is similar to the high annual totals recorded during the early 2000's, which were associated with high numbers of bycaught animals.

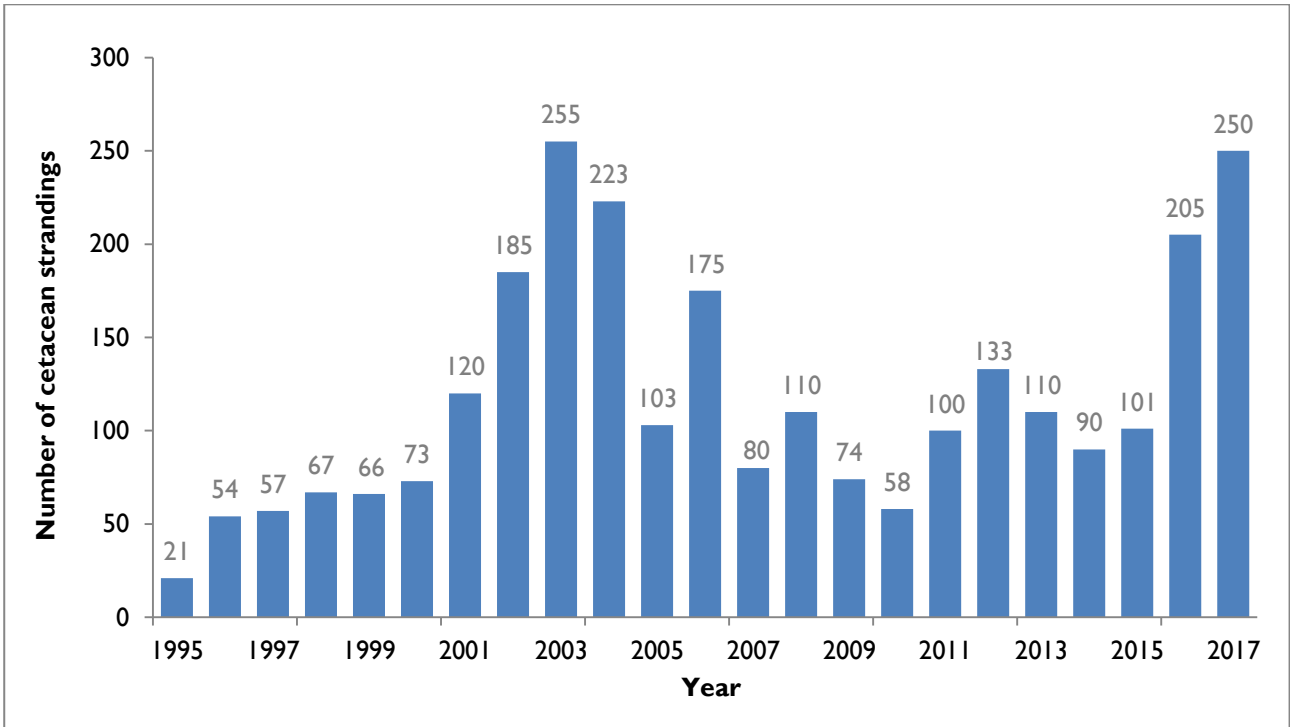


Figure 4: Comparison of cetacean strandings by year (1995 to 2017)

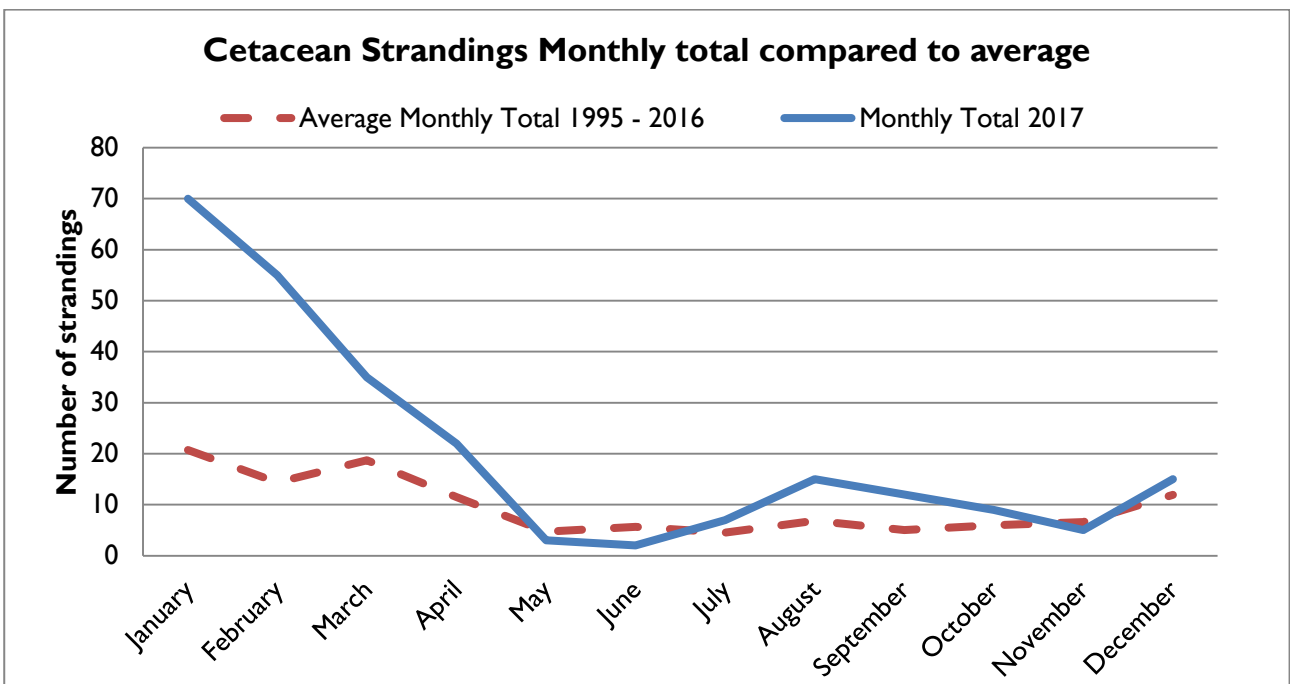


Figure 5: Seasonality of cetacean strandings for 2017, in comparison to average seasonality between 2000 and 2016

Cornwall Wildlife Trust are investigating possible causes of the spike in cetacean strandings observed in early 2017. Details of cases where bycatch was believed to be the cause of death (through post mortem examination and BEEP assessment) can be found in *Appendix 1; MSN Bycatch Report*. It must be noted however, that many of the stranded cetaceans were severely decomposed meaning post mortem examination or BEEP assessment were not possible, and therefore no cause of death could be ascertained for many animals.

3.1.2 Cetacean post-mortem examinations

Of the 250 cetacean carcasses that stranded during 2017, 10% (n=26) were suitable and accessible for retrieval by the CWT MSN team for post-mortem examination (*Figure 6*) under licence and on behalf of the Defra-funded Cetacean Strandings Investigation Programme (CSIP). Necropsies were mainly performed by James Barnett, the veterinary pathologist for the Marine Strandings Network and performed at the University of Exeter Penryn campus, on behalf of CSIP and assisted by trained volunteers.

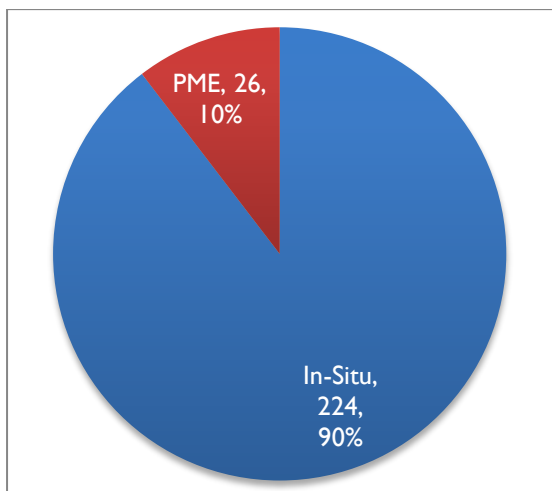


Figure 6: Percentage of stranded cetaceans retrieved for post-mortem examination (n=26), BEEP assessment using in-situ data (n=152) and the remaining 71 were reported but insufficient data for more detailed assessment

Post mortem examinations concluded that bycatch was the most common cause of death, accounting for 26% (n=7) of the cetacean strandings. Death caused by disease and parasitism was the second most commonly found cause of death at 19% (n=5) of cetacean strandings examined post mortem, followed by starvation/hypothermia (15%, n=4) and live stranding (12%, n=3).



Photo 3: Common dolphin Whitsand Bay 8th March 2017, taken for post mortem. Photo by John Eddy

A summary of post mortem findings can be seen in *Table 1*, and details from each of these cases can be seen in *Appendix 1* where animals that were subject to necropsy are highlighted in blue. The findings of these examinations are published with kind permission of CSIP. *Please note these may be amended subject to verification and the results from any tests, such as histopathology, bacteriology that are pending.*

Date	Cornwall ID	Species	Location	Cause of Death
04/01/2017	C/2017/004	Common Dolphin	Off the Hutches, Rosemullion Head	physical trauma, by-catch (known)
15/01/2017	C/2017/023	Harbour Porpoise	Godrevy beach, Hayle	physical trauma, bottlenose dolphin attack
22/01/2017	C/2017/032	Common Dolphin	Carne beach, Veryan Bay	physical trauma, by-catch
23/01/2017	C/2017/035	Common Dolphin	Kennack Sands, Lizard	not established
30/01/2017	C/2017/064	Common Dolphin	Long Rock beach, Penzance	gastric impaction (fish bones)
18/02/2017	C/2017/112	Common Dolphin	Porthcurno beach, Penwith	live stranding
25/02/2017	C/2017/120	Common Dolphin	Marazion beach, Penzance	live stranding (pending histopathology)
27/02/2017	C/2017/124	Common Dolphin	Pentewan beach, Mevagissey	live stranding (pending histopathology)
05/03/2017	C/2017/135	Harbour Porpoise	Castle beach, Falmouth	Live stranding, resulting from starvation/hypothermia
08/03/2017	C/2017/137	Common Dolphin	Downderry beach, Whitsand Bay	physical trauma, by-catch
31/03/2017	C/2017/163	Risso's Dolphin	Dollar (Jangye-ryn) Cove, Gunwalloe	physical trauma, acute
04/04/2017	C/2017/169	Harbour Porpoise	Perranporth beach	physical trauma, acute
06/04/2017	C/2017/172	Bottlenose Dolphin	Newtrain Bay, Padstow	possible generalised bacterial infection (<i>Camobacterium maltaromaticum</i>)
17/04/2017	C/2017/181	Common Dolphin	Little Fistral, Newquay	starvation/hypothermia
09/07/2017	C/2017/195	Sowerbys Beaked Whale	Porthpean beach, St Austell	not established
05/09/2017	C/2017/213	Harbour Porpoise	Widemouth Bay	starvation/hypothermia
08/10/2017	C/2017/226	Striped Dolphin	Watergate Bay, Newquay	(meningo)encephalitis (<i>Brucella</i>) (pending histology)
06/11/2017	C/2017/235	Common Dolphin	Perranporth Beach	physical trauma, by-catch
21/11/2017	C/2017/237	Harbour Porpoise	Black Rock Beach, Widemouth Bay	intestinal intussusception
29/11/2017	C/2017/239	Striped Dolphin	Polkerris, Fowey	generalised mycotic infection (<i>Aspergillus fumigatus</i>)
03/12/2017	C/2017/240	Harbour Porpoise	Sennen Cove, Sennen	starvation/hypothermia
06/12/2017	C/2017/241	Common Dolphin	Carlyon Beach, St Austell	physical trauma, by-catch
20/12/2017	C/2017/246	Common Dolphin	Kingsand, Rame Peninsula	pneumonia, parasitic
20/12/2017	C/2017/244	Common Dolphin	Gwithian Bach, Hayle	parasitism, gastric
25/12/2017	C/2017/250	Common Dolphin	Polkerris beach, Lizard	physical trauma, by-catch
29/12/2017	C/2017/252	Common Dolphin	Marazion Beach, Penzance	physical trauma, by-catch

Table 1: Cetacean post-mortem reports (2017) – gross post-mortem and bacteriology findings (source: CSIP)

3.1.3 Bycatch Evidence Evaluation Protocol (BEEP)

The MSN Bycatch Evidence Evaluation Protocol (BEEP) is an invaluable tool to assess bycatch on cetacean species within the region. BEEP assessments are able to be done *in situ* on the beach and provides data on external injuries and possible causes of death from bycatch for all animals, not just those that undergo post mortem examination. The process involves cetacean strandings reported to CWT MSN undergoing rigorous external examination by volunteers *in situ* on the beach. Detailed photographs of the carcasses are taken and these are then assessed to identify and record signature injuries and features identified as being associated with bycatch and entanglement in fishing gear. This protocol has been developed from 25 years of experience and is continuously tested and developed to improve the accuracy of bycatch detection.



Photo 4: Common dolphin Polkerris beach, Roseland 25th December 2017, taken for post mortem. Photo by Rob Wells

Of the 224 cetaceans which were not retrieved for post mortem, 71 cases were reported to MSN but a volunteer was not able to attend for a wide range of reasons or we had insufficient data to assess through BEEP, either due to the animal being too decomposed to accurately assess external injuries, or photographic data were not of sufficient quality. Therefore, these cases have not been included in the BEEP and bycatch analysis for this report.

152 cases were therefore examined and recorded *in situ* by MSN volunteers and photos subsequently examined in detail by experienced BEEP assessors. It was found that 20% (n=30) showed features consistent with bycatch or entanglement in fishing gear. These features are based on recognised net entanglement marks such as fin edge cuts/slices, encircling net marks and severed appendages.

BEEP Conclusion	Number of animals	% of BEEP assessed cases
Inconclusive	98	64%
Bycatch / Entanglement	30	20%
Possible Bycatch	19	13%
Trauma - BND Attack	3	2%
Trauma - Boat Strike	1	1%
Trauma - Possible Boat Strike	1	1%
Total	152	

Table 2: a summary of BEEP conclusions from cetacean cases assessed in 2017

64% (n=98) were cases where the cause of death was inconclusive based on the data available. There were also 3 cases of probable bottlenose dolphin attack, as well as two physical trauma cases caused by boat strike (one confident case and one possible case).



Examples of BEEP assessed cetacean strandings are below. For the full BEEP analysis and report, please see *Appendix I*.

<p>Common Dolphin C/2017/043</p>	<p>Top Town Beach, Marazion</p>	<p>24/01/2017</p>	<p>Multiple monofilament encircling marks around beak. Lip cut on RHS and LHS. Tip of LHS pectoral fin amputated, clean cut. Encircling monofilament mark LHS pectoral fin. Amputated LHS fluke. Partial encircling impression on leading edge LHS peduncle. BEEP Conclusion - Bycatch</p>
			
<p>Common Dolphin C/2017/070</p>	<p>Keveral Beach, Seaton</p>	<p>31/01/2017</p>	<p>Full encircling monofilament impression at melon crease, with possible associated lip cuts. Fin edge slices to RHS trailing edge fluke. Partial encircling monofilament impression on base of RHS fluke. Tip of dorsal fin missing, possible clean cut(?). Fin edge cut to trailing edge dorsal fin, with associated skin loss. BEEP Conclusion - Bycatch</p>
			
<p>Harbour Porpoise C/2017/141</p>	<p>Longrock Beach, Marazion</p>	<p>11/03/2017</p>	<p>Bloody froth from blowhole. Encircling monofilament impressions around beak. Notches with monofilament impressions to leading edge fluke and LHS pectoral fin, Notches to RHS pectoral fin. Semi-encircling monofilament impressions to dorsal side in front of dorsal fin, knot mark visible. Haemorrhage to LHS eye. Cuts to tongue. BEEP Conclusion - Bycatch</p>
			

Three examples of BEEP assessed cetacean strandings from 2017

3.1.4 Notable Cetacean Stranding Cases

On the 1st February 2017, a very decomposed, probable common dolphin was reported on Par beach, near St Austell, which was completely entangled in orange multifilament fishing gear. It was also noted that the flukes were missing. However the condition of the carcass made it impossible to determine when and how this might have happened, and whether the animal was entangled pre or post mortem. It's very unusual to find a cetacean carcass entangled in fishing gear in this manner, but the condition has not made it possible to determine any relationship between the cause of death and the entangled fishing gear.

Common Dolphin C/2017/076	Par Beach, St Austell	01/02/2017	Entangled in orange multifilament fishing twine, possible trawl netting? Completely encircled by orange netting. Fluke missing, too decomposed to see if it was a clean cut. Carcass in the surf when volunteer attended therefore limited data available.
			

A harbour porpoise reported at Constantine Bay on the 16th March was found to have external injuries consistent with bottlenose dolphin aggression, such as wide deep rake marks and evidence of fractures on the scapula. But, interestingly, this porpoise also had several features consistent with bycatch, including fin edge slices, encircling marks and lip edge cuts. The sequence of events which lead this harbour porpoise to wash up dead on Constantine Bay is unclear, but our leading theories are either this harbour porpoise was injured as a result of being bycaught and was subsequently attacked by bottlenose dolphin, or this porpoise was being attacked by bottlenose dolphin which chased it into fishing gear leading to this animal being bycaught.

Harbour Porpoise C/2017/146	Constantine Bay, Padstow	16/03/2017	Possible bycatch with BND attack, consultation with James Barnett – difficult to determine order of events. BND rake marks. Very deformed with fractured scapula and ribs. Arc shaped wound below left eye. Fin edge slice to trailing edge LHS pectoral fin. Monofilament impression semi encircling behind LHS cheek. Lip cut to upper LHS lip and possible lip cut to lower LHS lip. Skin tag to trailing edge dorsal fin. Possible gaff hook wound to LHS cheek with associated scavenging.
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3.2 Grey seals

Dead grey seal strandings have been recorded in detail on the CWT MSN database since 2000, in partnership with Cornwall Seal Group Research Trust. Numbers of seal strandings have been increasing year on year since MSN started recording. There were 162 seal strandings reported during 2017 which continues the trend, with 2 more seal strandings reported than in 2016 (n=160) (Figure 7). MSN continues to work closely with CSGRT and monitor this trend closely by improving data collection (using the new Seal Evidence Evaluation Protocol, SEEP), assessments of age class, gender and individual identification.



Photo 5: Juvenile grey seal, Hayle beach, 8th January 2017. Photo by Dan Jarvis

161 Atlantic grey seals (*Halichoerus grypus*), and 1 common seal (*Phoca vitulina*) were reported and recorded through 2017. Figure 8 shows the gender of these seal strandings, with 24% (n=39) males, 19% (n=30) females and 57% (n=93) of unknown gender due to either limited or no supporting photos, or because the animal was too decomposed and/or had genital scavenging.

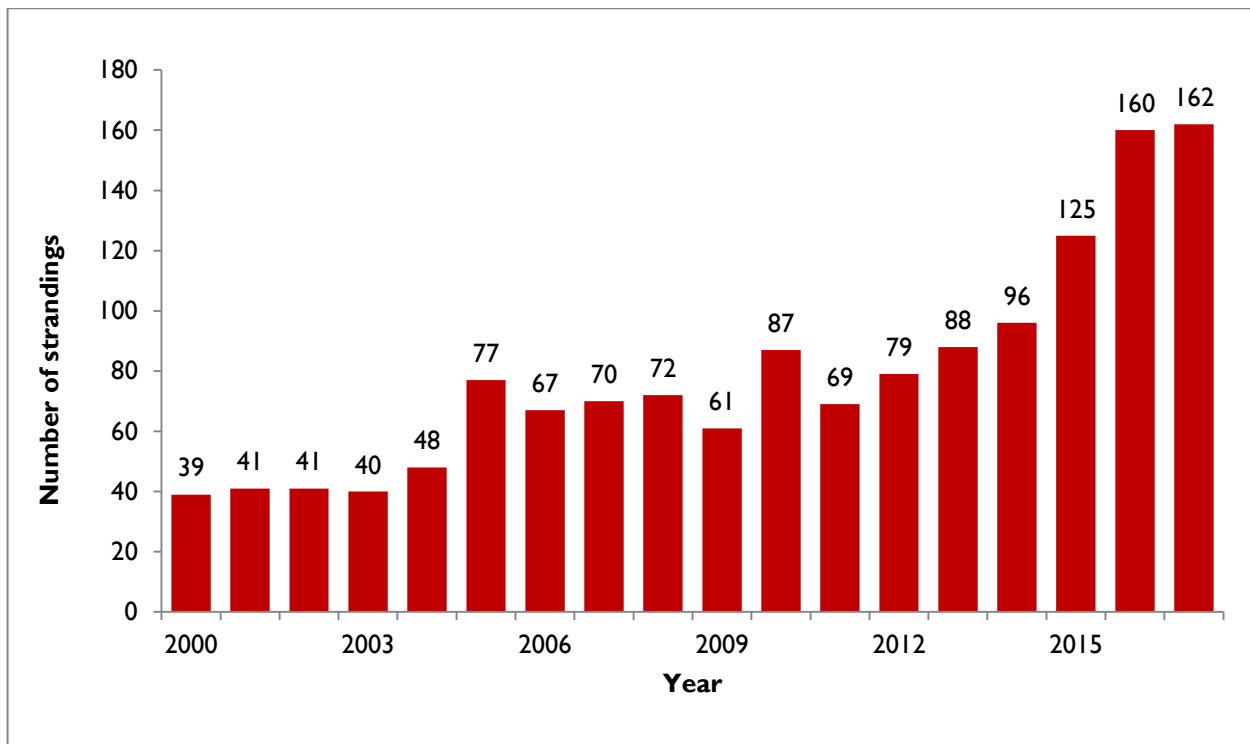


Figure 7: Comparison of grey seal strandings by year (2000 – 2017)

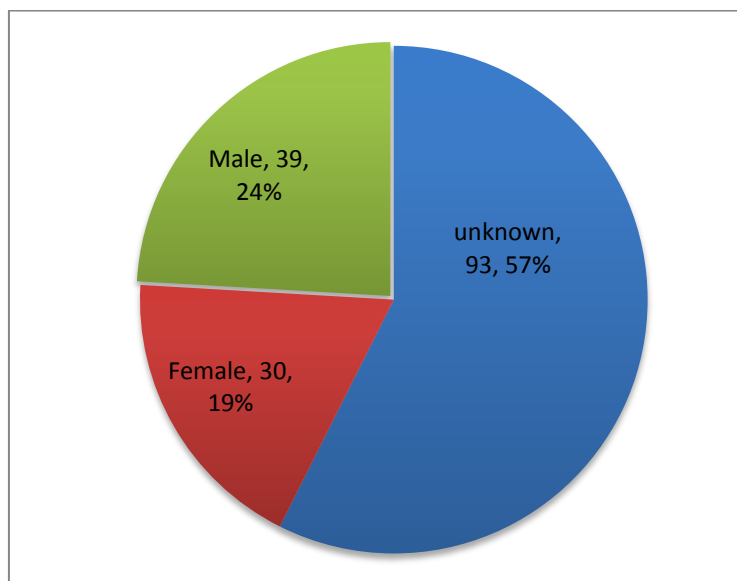


Figure 8: Grey Seal strandings gender classes (2017)

Of the 162 seal strandings, 33% (n=54) were categorised as pups measuring less than 120cm, 22% (n=35) were juvenile (measuring between 120cm and 160cm), 27% (n=43) were adult and 19% (n=30) were unknown due to lack of data. Figure 9 shows the proportion of pups (<1yr) and juvenile seal strandings compared to adult strandings during 2017, and shows the clear peaks in seal pup strandings from September to January, coinciding with the main pupping season (which peaks in October) and period during which weaned pups are teaching themselves to feed. Dead and live seal stranding numbers were high during the Autumn months, specifically October due to two severe storms hitting the coast of Cornwall (information from BDMLR). Adult seal strandings were relatively consistent throughout the year, but with a slight increase during the winter and early spring months, coinciding with periods of rough weather, the annual moulting season and with usual seal stranding patterns. The August spike may result from complications during late stages of pregnancy.

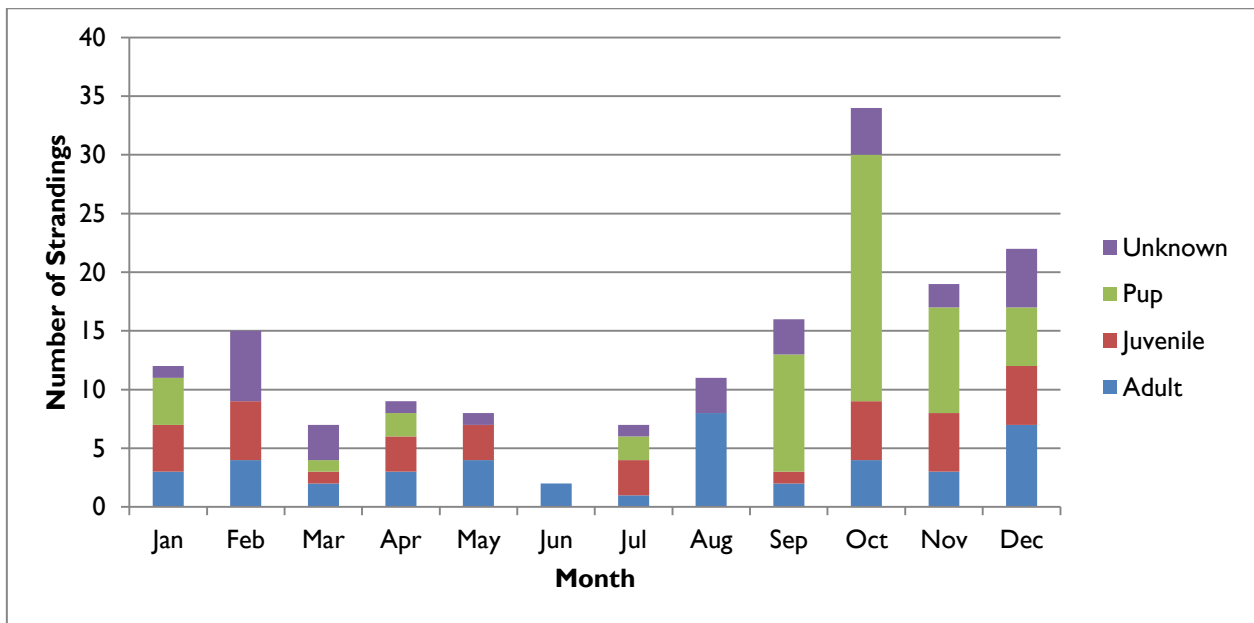


Figure 9: Age and sex of grey seal strandings per calendar month in 2017 (n=162)

Seal strandings followed a similar seasonal pattern as in previous years, with peaks during the autumn and winter months. Generally, 2017 seal strandings were above the 6 years average (2010 to 2016) with the exception of January and June. The spike during early autumn 2017 is likely to be a result of both increased reporting effort, as well as an increase in grey seal infant mortality, as found in recent research conducted by Cornwall Collage Newquay, based on MSN data.

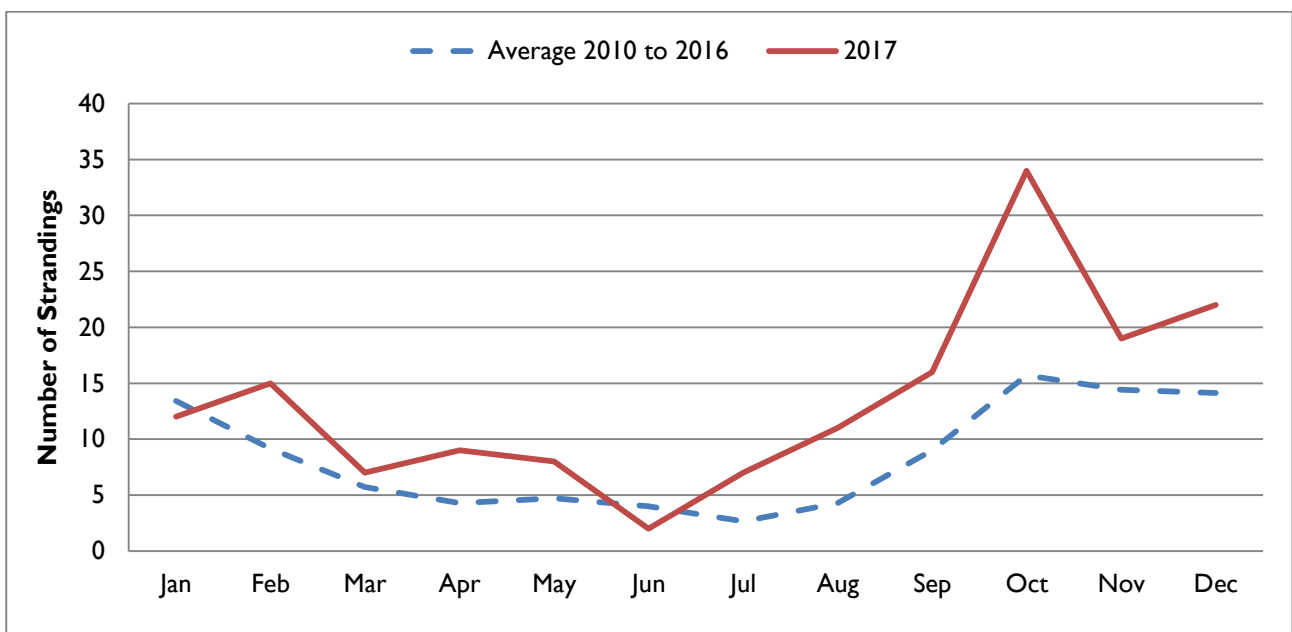


Figure 10: Grey seal strandings per calendar month in 2017 (n=162) compared to average monthly totals for 2010 – 2016

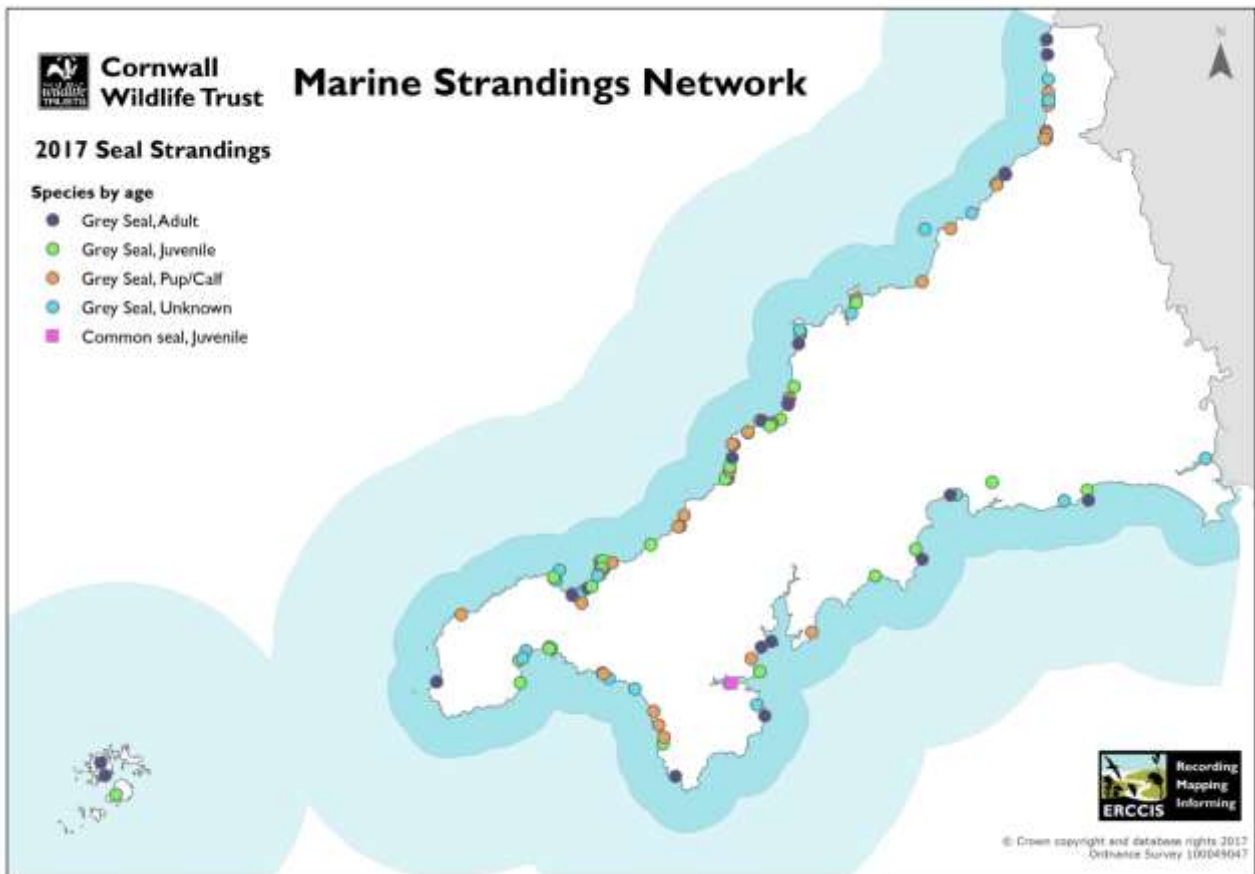


Figure 11: Locations of grey seal mortalities (2017) (n=162)

The locations of grey seal strandings are shown in *Figure 11*. The majority of strandings occurred on the North coast, as is usually seen each year. Clear hotspots are St Ives bay and the area around Newquay which is likely to be related to the important seal sites in these localities visited by many seals as they move around the Celtic Sea. The low number of strandings linked with the important North Cornwall pupping sites is probably due to under reporting given the inaccessible and remote nature of this stretch of coast and the very high cliffs.



Photo 6: Moulting grey seal, St Ives, 17th March 2017. Photo by Ann Exelby

Thanks to collaborative work with Cornwall Seal Group Research Trust (CSGRT), seal strandings are checked against individual identification of seals in Cornwall. In 2017 there were only three matches with known seals.

The first was a juvenile female common seal found dead on the Helford on the 7th April 2017 (S/2017/041). This seal had a green Cornish Seal Sanctuary tag on the rear flipper. This individual was rescued by BDMLR on the 14th July 2016 at Mevagissey with infection and malnutrition, and taken into rehabilitation at the Cornish Seal Sanctuary in Gweek. After four months at the sanctuary, this common seal was released at Gwithian on 25th November 2016 and was identified by CSGRT twice during January before being reported to MSN on the 7th April.

The second was an adult male grey seal found on Sennen beach, Penwith on 19th August 2017. This seal was retrieved for post mortem examination and was found to have external and internal lesions considered consistent with bycatch. This individual was found to be known to the Cornwall Seal Group Research Trust and was identified as 'DPI075 Fork'. It was first identified in 2014 and was seen 26 times, in west Cornwall (majority of sightings) and north Cornwall (seen once) until found dead. It is estimated that this male was about 8 to 9 years and was last seen alive in April 2017 in west Cornwall.

The third was a juvenile male grey seal reported on the 13th October 2017 on Constantine Bay, Padstow. This seal was identified by CSGRT as 'LP382 Multi nettie' in west Cornwall on the 31st July 2017, and was neck entangled with monofilament netting at this time. When examined by MSN volunteers, this seal was very underweight and the netting was still present embedded in the seals neck.

For more information about grey seal photo identification work in Cornwall, please contact CSGRT www.cornwallsealgroup.co.uk.



Photo 7: Juvenile male grey seal 'Multi nettie' on Constantine bay, Padstow. Photo by Tina Robinson

3.2.1 Seal post-mortem examinations

Seals which were found dead on the beach, as well as those which were euthanased / died at the beach or within a 7 day window after being rescued, were used for the analysis of this report, following national standard criteria. It is accepted that seals which have been taken to rehabilitation and died or are euthanased within their first week of rehab are most likely to have died from conditions picked up in the wild.

15 of the 162 seals reported were retrieved for post-mortem examination in 2017. Post-mortem examination was carried out by veterinary pathologist James Barnett at University of Exeter Cornwall Campus.

Of those examined by PME, bycatch or entanglement 27% (n=4) or bacteraemia/septicaemia 27% (n=4) were the most frequently diagnosed cause of death in 2017 found through post mortem examination. A summary of the post mortem examination and bacteriology findings are outlined in Table 3.

Date	Cornwall ID	Species	Location	Cause of Death
06/01/2017	S/2017/001	Grey Seal	Maenporth beach, Falmouth	Physical trauma; probable bycatch
14/03/2017	S/2017/032	Grey Seal	Rosemullion Head, Helford	Physical trauma; bycatch
10/04/2017	S/2017/261	Grey Seal	Porthleven, Helston	Other; blind, starvation and heavily parasitized
19/08/2017	S/2017/169	Grey Seal	Sennen Beach	Physical trauma; bycatch
05/10/2017	S/2017/199	Grey Seal	Godrevy	Physical trauma; head trauma
19/10/2017	S/2017/260	Grey Seal	Harlyn Bay, Padstow	Other; brain lesions of unknown cause
21/10/2017	S/2017/262	Grey Seal	Godrevy, Hayle	Physical trauma; head trauma
22/10/2017	S/2017/263	Grey Seal	Sandy Mouth, Bude	Other; traumatic umbilical hernia
22/10/2017	S/2017/264	Grey Seal	Long Rock, Marazion	Other; mandibular abnormality
02/11/2017	S/2017/221	Grey Seal	Booby Bay, Constantine Bay	Physical trauma; bycatch
09/11/2017	S/2017/241	Grey Seal	Bossiney Haven, Tintagel	Bacterial infection
13/11/2017	S/2017/265	Grey Seal	Carbis Bay, St Ives	Bacterial infection; pneumonia, septicaemia
28/12/2017	S/2017/255	Grey Seal	Polzeath beach	Inconclusive
29/12/2017	S/2017/257	Grey Seal	Chapel Porth, St Agnes	Bacterial infection; Bacteraemia/septicaemia
30/12/2017	S/2017/266	Grey Seal	East Looe beach	Bacterial infection; peritonitis

Table 3: Seal post-mortem and bacteriology examination gross findings 2017

Below are three examples of seal stranding post mortem cases from 2017:

<p>Atlantic Grey Seal S/2017/032 EX/S05/17</p>	<p>Rosemullion Head, Helford</p>	<p>14/03/2017</p>	<p>A juvenile male seal was hauled up in a large piece of monofilament netting, and was a conclusive bycatch/entanglement case. The seal was in good body condition and had recently fed. There were a number external features which were consistent with bycatch, such as linear marks on the head and chest, linear bruising on the side of the mouth and abrasions on the flipper webbing and eyelids as well as internal lesions consistent with bycatch. Conclusion: physical trauma; bycatch</p>
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<p>Atlantic Grey Seal S/2017/169 EX/S07/17 DPI075 Fork</p>	<p>Sennen Beach, Penwith</p>	<p>19/08/2017</p>	<p>Adult male in good condition with evidence of recent feeding. There were fresh wounds and abrasions to the head and muzzle, and faint linear indentations running over the neck. Internal pathology was consistent with trauma and agonal death. Conclusion: physical trauma; bycatch.</p>
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<p>Atlantic Grey Seal S/2017/221 EX/S11/17</p>	<p>Booby Bay, Constantine Bay</p>	<p>02/11/2017</p>	<p>A female pup in good body condition had no evidence of recent feeding. The findings of the post mortem examination were very suggestive of bycatch, including congested lungs, froth in the airways and engorged veins, coupled with the lack of evidence for infectious disease. Conclusion: physical trauma; bycatch</p>
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3.2.2 Seal Evidence Evaluation Protocol (SEEP)

Cornwall Wildlife Trust produced a new Seal Evidence Evaluation Protocol (SEEP) in 2016 to further the development of seal strandings photo collection and analysis, following similar protocols already established with the Bycatch Evidence Evaluation Protocol.


The protocol for assessing cause of death for seals is still in development, and there are additional difficulties in this type of assessment due to the pelt and skin structure of seals, which means external marks aren't as clear as in cetacean species. However, during 2017, 75 seals were assessed using SEEP. The majority of these (88%, n=66) were inconclusive, 3 were found to have features consistent with bycatch or entanglement in fishing gear, two of which were consistent with long term entanglement in monofilament gear, and two cases were consistent with acute physical trauma (Table 4).

SEEP Conclusion	Number of animals	% of SEEP assessed cases
Inconclusive	66	88%
Bycatch / Entanglement	3	4%
Trauma	2	2%
Possible entanglement (long term)	2	2%
Possible trauma	2	2%
Total	75	

Table 4: a summary of SEEP conclusions from seal cases assessed in 2017

3.2.3 Notable Seal Stranding Cases

A juvenile grey seal was reported on Larrigan Rocks near Penzance on the 3rd February 2017 with extensive wounds to the head, as well as numerous broken teeth and a broken lower jaw. The cause of these injuries is unclear, but the patterns are not consistent with those typically seen with scavenger damage.

Grey Seal S/2017/015	Lariggan Rocks, Penzance	03/02/2017	Extensive damage to face and muzzle, lower and upper jaw broken and teeth missing. Multiple upper teeth missing. Possible entanglement impression around neck - could be due to poor nutritional state. SEEP Conclusion – Inconclusive
			

A MSN volunteer found a grey seal on Sandymouth beach, near Bude on the 1st January 2017 completely mummified and entangled in multifilament netting. The rope had gone through most of the soft tissue of the neck and its positioning suggested it may well have entangled the seal prior to death.

Grey Seal
S/2017/164

Sandymouth Beach,
Bude

01/08/2017

Completely entangled in white multifilament netting.
Netting cutting through underside of neck.
SEEP Conclusion – Bycatch / entanglement



3.3 Birds

MSN received 65 reports of dead seabirds around the Cornish coast. Since the major seabird stranding incidences in 2013/14 with the PIB spill, followed by the storm wrecks in 2015/16, MSN has received greater numbers of reports of bird strandings. These high profile incidences have helped to raise the awareness of reporting dead seabirds, which reflects the number of reports we've seen since 2016. However, we acknowledge that bird strandings are still vastly under reported.

MSN will continue to monitor bird strandings reported to us, and work in collaboration with partner organisations such as the RSPB and BDMLR to ensure quick reaction in response to any further major incidences. Below is a breakdown of the bird species reported to MSN during 2017 (Table 5).

Species	Number of reports	Est. number of animals
Gannet	24	25
Guillemot	10	12
Herring Gull	11	33
Great black-backed gull	4	6
Manx Shearwater	3	4
Cormorant	3	3
Razorbill	2	2
Gull species agg.	1	5
Shag	1	1
Puffin	1	1
Cory's Shearwater	1	1
Black-headed gull	1	1
Auk	1	1
Fulmar	1	1
Kittiwake	1	1
TOTAL	65	97

Table 5: Total numbers of each sea bird species reported to CWT MSN in 2017



Photo 8: Adult Razorbill on Looe Island 11th January 2017. Photo by Claire Lewis

One of the key seabird reports of 2017 was related to a mass stranding event on Marazion beach on the 29th December 2017 of a variety of bird species, huge numbers of fish (sardine) and a bycaught common dolphin (C/2017/252). It is believed that this mass stranding event was related to ring netting activity

observed in the bay close to shore. This incident was reported to DEFRA, Marine Management Organisation (MMO) and Cornwall IFCA for further investigation.



Photo 9: Multi-species mass stranding on Marazion beach 29thth December 2017. Photo by Louise Batty

In addition to the case above, there were 5 individual reports of seabirds entangled in various fishing gear consisting of 3 gannets, a juvenile gull sp. and a Cory’s shearwater. These cases are detailed below.

<p>Herring Gull (1st year juvenile) DBID 12825</p>	<p>Towan head, Newquay</p>	<p>04/01/2017</p>	<p>The beak was entangled in orange angling line, with hook embedded in the mouth.</p>
			

2 Gannets Adult DBID 12825	Widemouth Bay, Bude	24/03/2017	Neck entangled in frayed blue and white multifilament rope.
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Gannet Adult DBID 12868	Hayle Beach	01/07/2017	Entangled in frayed orange multifilament rope
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Cory's Shearwater Adult DBID 13050	Great Western Beach, Newquay	18/09/2017	Entangled in frayed orange multifilament rope
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3.4 Sharks

There were 11 reports of stranded sharks reported to the MSN in Cornwall in 2017, including basking shark, porbeagle, and several of the smaller inshore species of shark and ray. (Table 6)

Species	Number of reports	Est. number of animals
Small-spotted catshark	4	6
Thornback Ray	3	3
Nursehound	1	1
Porbeagle	1	1
Basking Shark	1	1
Tope	1	1
Grand Total	11	13

Table 6: Total numbers of shark and ray (elasmobranch) species reported to CWT MSN in 2017

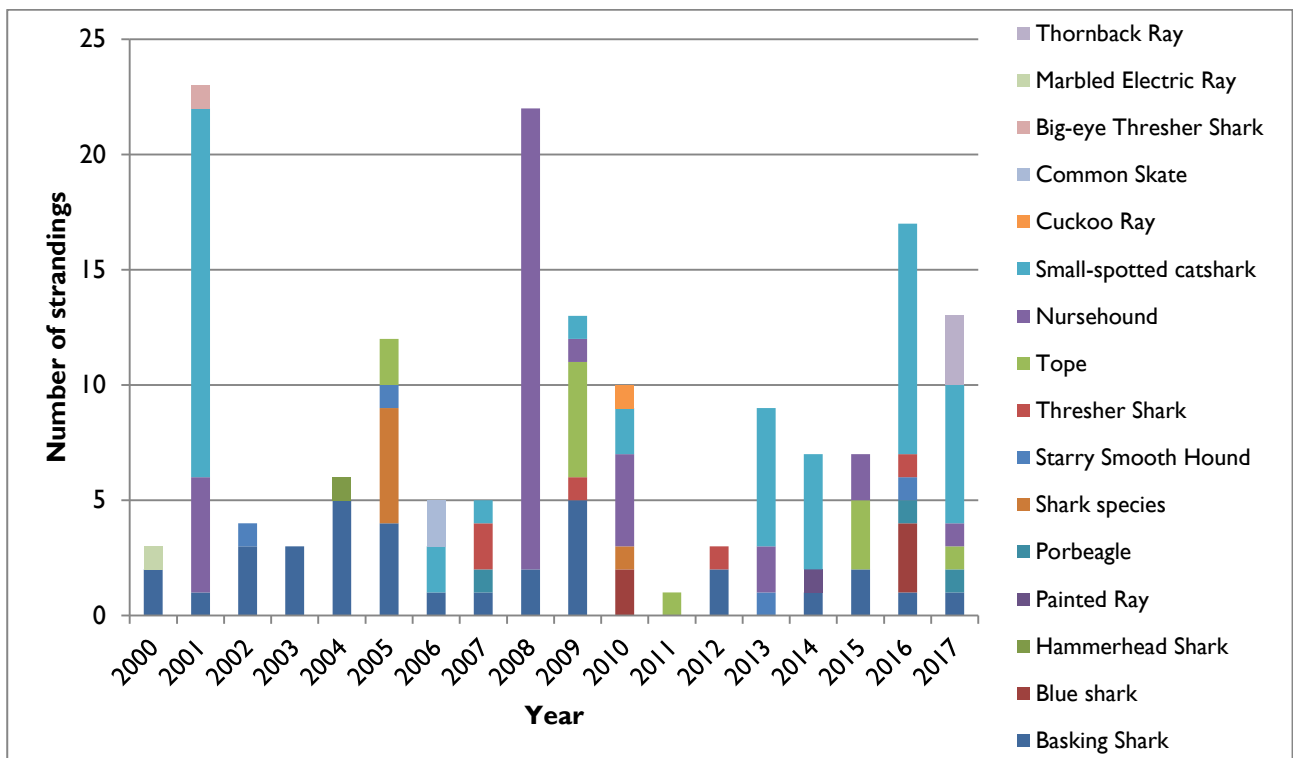


Figure 12: Shark strandings 2000 – 2017



Photo 10: Juvenile Porbeagle Shark, Hayle beach, 5th December 2017. Photo by Mick Dawton



*Photo 11: Tope, Maer Low Cliff beach, Bude, 3rd January 2017.
Photo by Jan Wells*



*Photo 12: Thornback Ray, Polzeath beach, 15th February 2017.
Photo by Julie Dyer*

3.5 Marine turtles

In 2017 there were five leatherback turtles reported to MSN, one reported in March and four reported during September. The September strandings coincided with huge numbers of Portuguese Man-of-War which mass stranded in the SW (See section 3.6 Other strandings below for more information).

On the 8th December 2017 a Kemp's Ridley turtle live stranded on Holywell Bay, and was rescued and taken for rehabilitation by BDMLR Medics to Blue Reef Aquarium. This juvenile female Kemp's Ridley died several days later and a post mortem examination found excessive fat mobilisation associated with starvation, consistent to this turtle traveling several thousand miles from its normal habitat.

All the leatherback turtles reported in 2017 were moderate to extremely decomposed, therefore it was not possible to determine any cause of death or perform post mortem examinations.

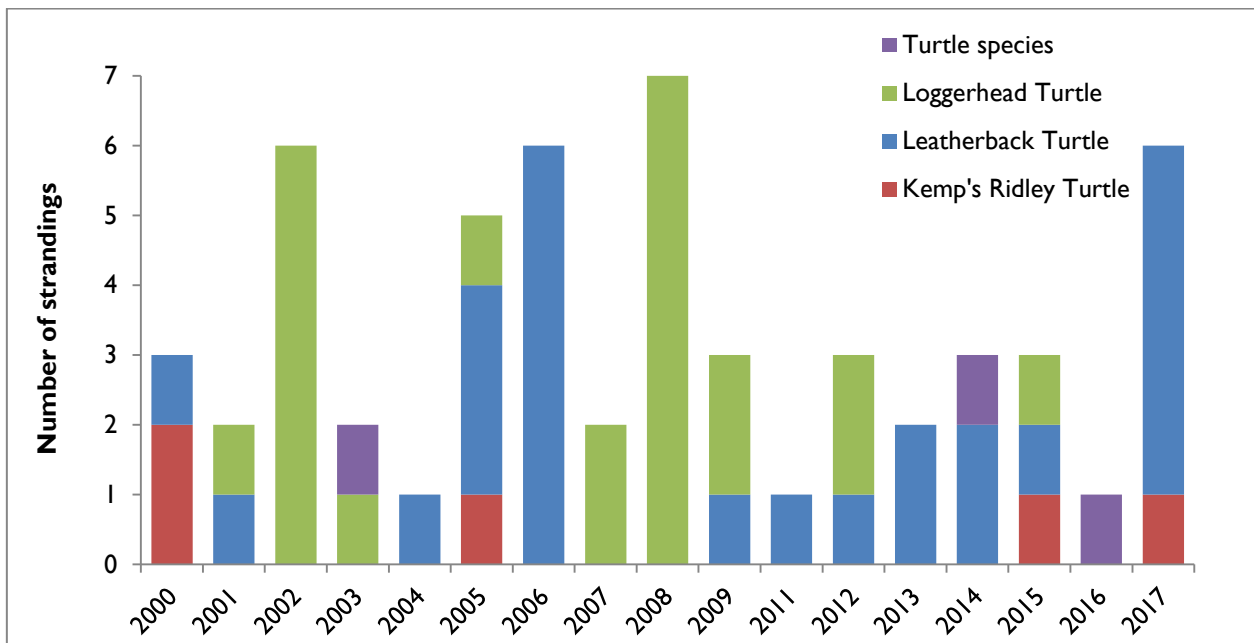


Figure 13: Marine turtle strandings 2000 – 2017



Photo 13: Leatherback Turtle, Portreath harbour, 18th September 2017. Photo by Dan Jarvis

3.6 Other strandings

There were 256 reports of strandings of other species groups, comprising 19 different species and involving thousands of individual animals.

Species	Number of reports	Est. number of animals
Cephalopods		
European squid	1	2
Octopus species	2	2
Crustaceans		
Buoy Barnacle	1	1
Common Goose-barnacle	2	55+
Goose-neck Barnacle	3	2100+
Echinoderms		
Common Starfish	1	4
Fish		
Grey Triggerfish	4	6
Ocean Sunfish	2	2
Sardine	4	1,250+
Garfish	1	1
Ballan Wrasse	1	1
Hydrozoa		
By-the-Wind Sailor	17	5,355+
Portuguese Man-of-War	193	5,737+
Jellyfish		
Barrel Jellyfish	8	19
Blue Jellyfish	3	12+
Compass Jellyfish	2	2+
Mauve Stinger	6	1,560+
Moon Jellyfish	4	201+
Mollusc		
Mollusca (unknown species)	1	30+
Violet Sea-snail	1	30+
Grand Total	256	16,340+

Table 7: Other stranded species reported to CWT MSN in 2017

* numbers of individuals are estimates for some species (indicated with '+')

Strandings of Portuguese Man-of-War were record breaking in 2017, with unprecedented numbers being reported across the southwest of England and Wales through September. Portuguese Man-of-War were first reported in Cornwall on the 10th September on Perranporth beach, with subsequent reports all along the north coast of Cornwall, from Bude to Sennen. Over the following 2 months there were almost 200 reports of Portuguese Man-of-War in Cornwall, with many more going unreported or reports being submitted to other organisations. During this time, several beaches were closed to bathers by the RNLI lifeguards on duty to reduce the chances of people being stung.

It has been theorised that these Portuguese Man-of-War came from the warmer waters of the equatorial Atlantic and unusually strong and persistent southerly winds brought rafts of these species into UK waters.

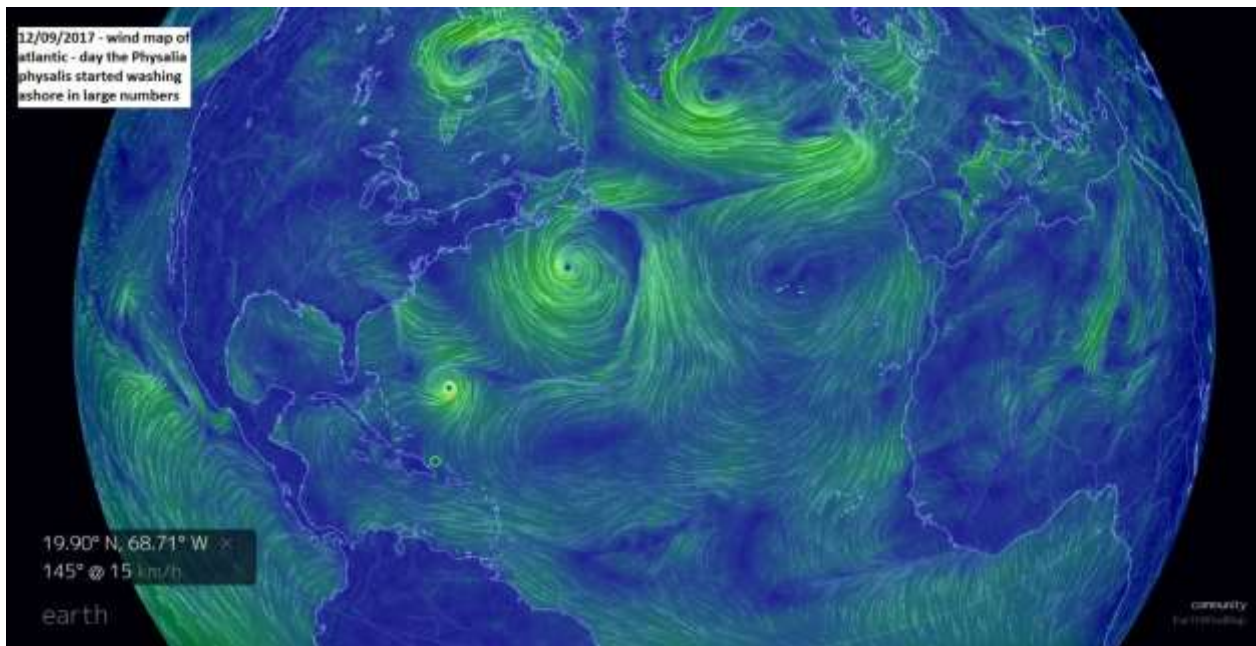


Figure 14: Image illustrating predominant wind patterns in the mid to northern Atlantic during the time when Portuguese Man-of-War strandings were first being reported (www.earth.nullschool.net)



Photo 14: Portuguese Man-of-War, Gwithian beach, 14th September 2017. Photo by Lawrence Smith

4. Events

4.1 New volunteer training

In 2017 the CWT MSN ran two training sessions for new MSN Callout volunteers. The aim of adding a second session each year is to ensure a strong influx of new volunteers, as well as being able to offer existing volunteers places to refresh their skills if needed. The two 2017 training sessions were run at the Cornwall Wildlife Trust headquarters, Allet on the 18th February and on the 16th September. 36 new callout volunteers were trained during these sessions, and are now active members of the CWT Marine Strandings Network.



Photo 15: New Callout volunteers trained during the February MSN Training Day 2017. Photo by Abby Crosby

4.2 MSN Forum 2017

On the 11th November 2017, the CWT MSN held its annual Forum which was attended by volunteers, guests from scientific and educational institutions, NGOs and students, and was hosted by Truro College.

2017 was the 25th anniversary of the Marine Strandings Network and celebrated 25 years of strandings recording in Cornwall. The Forum was also a memorial and celebration for one of the founders of the network, Stella Turk, who sadly passed away earlier in the year, with talks by Nick Tregenza and Paul Gainey as well as a clip from the 'Wrecking Season', which features interviews with Stella.

Rob Deaville from CSIP gave a fascinating talk on bycatch in UK waters, which examined 28 years of strandings data from across the UK, and Paul Jepson from the Institute of Zoology presented on the physiology of deep diving whales. There were also fascinating talks from guest speakers, including Sue Sayer from the Cornwall Seal Group Research Trust following life histories of individual grey seals in Cornwall,

research into grey seal mortality by Catherine Barry and Rebecca Allen from Cornwall College, and an overview of recent research into the SW Bottlenose Dolphin community by Rebecca Dudley.



Photo 16: Delegates at the 2017 annual MSN Forum. Photo by CWT MSN



Photo 17: MSN co-founder Stella Turk 1925 to 2017

5. Acknowledgements

We would like to acknowledge the help and support of the general public in sending in their reports and the following:

- CWT Marine Strandings Network volunteers, who continue to enthusiastically collect vital data and retrieve carcasses, often under difficult and challenging conditions.
- Dedicated Hotline Coordinators (2017): Alison Forward, Joyce Edmonds, Liz Clarke, Meg Hayward-Smith, Gill Peters, Anthea Hawtrey-Collier, Mike Lord, Rick Payne.
- Cheryl Yarham for all her work on collating, assessing and entering records into the database.
- University of Exeter, Cornwall campus for collaboration on post mortem examinations.
- James Barnett, veterinary pathologist and advisor to the MSN.
- Frugi Ltd, for their financial support to CWT Living Seas programme.
- Nick Davison, Scottish Marine Animal Stranding Scheme for his advice on bacteriology.
- Dr Nick Tregenza, cetacean expert and advisor to Cornwall Wildlife Trust and the MSN.
- Rob Deaville and Dr Paul Jepson, Institute of Zoology and CSIP.
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- Isles of Scilly Wildlife Trust and strandings volunteers.
- Truro College for hosting the annual Marine Strandings Network Forum.
- Cornwall County Council and BIFFA officers and beach management teams for their assistance.
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- Chelonia Limited.
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- Thank you to everyone who supported the work of the Marine Strandings Network for your kind donations to the CWT Strandings Appeal 2017.



APPENDIX I:

2017 Cornwall Marine Strandings Network Cetacean Bycatch Report



Introduction

The Cornwall Wildlife Trust Marine Strandings Network (CWT MSN) has been collecting valuable data on stranded marine life around Cornwall for over 20 years, and holds over 8,000 records. The Network is an invaluable tool to monitor the impact of bycatch on cetacean species within the region. To that end, cetacean species reported to CWT MSN undergo rigorous examinations to identify and record signature features identified as being caused during a bycatch event.

Post Mortem Examinations

Of the 250 cetacean carcasses that stranded during 2017, 10% (n=26) were suitable and accessible for retrieval by the CWT MSN team for post-mortem examination under licence and on behalf of the Defra-funded Cetacean Strandings Investigation Programme (CSIP). Necropsies were mainly performed by James Barnett, the veterinary pathologist affiliated to the University of Exeter, Cornwall campus, on behalf of CSIP and assisted by trained volunteers.

Post mortem examinations concluded that bycatch was the cause of death for 7 (26%) of the cetaceans examined through PME, all of which were common dolphin. Live stranding was the second most commonly recorded cause of death, accounting for 15% (n=4) of stranded cetaceans undergoing post mortem examination, followed by starvation/hypothermia (11%, n=3) and acute physical trauma (8%, n=2). The majority of cetacean cases reported during 2017 were too decomposed for post mortem examination to be carried out or to be informative.

Bycatch Evidence Evaluation Protocol Assessments

The Bycatch Evidence Evaluation Protocol (BEEP) has been developed by MSN over the 26 years the project has been running. It involves training MSN volunteers to take detailed photographs of the stranded animal carcass, which are examined by highly experienced members of the MSN team to identify and log external marks and injuries known to be associated with bycatch and entanglement. These features are then weighted and each case is concluded to be associated with bycatch, or other forms of physical trauma such as bottlenose dolphin attack. Each stranding case is checked by James Barnett, vet pathologist for MSN and CSIP, before being used for any analysis. CWMT MSN are continuously testing and developing the BEEP assessments against the findings from post mortem examinations to improve accuracy of detecting bycatch.

Of the remaining 224 cetaceans which were not retrieved for post mortem examination, 71 cases were reported to MSN but a volunteer was not able to attend for a wide range of reasons or we had insufficient data to assess through BEEP. Therefore, these cases have not been included in the BEEP and bycatch analysis for this report.

152 cetaceans were examined and recorded in situ by MSN volunteers and photos examined in detail by experienced BEEP assessors. It was found that 20% (n=30) showed features consistent with bycatch or entanglement in fishing gear. These features are based on recognised net entanglement marks such as fin edge cuts/slices, encircling net marks and severed appendages.

64% (n=98) were cases where the cause of death was inconclusive based on the data available. There were also 2% (n=3) cases of probable bottlenose dolphin attack, as well as 1% (n=2) two physical trauma cases caused by boat strike (one confident case and one possible case).

BEEP Conclusion	Number of animals	% of BEEP assessed cases
Inconclusive	98	64%
Bycatch / Entanglement	30	20%
Possible Bycatch	19	13%
Trauma - BND Attack	3	2%
Trauma - Boat Strike	2	1%
Total	152	

Table 1: a summary of BEEP conclusions from cetacean cases assessed in 2017

Bycatch analysis

2017 has been a notable year for large numbers of short beaked common dolphin strandings around Cornwall, which make up 54% (n=136) of all cetacean strandings for the year. Through post mortem examination and BEEP assessments, bycatch was found to account for 27% and 20% of cases, respectively. When we examine PME and BEEP conclusions combined, we find that of the carcasses assessed by either method, 28% (n=33) of common dolphins assessed in 2017 were either definite or probable bycatch and 12% (n=4) harbour porpoise. Corresponding to the general trend of cetacean strandings through the year, half of all bycatch cases for 2017 were during the first 2 months of the year (January and February) with bycatch numbers increasing again during December. See *Figure 1*

Interestingly, the majority of strandings cases were carcasses of Body Condition Code 3 and above, rendering many of these animals too decomposed for in-depth BEEP analysis. This means that it is possible that the bycatch detection rate is conservative.

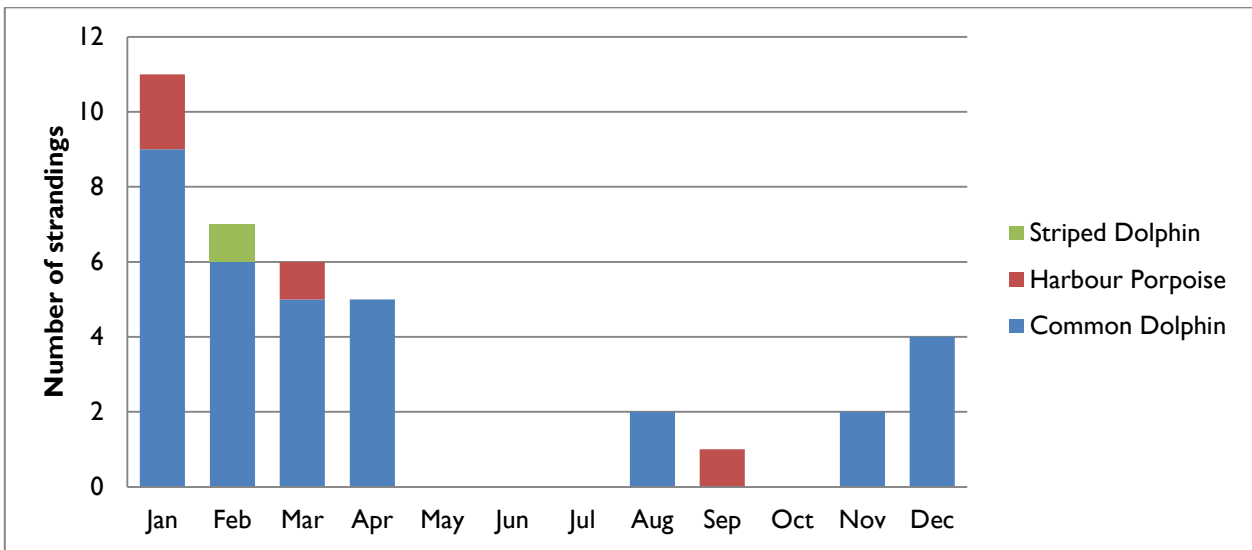


Figure 1: Number of stranded cetaceans per month which exhibited features of bycatch, assessed by either post mortem examination or BEEP assessment

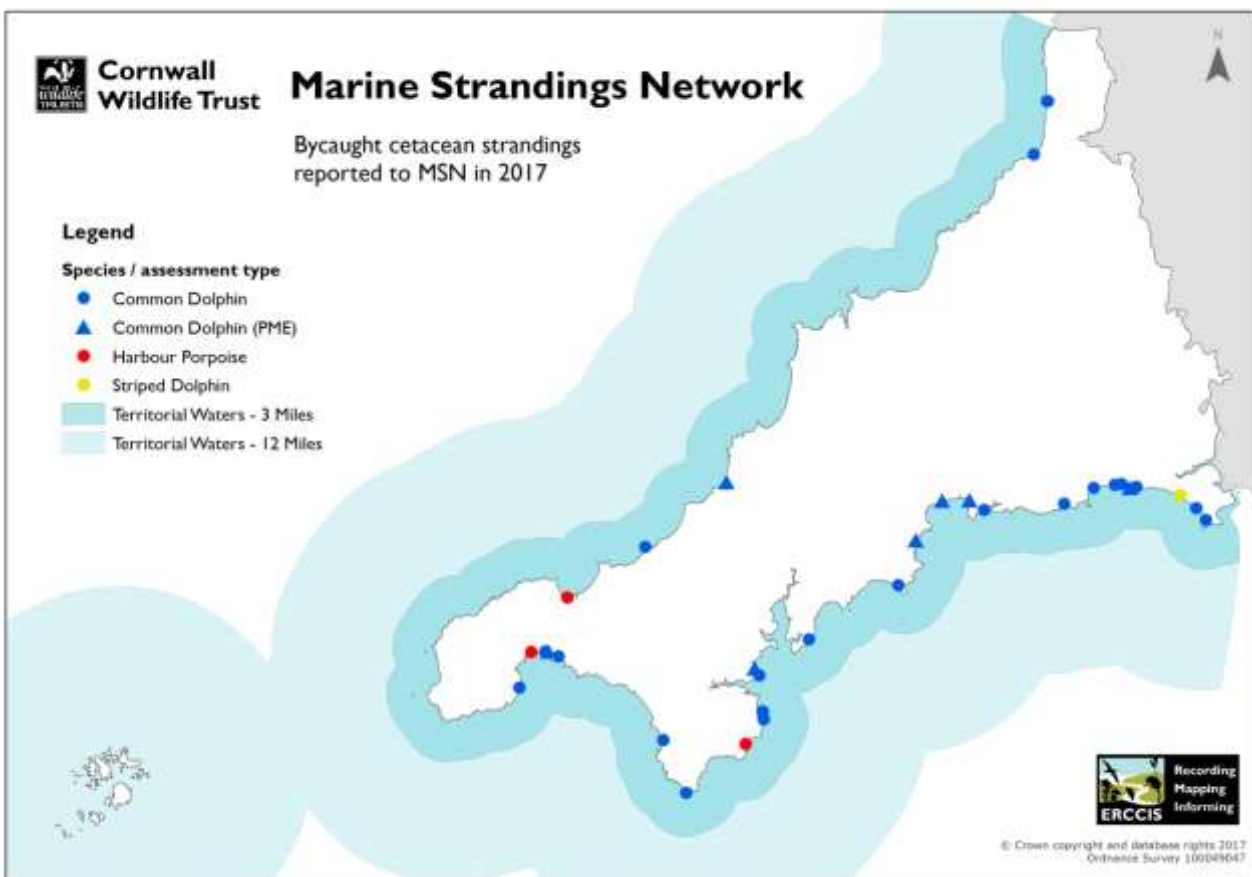




Figure 2: The location of 2017 stranded cetaceans with bycatch features; blue indicate common dolphin with the triangles indicating those examined through post mortem examinations, red indicate harbour porpoise and yellow indicate striped dolphin

The geographical spread of cetacean bycatch cases through 2017 shows that bycatch cases were spread around the coast of Cornwall.

During the main spike in total strandings numbers and bycaught strandings, there was a marked bias towards the south coast of Cornwall, with clusters of cases in close proximity to ports and harbours of the north coast, as well as the south coast. Taking into account the high levels of common dolphin bycatch strandings experienced on the north coast of France during the same period, where approximately 800 common dolphin stranded, 90% were confirmed bycatch, along the french Atlantic coast between January and March 2017. It is reasonable to conclude that the numbers being seen in Cornwall could have a connection with the events in France, however further investigation into this event is being undertaken.

Summary of all animals which exhibited signs of bycatch in 2017

Blue highlights the cases which went for post mortem examination. Photos included are a small selection that show some of the features identified during analysis, if you would like further information please contact Strandings Data Officer.

Reference	Location	Date	Gross post-mortem examination findings / observations
Common Dolphin C/2017/004 (SW2017/1)	Off the Hutches, Rosemullion Head SW795288	04/01/2017	<i>This juvenile male common dolphin was observed being hauled aboard a fishing vessel off the east coast of the Lizard in what was described as a 4-inch bass net. The linear, often encircling marks found on the rostrum, both pectorals, both flukes and thorax were entirely consistent with the animal being caught in nets. There was also a deep fresh wound to the tip of the maxilla which was bleeding significantly and was associated with a comminuted fracture of the tip of the maxillary bone. This haemorrhage may explain the general pallor of the muscles and some of the viscera.</i>
			

Harbour porpoise C/2017/008	Porthkidney Beach, Hayle SW535386	05/01/2017	Tail flukes clean cut. Fin edge slice to leading edge RHS pectoral fin. Broken mandible on both sides. Possible fin edge slice on leading edge RHS pectoral fin. Possible monofilament encircling mark from tail notch on underside LHS fluke. Possible cut at leading edge LHS pectoral fin. Clean cut wounds to abdomen.
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Harbour Porpoise C/2017/030	Coverack Beach, Lizard SW782183	20/01/2017	Fin edge cuts and slices, partial encircling marks. Partial monofilament impression on upper and lower LHS lips. Fin edge cuts to leading and trailing edge flukes. Haemorrhage to LHS eye.
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Common Dolphin C/2017/032 SW2017/48	Carne Beach, Veryan Bay SW905381	22/01/2017	<p><i>This adult female common dolphin was in suboptimal body condition, the worn and broken teeth suggested she was a well matured animal and the number of corpora albicans on her left ovary were consistent with several pregnancies, although she was not pregnant at the time of death. The multiple fractured ribs with evidence of healing on the left side of the thorax were consistent with a previous traumatic injury.</i></p> <p><i>The skin tags/fin slices on the flukes and one pectoral and the evidence of very recent feeding were consistent with bycatch as the cause of death. Interestingly, there was no evidence of persistent froth in the trachea and bronchi, a regular pathological feature of bycatch cases.</i></p>
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Common Dolphin C/2017/041	Polpoer Beach, Lizard SW700115	24/01/2017	RHS pectoral fin edge slice to trailing edge. Probable encircling mark around head, in front of pectoral fins. Possible encircling marks around beak, excessive skin loss from front beak, upper and lower. Possible partial encircling marks around RHS dorsal fin and leading edge dorsal fin.
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Common Dolphin C/2017/043	Top Town Beach, Marazion SW523304	24/01/2017	Multiple monofilament encircling marks around beak. Lip cut on RHS and LHS. Tip of LHS pectoral fin amputated, clean cut. Encircling monofilament mark LHS pectoral fin. Amputated LHS fluke. Partial encircling impression on leading edge LHS peduncle.
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Common Dolphin C/2017/044	Coombe Haven, Fowey SX113507	25/01/2017	Tail stock clean cut amputation. Clean cut pectoral fin. Large fin edge slice to LHS & RHS pectoral fin.
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Common Dolphin C/2017/046	Hemmick Beach, St Austell SW994403	25/01/2017	Possible clean cut to LHS lower abdomen. Fin edge cut to leading edge LHS pectoral with faint impression leading off. Trailing edge slice on LHS pectoral fin, with corresponding cut on leading edge. Dorsal fin amputated, clean cut with decomposition. Broad marks on underside of beak with possible corresponding encircling mark on upper beak. Faint mark running from eye to under lower jaw.
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Common Dolphin C/2017/060	Downderry Beach, Whitsand Bay SX324539	28/01/2017	Fin edge slice to trailing edge RHS pectoral fin. Encircling monofilament impression to leading edge and trailing edge RHS fluke with fin edge slice to trailing edge. Monofilament impression to LHS trailing edge fluke. Probable encircling monofilament impression around RHS beak. Possible clean cut to tip of dorsal fin. Monofilament impressions to leading edge dorsal fin.
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Common Dolphin C/2017/070	Keveral Beach, Seaton SX294542	31/01/2017	Full encircling monofilament impression at melon crease, with possible associated lip cuts. Fin edge slices to RHS trailing edge fluke. Partial encircling monofilament impression on base of RHS fluke. Tip of dorsal fin missing, possible clean cut(?). Fin edge cut to trailing edge dorsal fin, with associated skin loss.
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Common Dolphin C/2017/082	Seaton Beach, Whitsand Bay SX303543	02/02/2017	Tip and trailing edge LHS pectoral fin slice, clean edge. Tip of dorsal fin slice, clean cut. Possible fin edge slice LHS trailing edge fluke. 3 linear possible monofilament marks on ventral side LHS pectoral fin. Missing and broken teeth on lower jaw LHS.
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Common Dolphin C/2017/100	Talland Bay, Looe SX224516	02/02/2017	White nylon rope tied around tail stock. Haemorrhage to eyes. Fin edge slice on trailed edge both flukes. Cross monofilament encircling impression at base of both flukes. Broken upper jaw. Partial encircling monofilament impression on RHS pectoral fin. Encircling multifilament and monofilament impressions on base of beak, and melon crease. Partial encircling multifilament impressions to LHS tailstock.
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<p>Common Dolphin C/2017/088 Found with animal C/2017/102</p>	<p>Plaidy Beach, Looe SX265538</p>	<p>03/02/2017</p>	<p>Linear skin deep wound diagonal along back between blow hole and dorsal fin. Beak missing, from melon crease. Jaw broken. Deep notch/cut to the trailing edge dorsal fin. Possible clean cut amputation to RHS pectoral fin. 2.5cm deep fin edge cut to leading edge RHS pectoral fin. Tip of RHS fluke missing, scavenged? Tip of LHS pectoral fin missing. Possible partial encircling mark on leading edge LHS pectoral fin, near base.</p>
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<p>Common dolphin C/2017/102 Found with animal C/2017/088</p>	<p>Plaidy Beach, Looe SX265538</p>	<p>03/02/2017</p>	<p>Lower jaw missing, maxilla damaged. RHS pectoral fin missing. Tip of dorsal fin missing, possible clean cut. 2cm wide skin deep cut to ventral side of tail stock. LHS fluke tip missing, clean cut. RHS fluke missing.</p>
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<p>Common Dolphin C/2017/096</p>	<p>Tregantle Beach, Whitsand Bay SX384528</p>	<p>05/02/2017</p>	<p>Wide fin edge slice to base of trailing edge dorsal fin. Both mandible and maxilla broken, with associated skin de-sleeving. Partial encircling mark at base of LHS beak, with impression on melon crease. Fin edge slice along whole length of RHS pectoral fin, tip missing/damaged.</p>
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Common dolphin C/2017/117	Maer Beach, Bude SS201751	24/02/2017	Jaw misaligned - broken. Fin slice with skin tag to trailing edge LHS pectoral fin. Fin slice to trailing edge dorsal fin. 2 x Semi-encircling impressions to upper beak LHS with some gum damage, leading onto lower beak. Linear wound in front of LHS eye. Semi encircling impression to LHS tail stock.
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Common dolphin C/2017/137 (SW2017/138)	Downderry Beach, Whitsand Bay SX315538	08/03/2017	<i>This young adult female common dolphin was in good body condition and had fed recently. The amputated tail and encircling linear marks/wounds on the head, dorsal thorax, pectorals and dorsal fin were consistent with bycatch. I suspect the gas bubbles in the mesenteric veins are due to autolysis.</i>
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Harbour Porpoise C/2017/141	Longrock Beach, Marazion SW485310	11/03/2017	Bloody froth from blowhole. Encircling monofilament impressions around beak. Notches with monofilament impressions to leading edge fluke and LHS pectoral fin, Notches to RHS pectoral fin. Semi-encircling monofilament impressions to dorsal side in front of dorsal fin, knot mark visible. Haemorrhage to LHS eye. Cuts to tongue.
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Common dolphin C/2017/151	Polhawn Beach, Whitsand Bay SX420493	21/03/2017	LHS pectoral half missing. LHS fluke tip missing, possibly clean cut. Possible fin edge slice to LHS trailing edge dorsal fin. Linear impression to tip leading edge dorsal fin. Lip slice to RHS upper jaw. Monofilament impressions partially encircling :- melon behind RHS eye, under lower jaw, in front of blowhole and two LHS around back end of beak.
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Common dolphin C/2017/158	Porthoustock, Lizard SW807217	28/03/2017	Tail amputated, clean cut. Beak extensively damaged with multiple broken bones. Monofilament linear impression to leading edge dorsal fin. Monofilament encircling wound to LHS pectoral fin with fin edge slice.
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Common dolphin C/2017/161	Mousehole Harbour, Penzance SW469261	30/03/2017	Monofilament impression around LHS melon behind eye and another perpendicular to this mark crossing up over towards dorsal fin. Monofilament impression to RHS melon going into jaw with upper jaw lip slice. Monofilament impression around torso going across front of dorsal fin to front of LHS pectoral fin with fin edge slice. Monofilament impression to trailing edge LHS pectoral fin. Tip of LHS pectoral fin missing. Partial encircling multifilament impression to ventral side tail stock LHS. Lip cut with fully encircling monofilament impression to front end of LHS upper beak. Monofilament impression across front LHS melon, near crease with lip slice below. Encircling Monofilament impressions to both sides fluke leading edge. Multiple fin edge slices to trailing edge fluke. Three notches to leading edge dorsal fin. Fin edge slices to trailing edge RHS pectoral.
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Common dolphin C/2017/174	½ a mile out to sea from Portloe, SW643456 (estimate)	07/04/2017	This animal was videoed at sea. Comments below are from Rob Deaville – CSIP:- <i>This is a short-beaked common dolphin, which is the second most common species we record stranded around the UK. The removal of the tail is probably related to post-mortem (after death) removal from fishing gear, following accidental entrapment (or by-catch as its better known). We have seen similar cases in other stranded individuals in the past. The marks on the side of the animal are related to bird pecking as the dolphin floats at the surface. As part of our research on strandings in the UK, we record evidence of by-catch in a number of individuals and species and unfortunately, Cornwall is a 'hotspot' for both strandings and the diagnosis of by-catch.</i>
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Common dolphin C/2017/180	Millook Beach, Bude SS182000	13/04/2017	Haemorrhage to RHS eye. Tongue clean cut. Dorsal fin, both fluke sides and RHS pectoral fin missing, probably clean cut.
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Common dolphin C/2017/182	Floating at sea, 500m SW of Towan Beach, Portscatho, Roseland SW870328	07/04/2017	Tail stock amputated.
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Common dolphin C/2017/176	Porthkerris Beach, The Manacles SW806227	08/04/2017	Tail stock amputated with clean edge. Monofilament encircling impression to tailstock. Fin edge slice to RHS pectoral fin tip, trailing edge. Monofilament encircling mark behind blowhole, over RHS eye. Monofilament encircling mark around lower jaw with lip cut to LHS.
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Common dolphin C/2017/177	Porthoustock Beach, The Manacles SW807218	08/04/2017	LHS Tail fluke amputated with a clean edge. Small notch to trailing edge RHS pectoral. Lip cut to front, lower RHS jaw. Possible semi-encircling monofilament impression to LHS lower jaw x 2. 2 x parallel linear wounds above and below LHS eye. Monofilament partial encircling impression to trailing and leading edge LHS pectoral fin. Fin edge slice to LHS pectoral fin. Monofilament impression and notches to leading edge dorsal fin, tip and base.
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Common dolphin C/2017/207	Marazion Beach, Mount's Bay SW505311	14/08/2017	Multiple linear monofilament marks across melon. Encircling monofilament marks under beak. Broken teeth and blood around teeth. Encircling marks to upper beak.
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Common dolphin C/2017/211	Pollurian Bay, Mullion SW668188	31/08/2017	Partial encircling marks to fluke leading edge, RHS and LHS. Flesh missing from under lower jaw along length of beak, some clean edges to wound. Large concave wound to RHS melon - like a 'scoop'. Fin edge notch to leading edge RHS pectoral. Monofilament impression to leading edge LHS and RHS pectoral and dorsal fin. 2 x linear impressions forming an 'x' to LHS flank.
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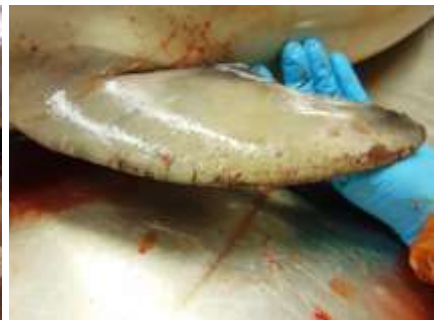
Harbour Porpoise C/2017/214	Tregantle Beach, Rame Peninsular SX384528	06/09/2017	Monofilament notches to base of leading edge dorsal fin x 3. 2 x parallel linear, partial encircling impressions in front of dorsal fin. Monofilament notches to base of trailing edge dorsal fin. Linear impression to leading edge LHS pectoral.
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<p>Common Dolphin C/2017/235 (SW2017/658)</p>	<p>Perranporth Beach, Perranporth SW756546</p>	<p>06/11/2017</p>	<p><i>This adult male was in suboptimal body condition, but did show evidence of recent feeding. This, coupled with the linear marks over the head and anterior insertions of both pectoral fins and the extensive haemorrhage over the mandible, ventral and caudal head were very suspicious of bycatch as the cause of death. The other possibility considered was that the animal had live stranded, as there was shingle/sand/silt as far down the gastrointestinal tract as the pyloric stomach. However, the oesophagus was directly open to the environment, which may have facilitated the passive passage of this material to this level. Furthermore, the autolysed, scavenged nature of the carcass was more consistent with bycatch than with live stranding.</i></p> <p><i>The significance of the pieces of blue material found in the cardiac stomach and adhesions is unclear but the adhesions are likely to have been chronic and an incidental finding.</i></p>
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<p>Common Dolphin C/2017/241 (SW2017/701)</p>	<p>Carlyon Beach, St Austell SX055520</p>	<p>06/12/2017</p>	<p><i>This subadult male common dolphin was in moderate body condition and there was some limited evidence of recent feeding. The extensive linear encircling wounds and marks on the rostrum, fins and flukes, coupled with the residual persistent froth in the airways, overinflated lungs and pulmonary blood vessel rupture were, in my opinion, consistent with a diagnosis of bycatch. It is suspected that the large parallel wounds on the right side of the body were made during retrieval and transport, the dolphin being moved on a ladder.</i></p>
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Common dolphin C/2017/248	Happy Valley, Whitsand Bay SX407510	21/12/2017	Flukes missing, clean cut. Sloughing around wound. Broken maxilla (or upper jaw). Fin edge slices to trailing edge dorsal fin.
			

Common dolphin C/2017/250 SW2017/737	Polkerris Beach, Lizard SX093521	25/12/2017	<p><i>This subadult/young adult female common dolphin was found enveloped in what appeared to be part of a set net and, in my opinion, the evidence of very recent feeding and changes in the lungs were likely to be consistent with bycatch rather than entanglement in ghost gear. Other signs of bycatch included fin slices and encircling linear marks. Although there was extensive soft tissue damage to the tail stock, it is not clear if this happened pre- or post mortem; there was little evidence of associated haemorrhage although I understand seawater will blanch sites of pre-mortem soft tissue trauma. It is difficult to understand exactly how some of the rope became so tightly wrapped around the tail stock and one pectoral flipper; possibly it occurred due the animal spinning repeatedly in the net during its attempted escape, or possibly this is anthropogenic in origin.</i></p>
			

<p>Common dolphin C/2017/252 SW2017/740</p>	<p>Marazion Beach, Mount's Bay SW509311</p>	<p>29/12/2017</p>	<p><i>This adult female common dolphin was in good body condition and had clearly been pregnant on several occasions. Particularly, the clean amputation of the dorsal fin and the linear encircling wounds on the left pectoral fin and cranial melon are consistent with bycatch as the cause of death, in my opinion. The evidence of very recent feeding, missing teeth and skin tags are also likely to be consistent with bycatch. In addition, there are tattoo lesions present that are likely to be caused by infection with cetacean poxvirus.</i></p>
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<p>Common Dolphin C/2017/236</p>	<p>Maer Cliff, Crooklets, Bude SS200074</p>	<p>17/11/2017</p>	<p>Probable clean cut dorsal fin. Flukes missing - probably clean cut with scavenging.</p>
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All photos courtesy of the MSN team and James Barnett, veterinary pathologist and affiliate of University of Exeter, Tremough.

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Publication Policy

This report should be accredited to Cornwall Wildlife Trust Marine Strandings Network in all publicity and wherever referred to. Use of these data, by prior agreement with Cornwall Wildlife Trust and the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS), is welcomed. We would be pleased to receive copies of any publications that have used these data.