



**Cornwall**



# 2020 Annual Report

## Marine Strandings in Cornwall and the Isles of Scilly

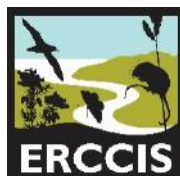
Report by  
Cornwall Wildlife Trust  
Marine Strandings Network

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**Cornwall Wildlife Trust**

*Protecting Cornwall's wildlife and wild places*



**Recording  
Mapping  
Informing**

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*Photo 1: Bycaught female common dolphin calf, 9<sup>th</sup> September 2020 Maer Beach, Bude. Photo by Helen Yeo*

## I. Executive Summary

Data on marine organisms that stranded on the shores of Cornwall in 2020 were collected by the Cornwall Wildlife Trust Marine Strandings Network (CWT MSN). All species were recorded in the strandings database held at the Environmental Records Centre for Cornwall and Isles of Scilly (ERCCIS). However, when possible, most cetaceans, seals, basking sharks and turtles were examined *in situ* and recorded in detail by trained volunteers of the Network.

A total of 202 cetacean strandings were recorded in Cornwall during 2020. As in previous recent years, short-beaked common dolphins (*Delphinus delphis*) represented the majority of cetacean strandings (57%, n=116), followed by harbour porpoises (*Phocoena phocoena*) (11%, n=24). Once again, we are seeing a decline in the number of harbour porpoise strandings since 2016 (2016 n=61, 2017 n=52, 2018 n=29, 2019 n=40).

Of the 202 cetacean carcasses that stranded during 2020, 16% (n=33) 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). Post mortem examinations (PME) concluded that accidental entanglement in fishing gear, known as bycatch, was the cause of death for 30% (n=10) of the cetaceans examined, all of which were common dolphin.

93 cetaceans (46% of the 202 total) were examined and recorded *in situ* by MSN volunteers using the BEEP protocol, and photos examined in detail by experienced BEEP assessors within ERCCIS. It was found that 17% of the 93 (n=16) showed features consistent with definite or probable bycatch or entanglement in fishing gear.

There were 203 seal strandings reported during 2020, a lower figure than 2019 (n=248). Of these 203 seal strandings, 20% (n=40) were males, 10% (n=34) females and 74% (n=129) of unknown gender. Seal strandings followed a similar seasonal pattern as in previous years, but with a significant peak in October (n=46) which is twice the average number for that month (n=22.6). Thanks to collaborative work with the Seal Research Trust (SRT) seal strandings are checked against individual identification of seals in Cornwall. Two matches were made between the SRT and MSN catalogues.

18 of the 203 seals reported were retrieved for *post mortem* examination in 2020, representing 9% of seal strandings. Of those examined at *post mortem*, trauma and infection were the leading causes of death, each accounting for 44% (n=8) and 33% (n=6) respectively. One seal's cause of death was identified as bycatch (6%).

Other strandings of note, aside from cetaceans and seals, include one report of a leatherback turtle, 71 reports of birds including an arctic skua and Eurasian curlew, and 14 reports of sharks including one basking shark.

Our annual Cetacean Bycatch Report 2020 can be found in Appendix One, page 39, of this report. There is a decline in the percentage of bycaught or probably bycaught animals in 2020, with a figure of 21% compared with 26% in 2019 and 31% in 2018. Although a promising small scale trend, which requires close monitoring in future reports, this is still an unacceptably high percentage for these vulnerable and protected species.

In 2020, CWT MSN did not carry out any outreach and engagement work due to the COVID-19 pandemic. There is also the question as to whether COVID-19 impacted stranding data due to the restriction on volunteer activity and movement.

## 2. Introduction

Records of stranded marine organisms have been collected in Cornwall and the Isles of Scilly for many years, the earliest record being from 1354. To date, the Cornwall Wildlife Trust Marine Strandings Network (CWT MSN) database holds over 10,000 records, comprising of 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 several 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, funded by Defra, and contributes to the UK's programme of research on cetaceans 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 licence (granted by Natural England) for the possession and transportation of cetacean carcasses. Over the last 27 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. This network was led and developed further by MSN Coordinators Jan and Jeff Loveridge to provide a comprehensive reporting and recording system for strandings, in particular of marine mammals. Rigorous procedures for reporting and recording stranded marine animals were introduced, together with training for volunteers in investigating carcasses to ensure accuracy. In 2012, the co-ordination of the Marine Strandings Network was passed to the Marine 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 200 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 CWT staff. Detailed reports and photographs are obtained where possible, as well as some tissue samples on occasion for analysis by various partner organisations. The data and photographs collected by MSN volunteers are then verified and assessed by experienced experts following the Bycatch Evidence Evaluation Protocol methods developed by CWT MSN. Analysis of the data collected by the CWT MSN and partners is ongoing.

The CWT MSN has a dedicated Strandings Hotline telephone number (0345 201 2626), for the reporting of dead 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 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](mailto:strandings@cornwallwildlifetrust.org.uk).

### 3. Strandings in 2020

#### 3.1 Cetaceans

A total of 202 cetacean strandings were recorded in Cornwall during 2020. As in previous recent years, short-beaked common dolphins (*Delphinus delphis*) represented the majority of strandings (57%, n=116), followed by harbour porpoises (*Phocoena phocoena*) (11%, n=24) (Figure 1). Once again, we are seeing a decline in the number of harbour porpoise strandings since 2016 (2016 n=61, 2017 n=52, 2018 n=29, 2019 n=40 - please see previous MSN reports for detail). Due to decomposition, 53 stranded cetaceans could not be identified to species level.

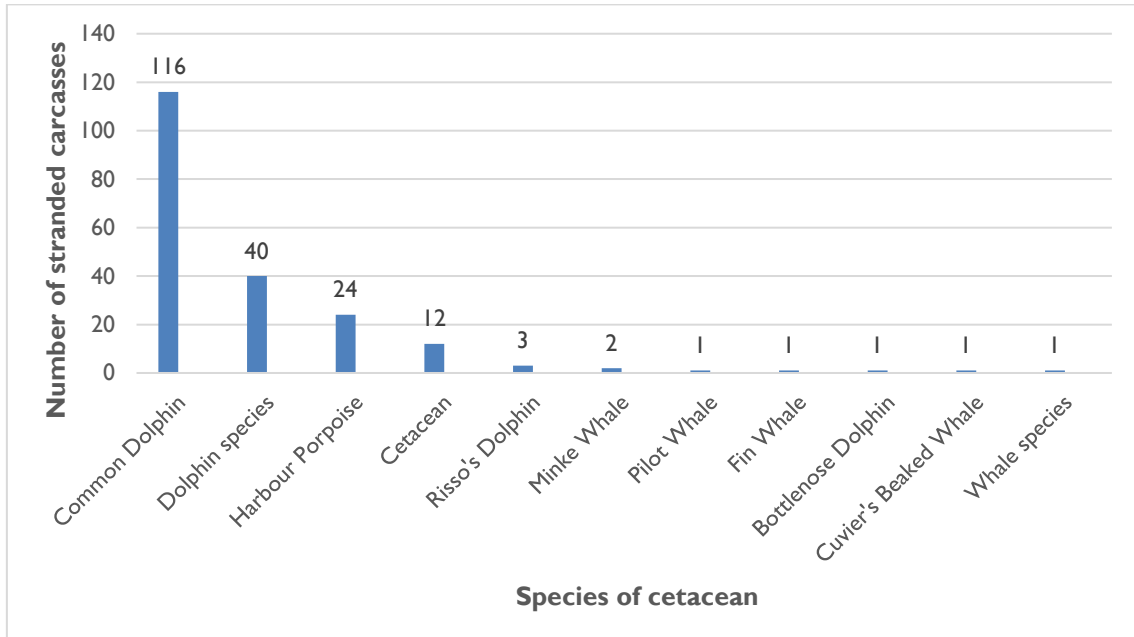


Figure 1: Number of cetacean strandings by species during 2020

The vast majority of cetacean strandings in 2020 occurred during January, February and December.

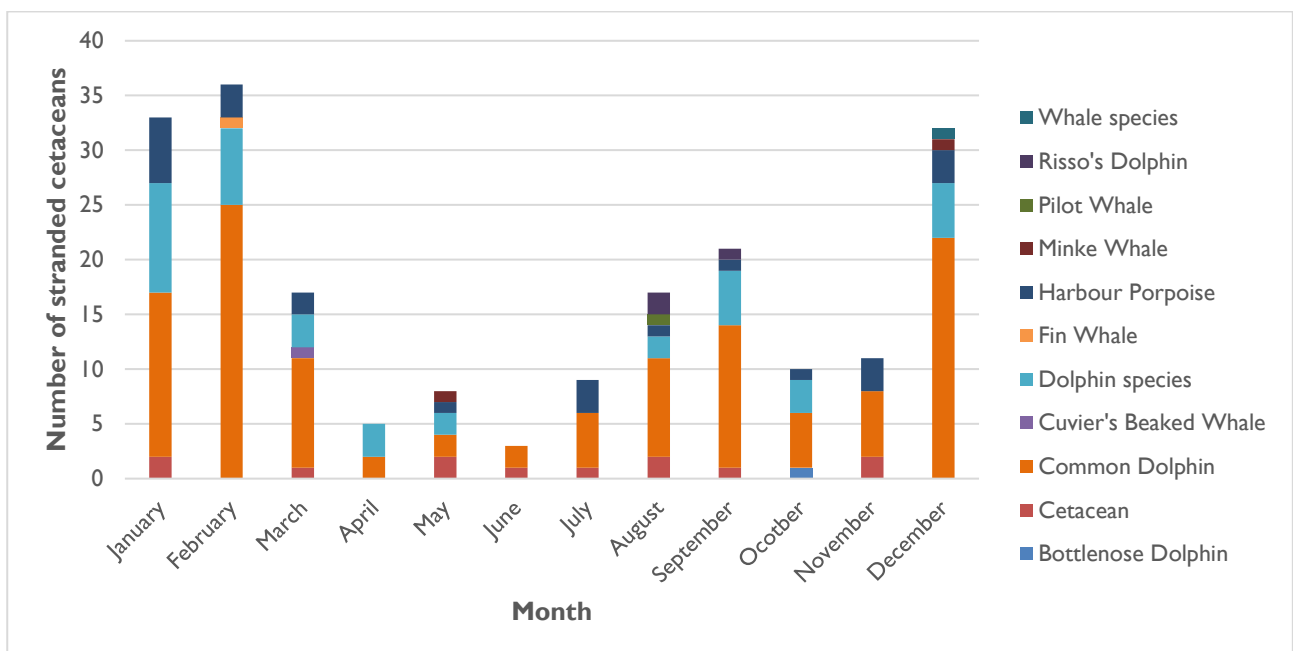


Figure 2: Cetacean strandings by species/month during 2020

Figure 3 shows the locations of all cetacean strandings in 2020 and highlights the geographical spread of cetacean strandings during this year.

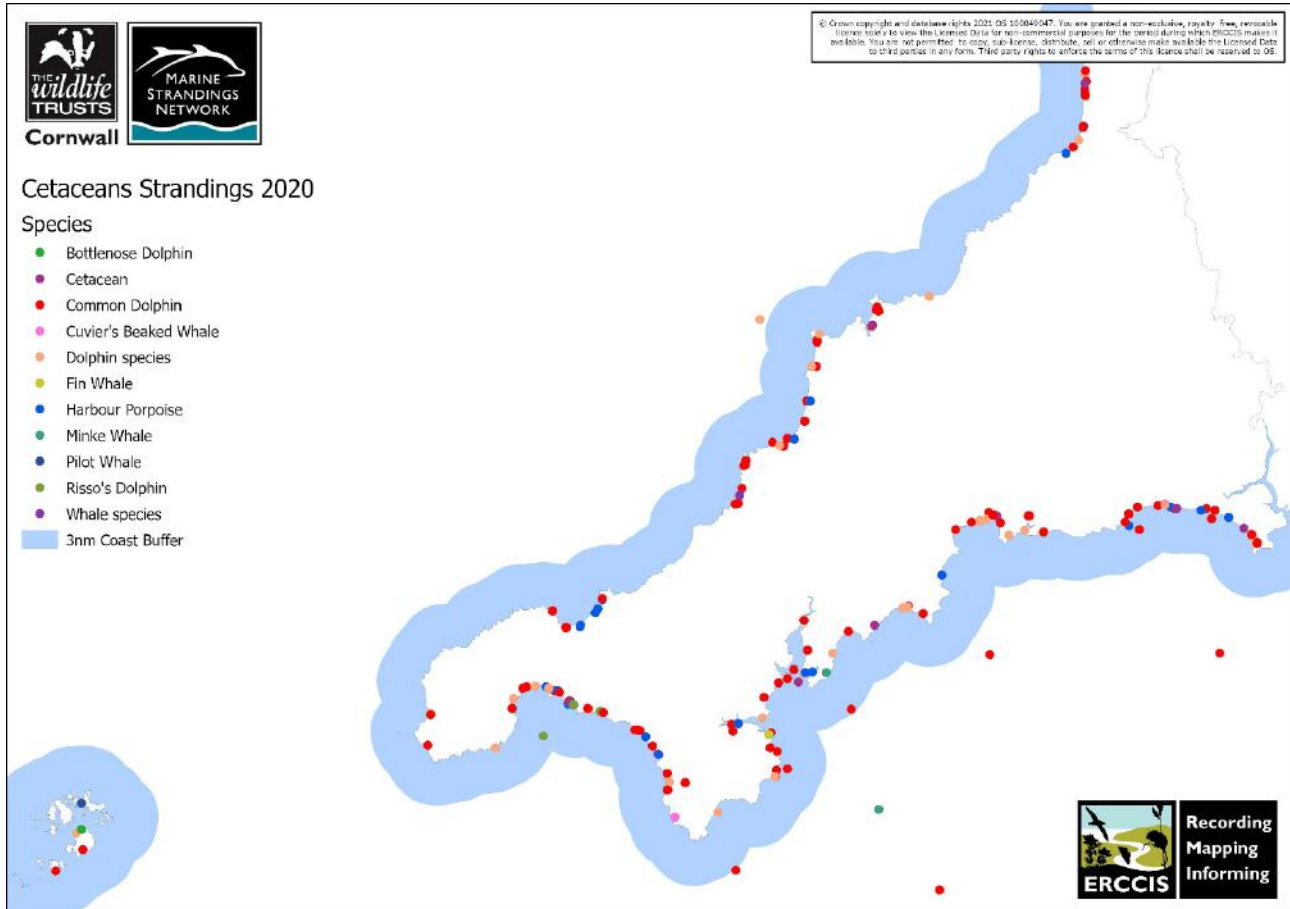


Figure 3: Locations of cetacean strandings in 2020 (n=202)



Photo 2: Male juvenile common dolphin at Constantine Beach near Padstow February 2020, photo by Rob Stevenson

### 3.1.1 Comparison with previous years

In total, 202 cetaceans were reported to, and examined by CWT MSN in 2020, which is a decrease from the numbers seen in 2019, but similar to the numbers seen over the past four years (Figure 4). Consideration must be taken on the impact that COVID-19 restrictions will have had on strandings data in 2020. This is discussed further in Section 4 of this report (page 37). Overall, the numbers of cetacean strandings in 2020 remain higher than the average number of cetacean strandings from the last 26 years ( $n=128$ ). 2020 cetacean stranding numbers were higher than the monthly average in January and February, and July through to December (Figure 5).

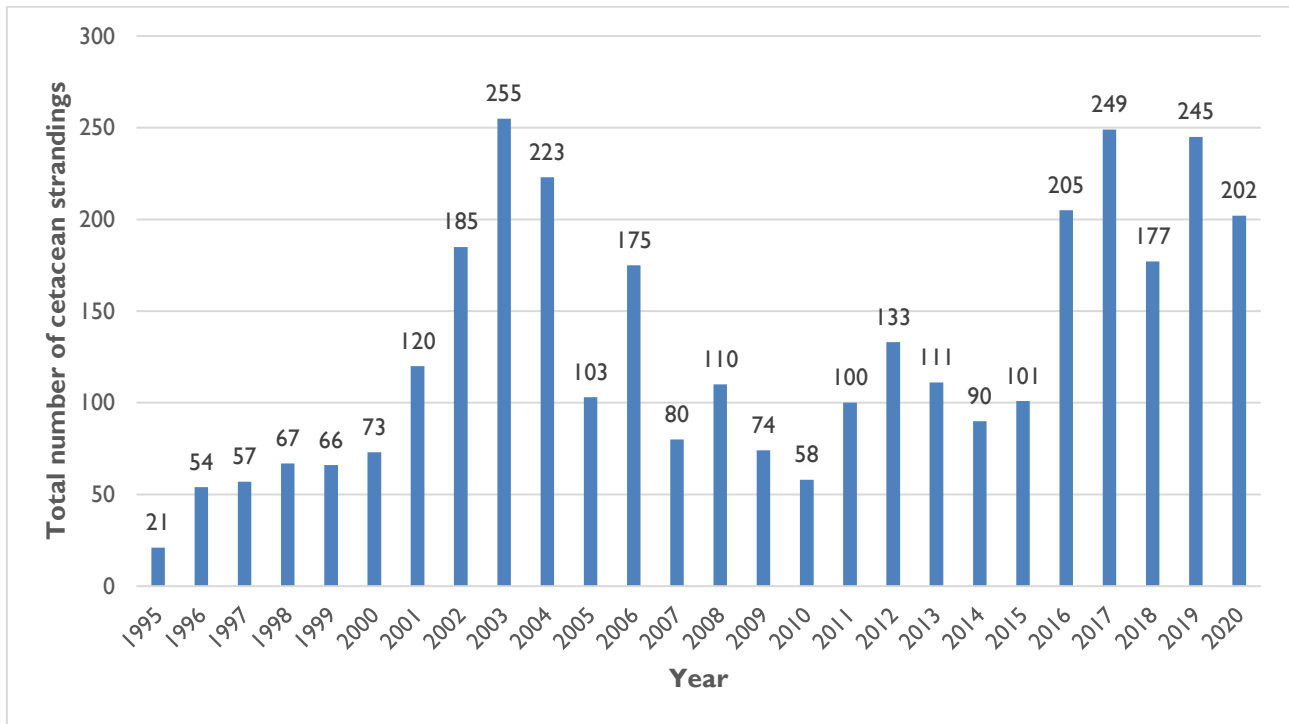


Figure 4: Comparison of cetacean strandings by year (1995 to 2020)

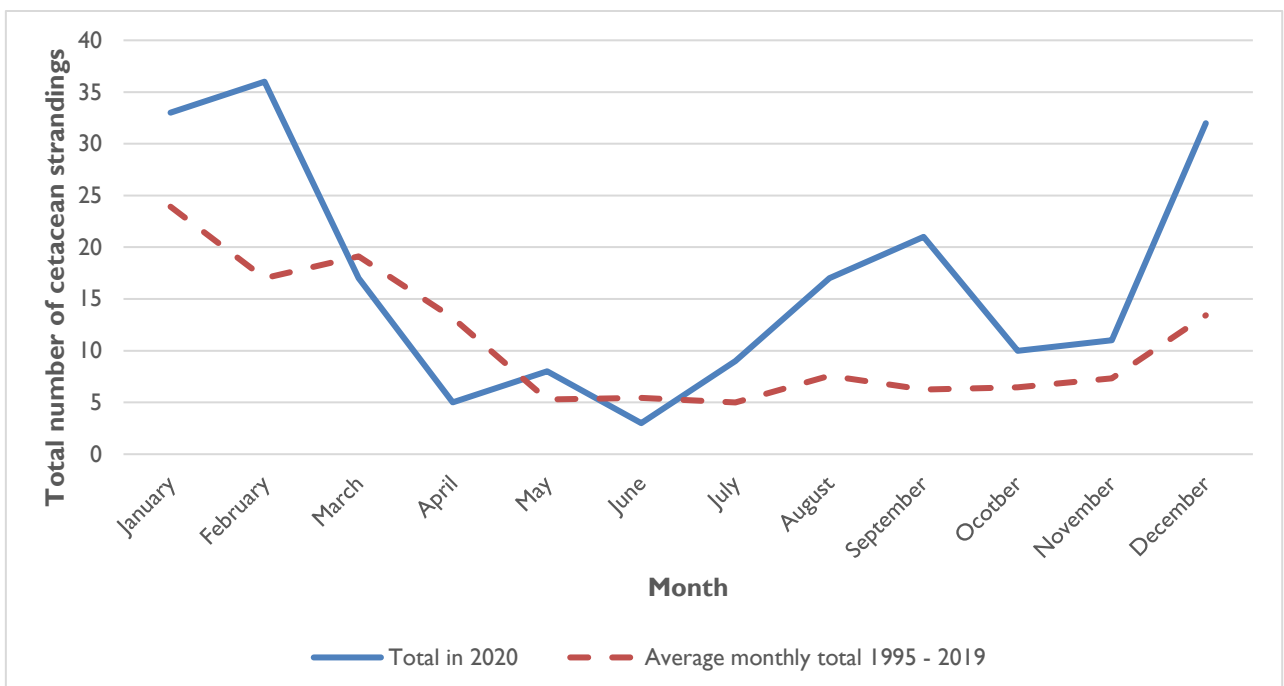


Figure 5: Seasonality of cetacean strandings for 2020, in comparison to average seasonality between 1995 and 2019



### 3.1.2 Cetacean post mortem examinations

Of the 202 cetacean carcasses that stranded during 2020, 16% (n=33) 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 performed by James Barnett, the veterinary pathologist for the Marine Strandings Network, however one post mortem was conducted by Pdraig Queally in situ on a beach in South East Cornwall. Post mortems were carried out at the University of Exeter Penryn campus and other locations, assisted by trained volunteers. (Figure 6)

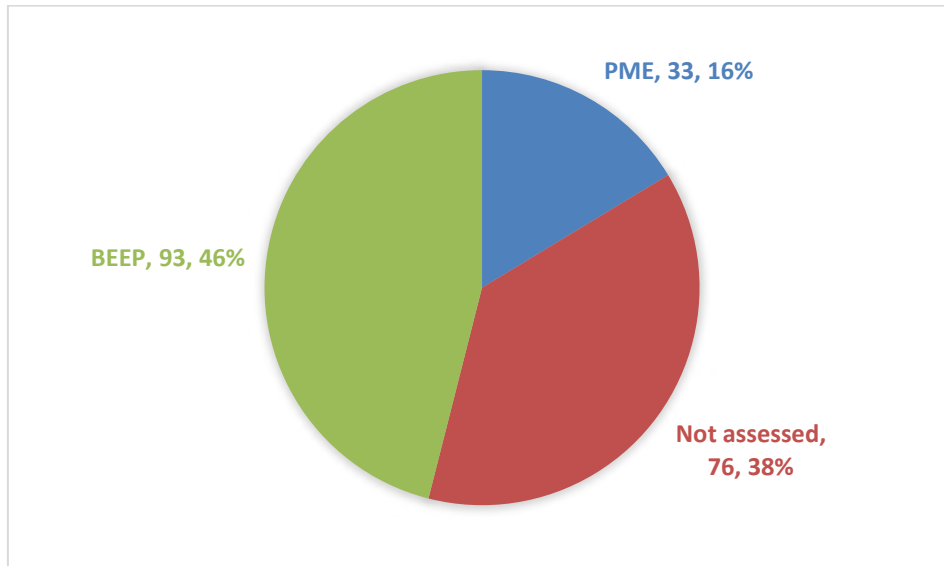


Figure 6: Percentage of stranded cetaceans retrieved for post mortem examination (n=33), BEEP assessment using in-situ data (n=93) and the remaining 73 were reported but had insufficient data for more detailed assessment

Post mortem examinations (PME) concluded that accidental entanglement in fishing gear, known as bycatch, was the cause of death for 10 (30%) of the cetaceans examined, all of which were common dolphin (Table 1). Of note, live stranding was the reported cause of death for a further three cases, bottlenose dolphin attack accounted for three cases, and there were eight cases of infectious disease. In three cases the cause of death could not be established.



Photo 3: Bycaught adult common dolphin 4<sup>th</sup> January 2020, taken for post mortem examination. Photo by James Barnett

A summary of post mortem findings can be seen in *Table 1*. 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 and bacteriology that are pending.*

Date	Cornwall ID	Species	Location	Cause of Death
04/01/2020	C/2020/005	Common dolphin	Hemmick beach	Bycatch
05/01/2020	C/2020/006	Harbour porpoise	Marazion beach	Physical trauma, bottlenose dolphin attack
20/01/2020	C/2020/019	Harbour porpoise	Porthkidney beach	Physical trauma, bottlenose dolphin attack
20/01/2020	C/2020/018	Harbour porpoise	Gwithian	Physical trauma
03/02/2020	C/2020/034	Common dolphin	Gunwalloe	Live Stranding
10/02/2020	C/2020/040	Common dolphin	Par beach	Bycatch
14/02/2020	C/2020/048	Fin whale	Parbean Cove	Not established
21/02/2020	C/2020/056	Common dolphin	Constantine Bay	Pneumonia, parasitic
25/02/2020	C/2020/065	Common dolphin	Mawgan Porth	Intestinal obstruction - enterolith
01/03/2020	C/2020/071	Harbour porpoise	Mawgan Porth	Physical trauma, bottlenose dolphin attack
22/03/2020	C/2020/084	Common dolphin	Gyllyngvase beach	Bycatch
27/07/2020	C/2020/107	Common dolphin	Praa Sands	Not established
27/07/2020	C/2020/108	Common dolphin	Holywell Bay	Starvation (neonate)
29/07/2020	C/2020/109	Common dolphin	Mawgan Porth	(Meningo)encephalitis
30/07/2020	C/2020/111	Common dolphin	Long Rock	Live stranding
05/08/2020	C/2020/115	Common dolphin	Carne beach, Roseland	Bycatch
12/08/2020	C/2020/118	Common dolphin	Great Western beach	Starvation
14/08/2020	C/2020/120	Common dolphin	Mawgan Porth	Bycatch
14/08/2020	C/2020/121	Common dolphin	Gunwalloe	Physical trauma
04/09/2020	C/2020/130	Common dolphin	Tregantle beach	Myocarditis
09/09/2020	C/2020/132	Common dolphin	Maer beach	Bycatch
15/09/2020	C/2020/141	Common dolphin	Perranuthnoe	Peritonitis and parasitism
26/09/2020	C/2020/146	Common dolphin	Sandymouth	Physical trauma
28/09/2020	C/2020/147	Common dolphin	Poldhu Cove	Bycatch
10/10/2020	C/2020/150	Harbour porpoise	Porth beach, Newquay	Pulmonary and gastric parasitism
23/10/2020	C/2020/153	Common dolphin	St Ives harbour	Gastric parasitism
23/10/2020	C/2020/163	Common dolphin	St Ives harbour	Live stranding
08/11/2020	C/2020/161	Common dolphin	Widemouth Bay	Pulmonary and gastric parasitism
18/11/2020	C/2020/167	Common dolphin	Tregantle beach	Bycatch
25/11/2020	C/2020/168	Common dolphin	Castle beach	Bycatch
08/12/2020	C/2020/174	Common dolphin	Frenchman's Creek	Bycatch
26/12/2020	C/2020/203	Common dolphin	Portwrinkle	Not established
30/12/2020	C/2020/200	Common dolphin	Frenchman's Creek	Pneumonia, parasitic

*Table 1: Cetacean post mortem reports (2020) – 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, which has been developed by CWT MSN. BEEP assessments can be done *in situ* on the beach and provide data on external injuries to help identify 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 trained volunteers 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: Live stranded female fin whale, Parbean Cove 14<sup>th</sup> February 2020. Photo by Helen Chadwick

Of the remaining 169 cetaceans which were not retrieved for post mortem examination, 76 cases were reported to MSN but either a volunteer was not able to attend for a wide range of reasons or we had insufficient data to assess the animal through BEEP. Therefore, these cases have not been included in the BEEP and bycatch analysis for this report.

93 (46% of the 202 total) cetacean strandings were examined and recorded *in situ* by MSN volunteers using the BEEP protocol, and photos examined in detail by experienced BEEP assessors within the Environmental Records Centre for Cornwall and Isles of Scilly (ERCCIS). It was found that 17% of the 93 (n=16) showed features consistent with definite or probable 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. A further 9 of the 93 total (n=10%) cases showed possible signs of bycatch.

22% (n=20) were cases where BEEP assessment was inconclusive based on the data available. 2% (n=2) deaths were found to show features consistent with trauma and likely bottlenose dolphin attack.

BEEP conclusion	Total number of animals	% BEEP assessed cases
Bycatch	11	12
Inconclusive	20	22
No features	46	49
Possible bycatch	9	10
Probable bycatch	5	5
Other trauma	2	2
<b>TOTAL</b>	<b>93</b>	<b>100%</b>

Table 2: A summary of BEEP conclusions from cetacean cases assessed in situ in 2020

Examples of BEEP assessed cetacean strandings are below. For the full BEEP analysis and report, please see Appendix 1.

Common Dolphin C/2020/002	Seaton, Whitsand Bay SX303543	02/01/2020	Straight edge cuts to RHS pectoral fin amputating fin. Straight edge cut to dorsal fin, amputating top of fin. Long fin slice along trailing edge of LHS pectoral fin. Small wound to crease between beak and melon.
			

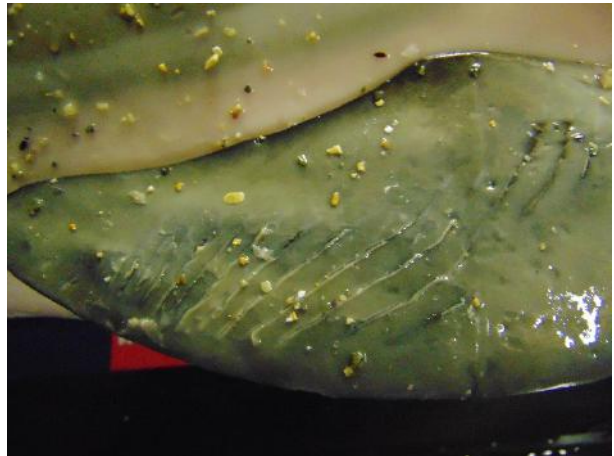
Dolphin Species C/2020/024	Perprean Cove, Coverack, The Lizard SW784780	26/01/2020	Juvenile dolphin with clean, deep cuts to both sides of tailstock. Small linear impression to RHS lower jaw. Limited photos due volunteer unable to find.
			

### 3.1.4 Other Cetacean Stranding Cases

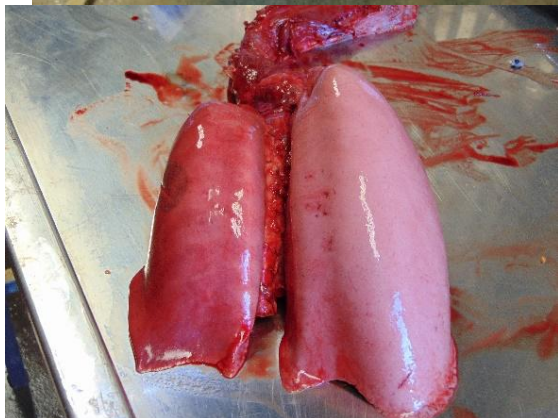
<p>Harbour porpoise C/2020/006 EX/C02/20</p>	<p>Step Beach, Marazion</p>	<p>05/01/2020</p>	<p>This adult female harbour porpoise was in suboptimal body condition but had fed recently. The multiple rake marks with consistent spacing on the body, dorsal fin and flukes and the extensive musculoskeletal, thoracic, and abdominal trauma are, in my opinion, consistent with bottlenose dolphin attack as the cause of death in this animal. Significant subcutaneous haemorrhage seen under dorsal blubber. The porpoise was also significantly parasitized, particularly in the fundic and pyloric stomachs, and this may well have contributed to the animal's suboptimal nutritional state.</p> <p><b>Conclusion – bottlenose dolphin attack</b></p>
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<p>Common Dolphin C/2020/108 EX/C14/20 SW2020/455</p>	<p>Holywell Bay, Newquay</p>	<p>27/07/2020</p>	<p>This female common dolphin calf was a neonate, with a remnant of the umbilicus and vibrissae still present. There was no evidence of suckling, the calf was in negative energy balance. There was also evidence of recent, potentially aggressive interaction with con specifics, with extensive fresh, bleeding rake marks over the calf's body. This combination of factors may well have been sufficient for the calf to live strand and die. 'Patent ductus arteriosus and neonatal jaundice also present (incidental findings). <b>Conclusion - starvation, neonate, and suspect aggressive conspecific interaction</b></p>
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<p>Common Dolphin C/2020/121 EX/C21/20 SW2020/501</p>	<p>Gunwalloe Fishing Cove, The Lizard</p>	<p>14/08/2020</p>	<p>This young pre-weaned male dolphin calf was in good body condition and had recently suckled. The cause of death was due to a head on impact, causing severe trauma to the rostrum and intracranial haemorrhage. This may have been active, i.e. the calf actively swimming into a hard object, or passive, due to the calf being hit by a hard object (e.g. a boat or wave ski). The asymmetry of the lungs suggested the calf may well have live stranded before dying. <b>Conclusion - physical trauma (head), possible boat strike, suspect live stranded</b></p>
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<p>Common Dolphin C/2020/146 EX/C25/20 SW2020/630</p>	<p>Sandymouth, Bude</p>	<p>26/09/2020</p>	<p>This calf would appear to have died as a consequence of recent severe trauma to the rostrum. Although no external lesions conclusively consistent with bycatch were seen, the presence of emphysema in the kidney capsule on histopathology does raise the possibility that trauma occurred at depth and therefore bycatch cannot be ruled out. However, the animal was clearly in a debilitated, malnourished state prior to this traumatic event, with evidence of aberrant feeding (two stones, two small pieces of plastic bag/sheets and one fragment of hard black plastic in lumen and no milk present) and fatty change in the liver, and this may have increased its susceptibility to trauma. In the absence of any disease process to explain its poor condition, maternal separation and mismothering are potential causes of this calf's malnourished state. The bacterial isolates are likely to be post mortem contaminants.</p> <p><b>Conclusion - physical trauma, acute (rostrum), malnourished</b></p>
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Common Dolphin C/2020/195	Polzeath Beach, Polzeath	27/12/2020	Young male common dolphin found with extensive scavenging to throat and 2 large, scavenged wounds, one behind the dorsal fin and one to the tailstock. Tailstock broken.
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*Photo 5: Common dolphin stranded on Poldhu Beach, Helston 27<sup>th</sup> January 2020, examined and photographed by Malcolm McKenzie.*

### 3.2 Grey seals

Dead grey seal strandings have been recorded in detail on the CWT MSN database since 2000, in partnership with Seal Research Trust (SRT) Numbers of seal strandings have been increasing year on year since MSN started recording. There were 203 seal strandings reported during 2020 (Figure 7), a lower figure than 2019 (n=248), however as with cetaceans there is a question as to whether COVID-19 restrictions impacted data collection. CWT MSN continues to work closely with SRT and monitor this trend by improving data collection (using the Seal Evidence Evaluation Protocol, SEEP), assessments of age class, gender, and individual identification.

Figure 8 shows the gender of these 203 seal strandings, with 20% (n=40) males, 17% (n=34) females and 63% (n=129) of unknown gender due to either limited or no supporting photos, or because the animal was too decomposed and/or had genital scavenging.

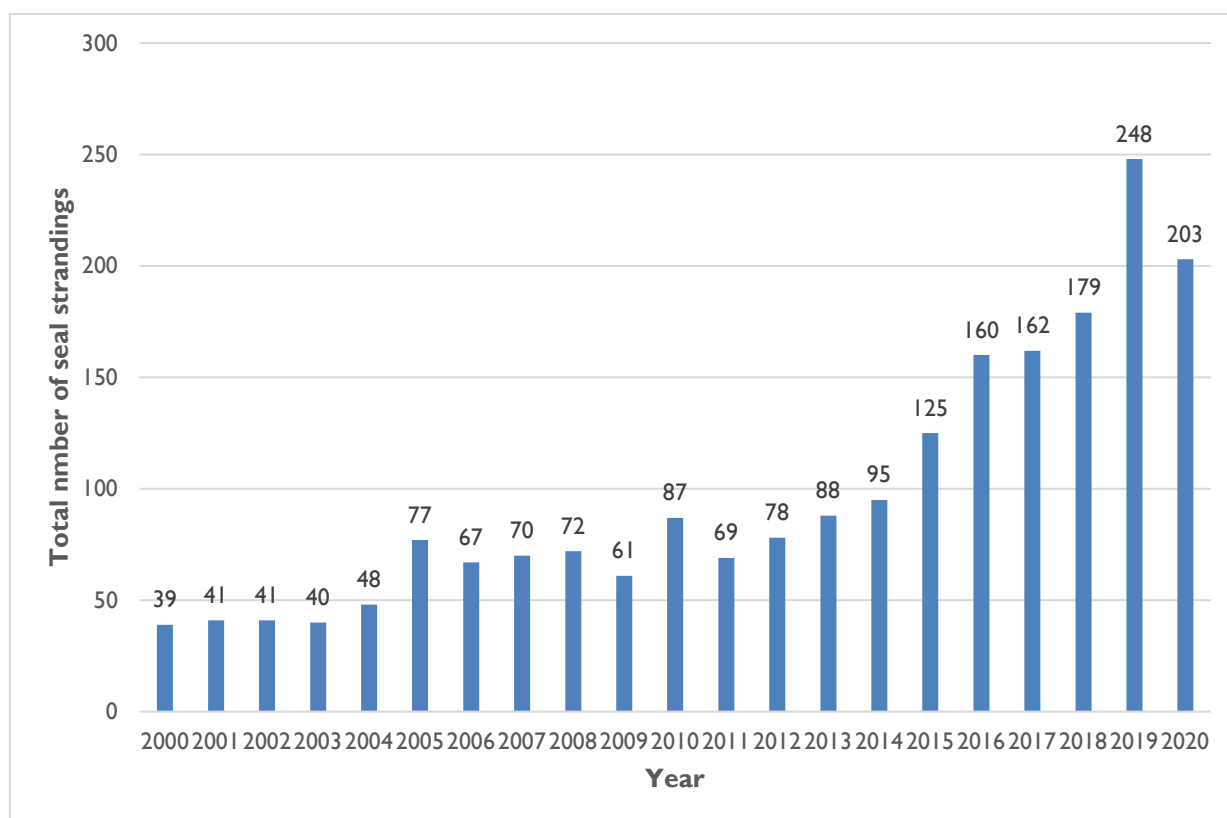


Figure 7: Comparison of grey seal strandings by year (2000 – 2020)

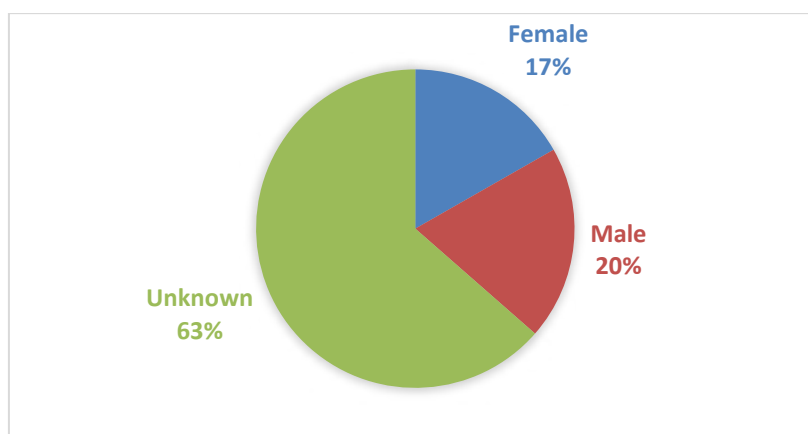


Figure 8: Grey Seal strandings gender classes (2020)

Adult	Juvenile	Pup	Whitecoat/new born	Unknown	TOTAL
34	23	81	30	35	203

Table 3: Seal Age Class for 2020

Of the 203 seal strandings, 15% (n=30) were categorised as whitecoat/new-born pups, 40% (n= 81) were categorised as moulted pups measuring less than 120cm nose to tail, 11% (n=23) were juvenile (measuring between 120cm and 160cm), 17% (n=34) were adult and 17% (n=35) were unknown due to lack of data (Table 3).

Figure 9 shows the proportion of pups (<1yr) and juvenile seal strandings compared to adult strandings during 2020, and illustrates the clear peaks in seal pup strandings during the winter months; January, February, October, November, and December. These months coincide with the main pupping season (which runs between August and December and now peaks in September) and post weaning period when weaned pups are teaching themselves to feed. Adult seal strandings showed less variation seasonally, with small peaks in August (n=7), October (n=8) and November (n=7) 2020, either end of the pupping season. Juvenile seal strandings were relatively consistent throughout the year, with an absence of juvenile strandings in April 2020 which coincides with the height of COVID lockdown restrictions.

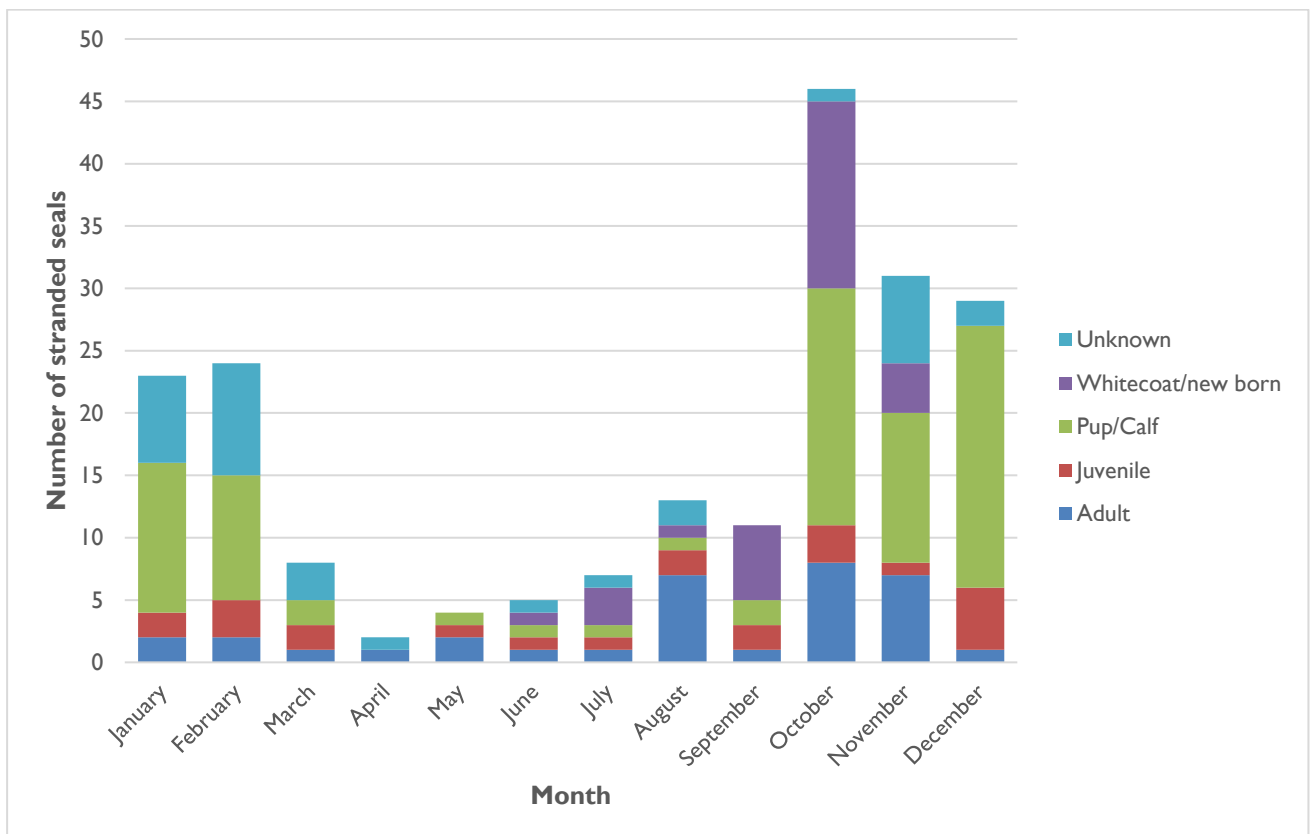


Figure 9: Age and sex of Atlantic grey seal strandings per calendar month in 2020 (n=203)

Seal strandings followed a similar seasonal pattern as in previous years, with peaks during the autumn and winter months (Figure 10). There is a significant peak in October 2020 (n=46) which is twice the average number for that month (n=22.6).

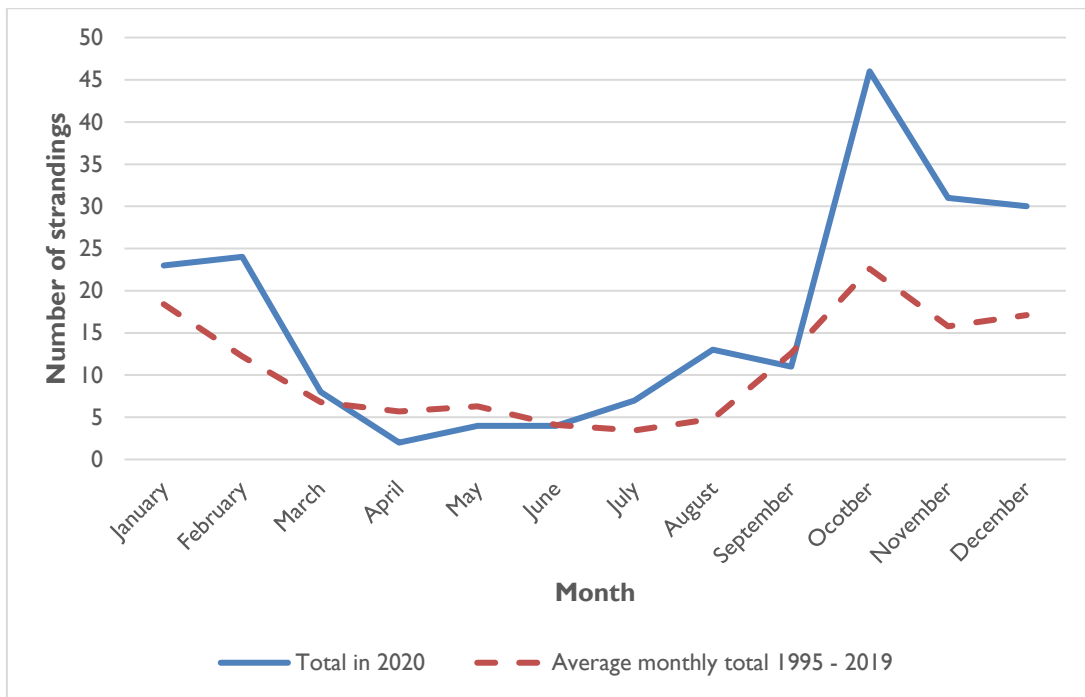


Figure 10: Atlantic grey seal strandings per calendar month in 2020 (n=203) compared to average monthly totals for 1995 – 2019

Figure 11 shows the locations of all seals strandings in 2020 and highlights the geographical spread during the year.

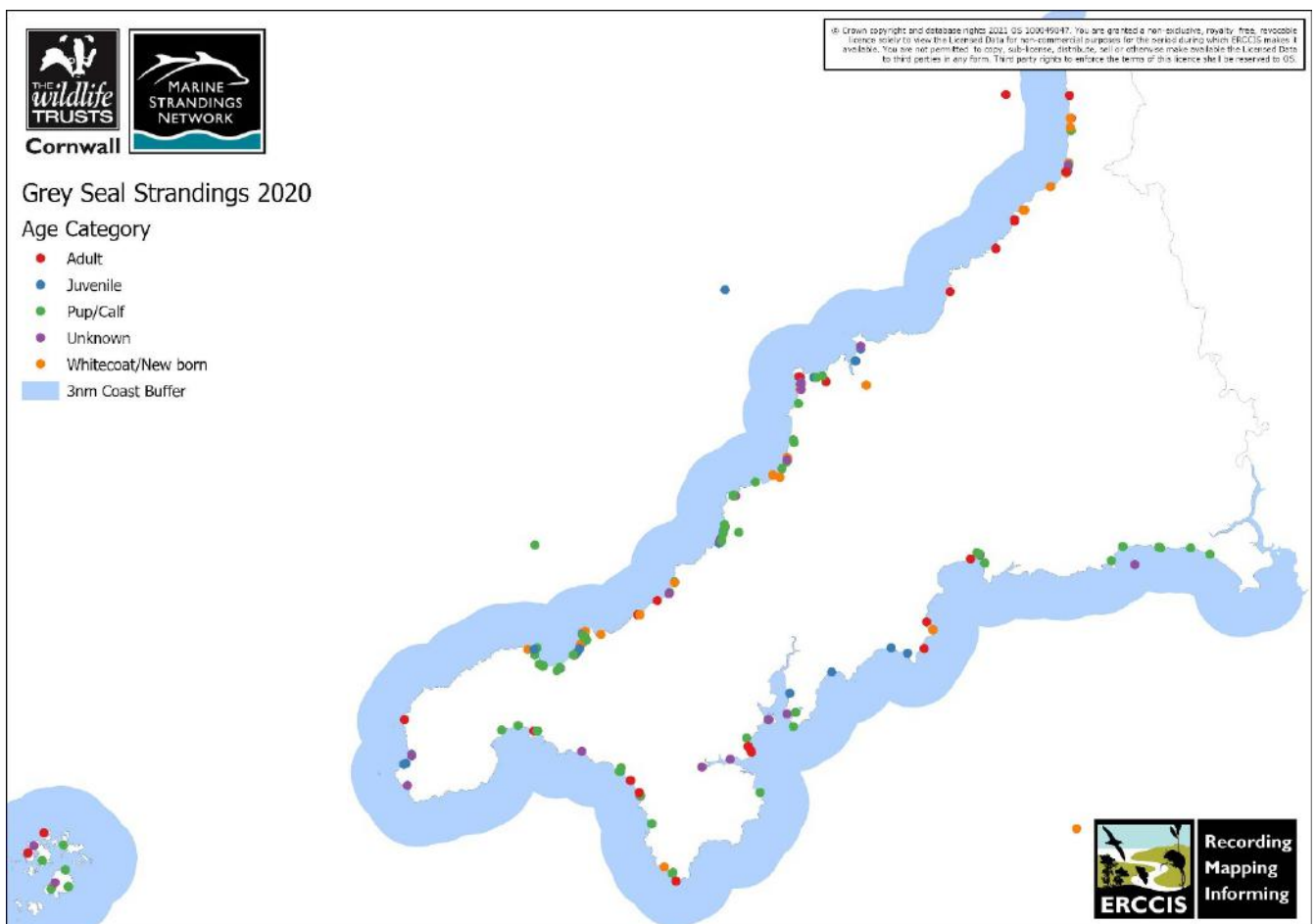


Figure 11: Locations of Atlantic grey seal strandings in 2020 (n=203)



*Photo 6: Adult male grey seal stranded on The Strangles, Crackington Haven 22<sup>nd</sup> February 2020. Photo by Rob Barratt*

Thanks to collaborative work with the Seal Research Trust (SRT) seal strandings are checked against individual identification catalogues of seals in Cornwall.

Given the challenges faced in 2020, SRT only assessed 45 dead seals for identification purposes from photos sent in by their volunteers. Two matches were made between the SRT and MSN datasets;

- An RSPCA tagged seal stranded on 27<sup>th</sup> August 2020 in West Cornwall and was identified by volunteers from the SRT as an individual known as Wide Eyes Wolf. This seal was likely to be 3 years old at his first live sighting in 2016, and therefore considered to be around six to seven years old at his death.
- Stinkweed rescued in 2009 in Devon. After a period of rehabilitation at RSPCA West Hatch followed by the Cornish Seal Sanctuary, this tagged seal was released into the wild on 2<sup>nd</sup> March 2010 in West Cornwall. Over the following years he was sighted in the waters of the Isles of Scilly (more information can be found here <https://www.sealsanctuary.co.uk/stinkweed09g.html>). The last live sighting of this male seal was the 24<sup>th</sup> August 2015 on the islands, before he was recorded dead on the 29<sup>th</sup> December 2020 at Upton Towans Hayle.

Neither seal was post mortemed and therefore cause of death is unknown. It should be noted, however, that both seals mentioned above were relatively young (thought to be six and eleven respectively) and therefore SRT are keen to investigate why Atlantic grey seals are dying at this optimal age.

Systems are in place for further seal identification work in 2021 in partnership with SRT. For more information about grey seal photo identification work in Cornwall, please contact SRT [www.cornwallsealgroup.co.uk](http://www.cornwallsealgroup.co.uk). Please email live seal records and photos to [sightings@cornwallsealgroup.co.uk](mailto:sightings@cornwallsealgroup.co.uk).

Date found	Cornwall ID	Species	Stranding location	Cause of death
02/02/2020	S/2020/034	Grey seal	Godrevy	Acute trauma (mandibular fracture)
03/02/2020	S/2020/035	Grey seal	Porthkerris	Parasitic bronchopneumonia
03/01/2020	S/2020/003	Grey seal	Carbis Bay	Not established (frozen carcass)
17/02/2020	S/2020/054	Grey seal	Falmouth	Mandibular fracture, osteomyelitis
24/02/2020	S/2020/055	Grey seal	Godrevy	Acute trauma (brain haemorrhage)
30/08/2020	S/2020/088	Grey seal	Trevone Bay	Bacterial bronchopneumonia
19/09/2020	S/2020/091	Grey seal	Kynance Cove	Bacterial meningitis
01/10/2020	S/2020/130	Grey seal	Penzance	Physical trauma - oral trauma & infection
05/10/2020	S/2020/129	Grey seal	Gwithian	Infectious - Pyothorax and pleuritis
09/10/2020	S/2020/116	Grey seal	Porthmeor, St Ives	Meningitis
15/10/2020	S/2020/152	Grey seal	Sennen Cove	Parasitic bronchopneumonia
28/10/2020	S/2020/176	Grey seal	Porthgwidden, St Ives	Oral trauma and infection
05/11/2020	S/2020/175	Grey seal	Fistral, Newquay	Oral trauma and infection
11/12/2020	S/2020/201	Grey seal	Pollurian, Lizard	Arthritis, tenosynovitis, and osteomyelitis
19/12/2020	S/2020/195	Grey seal	Par Sands	Bycatch (inferred)
25/12/2020	S/2020/198	Grey seal	Godrevy	Intracranial haemorrhage
28/12/2020	S/2020/207	Grey seal	Hayle	Starvation/ hypothermia
29/12/2020	S/2020/208	Grey seal	Carbis Bay	Parasitic bronchopneumonia

Table 4: Seal post mortem examination findings 2020

### 3.2.1 Seal post mortem examinations

Seals that were found dead on the beach, as well as those which were euthanased or died at the beach or within a 7-day window after being rescued, were considered for post mortem examination and inclusion in this report. This is due to it being 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.

18 of the 203 seals reported were retrieved for *post mortem* examination in 2020, representing 9% of seal strandings. *Post mortem* examination was carried out by veterinary pathologist James Barnett.

Of those examined at *post mortem*, trauma and infection were the leading causes of death, each accounting for 50% (n=9) and 39% (n=7) respectively. One seal's cause of death was identified as bycatch (6%). The cause of death in one seal (6%) could not be identified.

A summary of the *post mortem* examinations results are outlined in Table 4.

Some detailed examples of *post mortem* assessed seal strandings are found on the following pages of this report.

Atlantic Grey Seal  
S/2020/034  
EX/S03/20  
SS2020/55

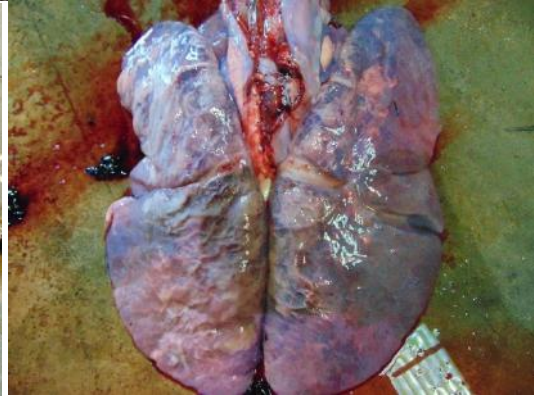
Godrevy,  
St Ives

02/02/2020

This male grey seal pup was euthanised after rescue because of the nature of the injury to the lower jaw. This was clearly the right course of action, the cranial mandible only being attached by soft tissue, and there was also evidence of infection. In addition, there was noticeable wear to a number of rostral teeth, with exposure of the pulpy cavity in some. One possibility is that an object became wedged in the pup's mouth, leading to excessive tooth wear and ultimately mandibular fracture. The excessive wear of the claws and deep fresh abrasions to the edges of the webbing of the fore flippers are also consistent with the pup scrabbling on or at a hard surface and one could speculate that these injuries occurred as the pup attempted to free itself. In addition to the traumatic injuries reported, the pup had a heavy burden of lungworm and gross evidence of associated bronchopneumonia.  
**Conclusion – Physical Trauma Mandibular fracture**

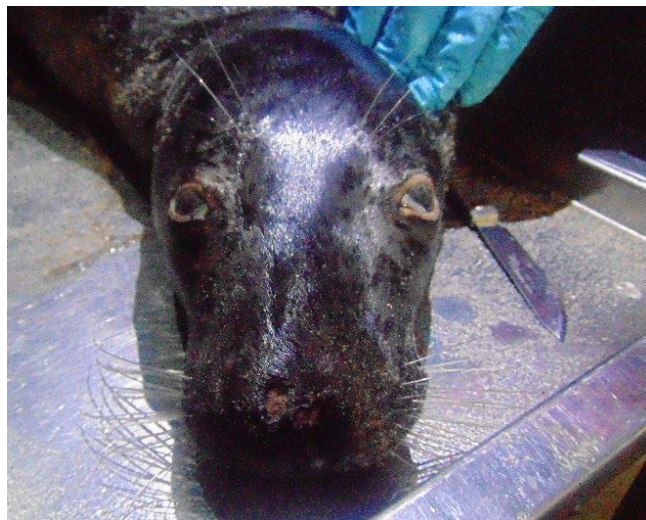


<p>Atlantic Grey Seal S/2020/088 EX/S09/20 SS2020/290</p>	<p>Porthmisson Beach, Trevone Bay</p>	<p>30/08/2020</p>	<p>This adult male grey seal was in suboptimal body condition and had not fed very recently, although scanty faeces were present in the rectum. Judging by the state of the teeth, the animal was old and apprehending prey may have been difficult. Gross and histopathological findings were consistent with bacterial bronchopneumonia.</p> <p><b>Conclusion – Bacterial bronchopneumonia</b></p>
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<p>Atlantic Grey Seal S/2020/195 EX/S18/20 SS2020/598</p>	<p>Par Beach, St Austell</p>	<p>19/12/2020</p>	<p>This female grey seal pup was in suboptimal body condition but there was clear evidence of recent feeding. Unfortunately, autolysis reduced the value of particularly internal examination of the carcass and the observed intestinal rupture and leaking of intestinal contents into the peritoneal cavity was highly likely to have occurred secondary to autolysis. Histopathology and bacteriology also were not considered appropriate due to the degree of autolysis present.</p> <p>Despite these limitations, there were a number of gross findings that were suspicious of bycatch, including the localised trauma to the muzzle and nasal planum, faint near linear indentation in the pelage of the lower jaw, intense pulmonary congestion and distended caudal vena cava and renal veins. In addition, the clearly demarcated skin loss around both eyes was suggestive of traumatic injury, potentially made by rubbing against monofilament netting for example.</p> <p><b>Conclusion – Bycatch (inferred)</b></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 used for cetaceans. 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 they are in cetacean species.

During 2020, 87 seals were assessed using SEEP methods. The majority of these (68%, n=60) had no features of note, 21 (24%) were inconclusive, and four had features associated with trauma.

SEEP conclusion	Total number of animals	% of SEEP assessed cases
Inconclusive	21	24
Entanglement - Ring neck	2	2
No features	60	68
Possible head trauma.	1	1
Other trauma	2	3
Trauma - during childbirth	1	2
<b>TOTAL</b>	<b>87</b>	<b>100%</b>

Table 5: a summary of SEEP conclusions from seal cases assessed in 2020



Photo 7: Atlantic grey seal 7<sup>th</sup> January 2020, Godrevy, St Ives. Record and photo by Josh Symes & Josh Howells

### 3.2.3 Notable Seal Stranding Cases

Atlantic Grey Seal S/2020/086	Godrevy	27/08/2020	Identified as 'Wide Eyes Wolf' by Sue Sayer of the Seal Research Trust. No other info as seal in an inaccessible area.
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LP306 RSPCA taggie  
Wide eyes wolf



Atlantic Grey Seal S/2020/067	Porth Beach, Newquay	19/06/2020	First dead stranded whitecoat pup of the year.
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Atlantic Grey Seal S/2020/082	Sennen Cove, Sennen	27/08/2020	This seal was recorded by Mick Dawton. He noted and photographed a parasitic worm on the tongue.
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Atlantic Grey Seal S/2020/094	Hayle Beach, St Ives	28/09/2020	Female adult seal – probably died during childbirth as the pup was fully formed. Advanced decomposition has enabled the pup to appear out of a scavenged hole.
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Atlantic Grey Seal S/2020/302	Portmellon	22/11/2020	Stillborn pup – birth sac still attached to pup.
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Atlantic Grey Seal S/2020/191	Polurrian Cove, Mullion	14/12/2020	Male juvenile found on Polurrian Cove and photographed by a member of public. Of notice is the green paint on it that was applied by British Divers Marine Life Rescue when it was a live check/relocate. Sadly, it must have died shortly after. BDMLR had multiple animals they relocated in this area at this time so are unable to identify this animal without a better image of the marking, which we don't have.
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Atlantic Grey Seal S/2020/199	Upton Towans, Hayle	28/12/2020	Male adult seal found in a state of decomposition with an RSPCA West Hatch tag 80000, identified as 'Stinkweed' by Paul Oaten and CSGRT.
			



Photo 8: Male adult grey seal at Perranporth Beach, 26<sup>th</sup> June 2020. Photo by Em Gallagher

### 3.3 Marine Turtles

2020 was a quiet year for stranded marine turtles, with only two leatherback turtles reported to CWT MSN. One leatherback turtle was found in September in Falmouth and the other one in October on Bryher, Isles of Scilly.



Photo 9: Leatherback turtle stranded on Bryher, Isles of Scilly 23<sup>rd</sup> October 2020. Photo by Hillside Farm

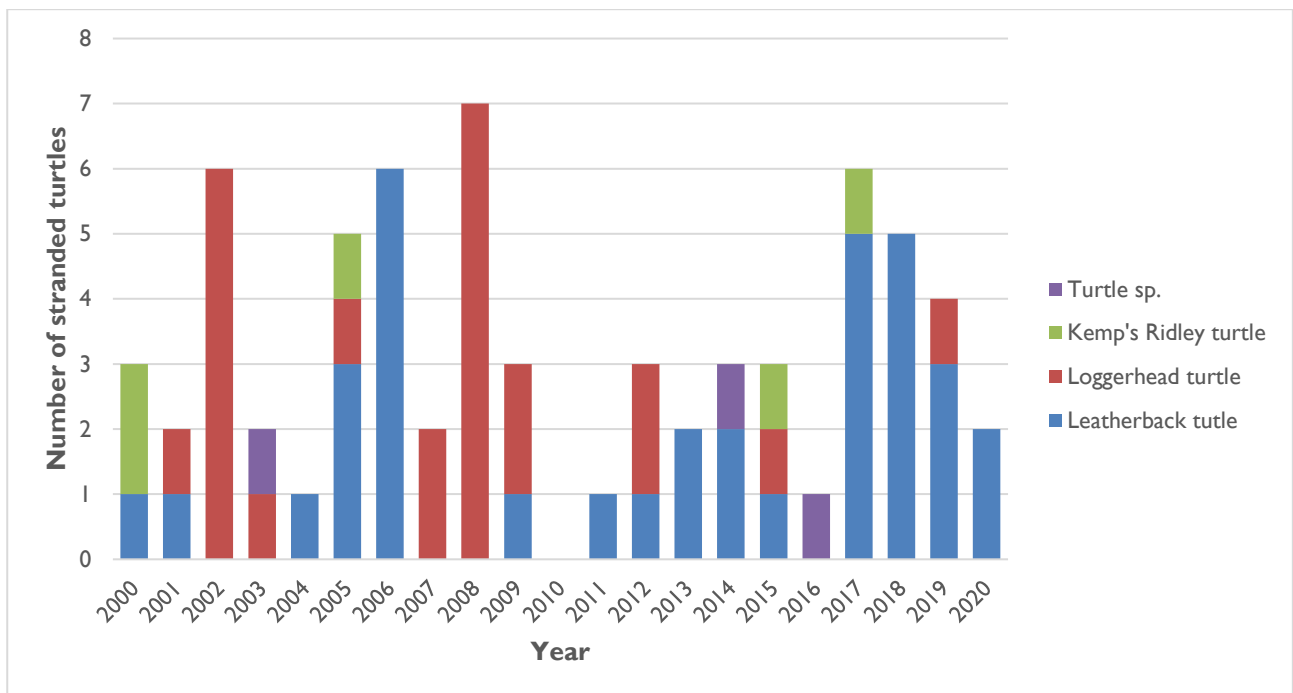


Figure 12: Marine turtle strandings 2000 – 2020

### 3.4 Birds

CWT MSN continues to monitor bird strandings reported to us, and to work in collaboration with partner organisations such as the RSPB and BDMLR to ensure quick reactions in response to any major incidents, such as storm wrecks or as a result of pollution. CWT MSN received 71 reports of dead seabirds, involving 79 individual birds around the Cornish coast (Table 6). We emphasise that bird strandings are vastly under reported and therefore this is a gross underestimate of the true scale of bird strandings.

Species	Number of Reports	Estimated Number of Animals
Arctic skua	1	1
Bird species	1	1
Black throated diver	2	2
Cormorant	2	2
Cormorant/shag	2	2
Eurasian curlew	1	1
Fulmar	2	2
Gannet	32	37
Great black-backed gull	3	3
Guillemot	9	12
Herring gull	6	6
Manx shearwater	2	2
Puffin	1	1
Razorbill	2	2
Red-throated diver	1	1
Shag	3	3
Sooty shearwater	1	1
<b>TOTAL</b>	<b>71</b>	<b>79</b>




Table 6: Total numbers of each sea bird species reported to CWT MSN in 2020

There were 3 cases of bird entanglement reported to CWT MSN during 2020, consisting of one gannet, one herring gull and one guillemot (case studies on page 33)



Photo 10: Arctic skua 25<sup>th</sup> November 2020, Carlyon Bay Beach. Photo by Vicki Hall



<p>Herring Gull DBID14777</p>	<p>Hayle Harbour, Hayle</p>	<p>07/02/2020</p>	<p>Entangled in multihooked fishing lure.</p>
			
<p>Gannet DBID14944</p>	<p>Bude Harbour, Bude</p>	<p>06/07/2020</p>	<p>Entangled in blue fishing net around neck.</p>
			
<p>Guillemot DBID15221</p>	<p>Polzeath Beach, Polzeath</p>	<p>18/11/2020</p>	<p>Fishing hook embedded in wing.</p>
			

### 3.5 Sharks



Photo 11: Nursehound 8<sup>th</sup> June 2020, Hayle Estuary. Photo by a member of public.

There were 14 reports of stranded sharks reported to the CWT MSN in Cornwall in 2020, consisting of 5 different known species (Table 7).

Species	Number of Reports	Estimated Number of Animals
Basking shark	1	1
Blue shark	1	1
Nursehound	3	3
Porbeagle	2	2
Shark species	3	20+
Small-spotted catshark	4	20+
<b>TOTAL</b>	<b>14</b>	<b>47+</b>

Table 7: Total numbers of shark and ray (elasmobranch) species reported to CWT MSN in 2020

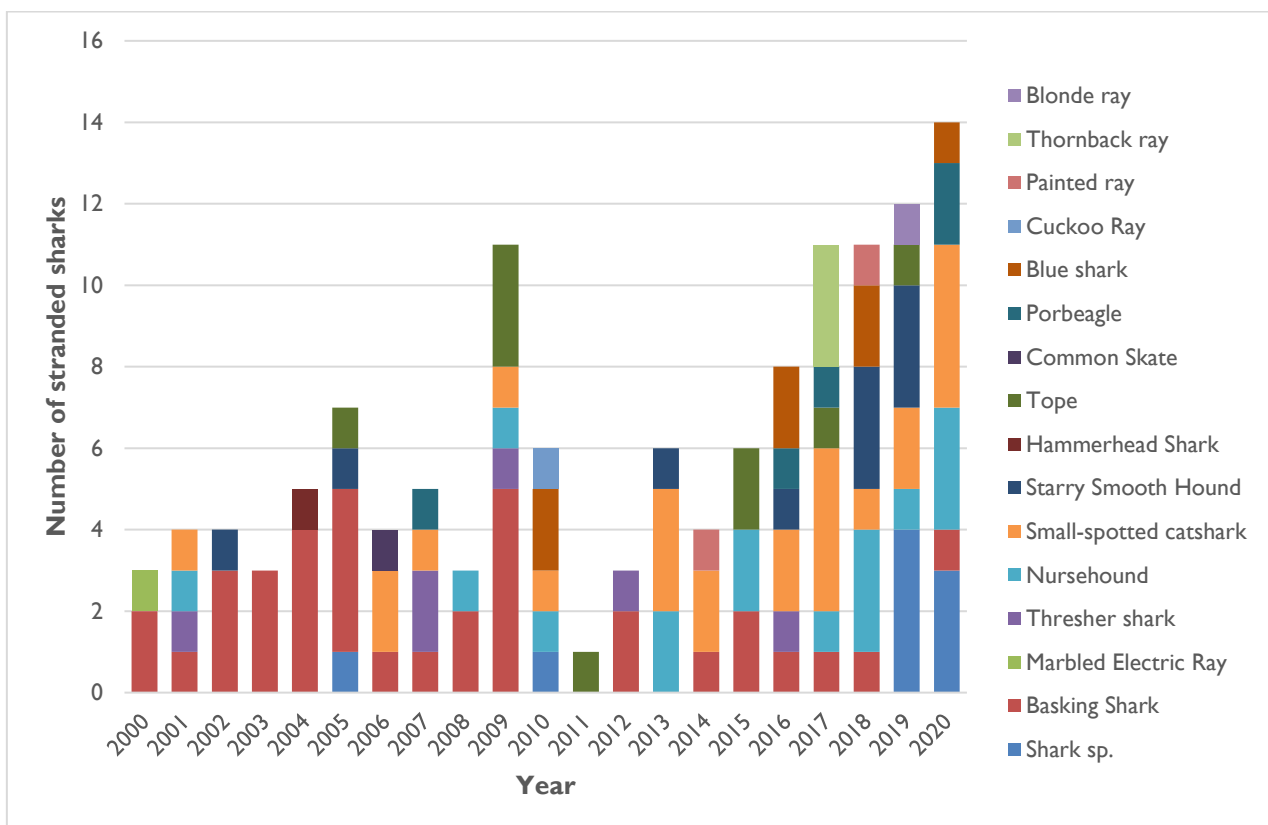


Figure 13: Elasmobranch (shark and ray) strandings 2000 – 2020

Basking Shark  
DBID I5269  
EX/SHI/20

Porthoustock,  
The Lizard

26/11/2020

Although a complete post mortem examination of this shark could not be conducted, there is enough evidence here from the gross and histopathology to suggest that this animal live stranded and that it most likely had an underlying septicaemia. It is highly probable that the isolation of *Pseudomonas fluorescens* from the skin and, in pure growth, from the cerebrospinal fluid, is of significance and consistent with septicaemia. *P. fluorescens* is a ubiquitous organism in the aquatic environment and a known opportunistic pathogen of fish. The lack of any associated brain pathology suggests that this was a terminal septicaemia that occurred before any histopathological changes could occur in the brain.

**Conclusion – generalised bacterial infection  
(*Pseudomonas fluorescens*)**



### 3.6 Other strandings

There were 189 reports of strandings of other species groups, comprising 25 different species and involving thousands of individual animals. As with birds, these species are highly under reported in Cornwall, so these numbers are a significant underestimate of the true scale of these species washing up around Cornwall.

Species	Number of reports	Estimated Number of Animals
<b>Cephalopods</b>		
Octopus sp.	1	1
Cuttlefish	1	1
<b>Crustaceans</b>		
Buoy barnacle	2	1000+
Goose-neck barnacle	2	1000+
Masked crab	1	50+
<b>Echinoderms</b>		
Spiny starfish	1	1
<b>Fish</b>		
Atlantic cod	1	1
Atlantic herring	1	25+
Boar-fish or Zulu	1	1
Conger Eel	12	12
Garfish	1	1
Grey Mullet	1	1
Grey triggerfish	6	6
Horse mackerel	1	100+
Sardine	1	1000+
Seabass	2	100+
unidentified	3	1000+
<b>Hydrozoa</b>		
By-the-Wind Sailor	14	500+
Portuguese Man-of-War	122	1000+
Barrel Jellyfish	2	2
Blue Jellyfish	1	20+
Compass Jellyfish	1	2
Crystal Jellyfish	1	5
Moon Jellyfish	9	10000+
<b>Tunicate</b>		
Salp	1	1000+
<b>TOTAL</b>	<b>189</b>	

Table 8: Other stranded species reported to CWT MSN in 2020 \* numbers of individuals are estimates for some species (indicated with '+')

## 4. Events and the Impact of COVID-19

In March 2020, the UK went into lockdown following the outbreak of a new strain of coronavirus (COVID-19). The lockdown and further restrictions, which continued throughout the remaining year, brought disruption to MSN and its activity particularly its face-to-face outreach and engagement work. As a result, MSN did not carry out a volunteer training day, nor did it coordinate our annual MSN Forum much to the disappointment of our team, volunteers, and supporters.

MSN did, however, continue to support its volunteers with regular online meetings and newsletters, plus coordinated an online MSN Evening on the 24<sup>th</sup> September 2020. This event was virtually attended by over 60 people who listened to summary talks on MSN findings, post mortem research, and national activity from the Cetacean Strandings Investigation Programme.

In addition to engagement and outreach, consideration must be taken on how COVID -19 and the restrictions it brought affected the ability of the Project to collect data. For instance, only very low numbers of reports of stranded cetaceans and seals were received during the months of April to June, the peak of lockdown, when only volunteers fortunate to live by the beach were able to send in their records as part of their daily exercise. Post mortem examinations were also put on hold during the height of restrictions because of volunteers being unable to attend strandings and transport animals, and the inability for volunteers to attend and assist with post mortem examinations.

Throughout 2020, the MSN team reviewed government guidance and issued updates and advice notes to its volunteers periodically. By June 2021, active lone working fieldwork where social distancing rules could be adhered to was allowed and MSN records started to increase once again.

We want to thank our volunteers who remain active within the Project after such a difficult year. Their commitment to continue resulted in data successfully being collected during the remaining months of 2020 post lockdown, enabling us to create this report and compile essential evidence on our cetacean and seal populations for future conservation work.



*Photo 12: Common dolphin 9<sup>th</sup> February 2020, Par Beach, St Austell. Oliver Thomas recording, photo by Kayleigh Jones. This animal was taken for post mortem examination and found to be a victim of bycatch.*

## 5. Acknowledgements

We would like to acknowledge the help of the general public in sending in their reports, and the following partners for their support;

- CWT Marine Strandings Network volunteers, who continue to enthusiastically collect vital data and retrieve carcasses, often under difficult and challenging conditions.
- Dedicated Hotline Coordinators (2020): Joyce Edmonds, Liz Clarke, Meg Hayward-Smith, Gill Peters, Anthea Hawtrey-Collier, Nigel Boddington, Paul Wraight, Emma Holland, Richard Weeks, Kate Bailey, Alyson Devonshire, and Lauren Oliver-Friendship.
- Anthea Hawtrey-Collier, Niki Clear, Josh Baum, and Helen Chadwick from the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) for all their hard work on collating, assessing, and entering records into the database.
- James Barnett, veterinary pathologist and advisor to the CWT MSN.
- Rob Deaville, Institute of Zoology, and the team of CSIP partners including the Natural History Museum, Marine Environmental Monitoring Wales, and the Scottish Marine Animal Scheme (SMASS).
- University of Exeter, Cornwall campus, for collaboration on post mortem examinations in 2020.
- Sue Sayer and Katie Bellman for seal ID, and the support of Seal Research Trust team and volunteers.
- Dan Jarvis and all Marine Mammal Medics, BDMLR, Cornwall.
- Dr Nick Tregenza, cetacean expert and advisor to Cornwall Wildlife Trust and the MSN.
- Isles of Scilly Wildlife Trust and the island strandings volunteers.
- Cornwall County Council and Biffa officers and beach management teams for their assistance.
- Brendan Godley, Annette Broderick and Matthew Witt from Exeter Marine and Marine Turtle Research Group.
- Chelonia Limited.
- The National Trust Rangers.





## Appendix I

# 2020

## Cetacean Bycatch Report



*Appendix Photo 1: 9<sup>th</sup> January 2020 East Looe, Photo by Looe Harbour Master*

### Introduction

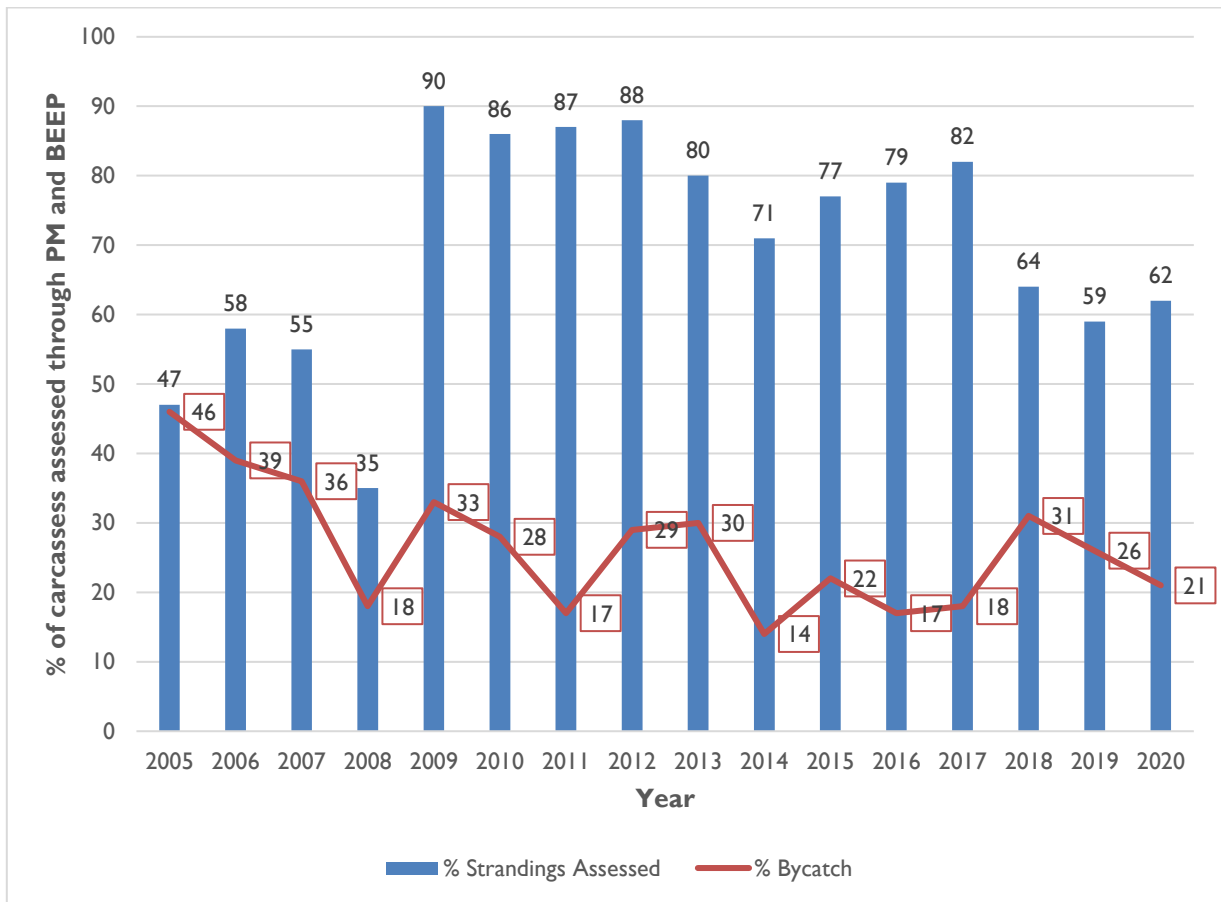
The Cornwall Wildlife Trust Marine Strandings Network (CWT MSN) has been collecting valuable data on stranded marine life around Cornwall for over 20 years and holds over 10,000 records. The Network is an invaluable tool to monitor the impact of bycatch on cetacean species within the region. To that end, cetacean species reported to CWT MSN undergo rigorous examinations to identify and record signature features identified as being caused during a bycatch event.

### Bycatch Analysis, comparison with previous years

For a comparison over year, we limit the analysis to common dolphin and harbour porpoise as these are the two most commonly recorded cetacean species in Cornwall. We have only included cases which have been assessed through post mortem examination or BEEP.

Since 2005 the proportion of assessed common dolphin and harbour porpoise strandings which were concluded to be bycatch or probable bycatch has been an average of 27%, and ranges between 14% and 46% (*Appendix Figure 1*). Please note that figures for previous years, 2005 - 2019, may vary slightly from past reports due to a new, more reliable database being introduced at the time of writing this report (Autumn 2021).

There is a decline in the percentage of bycaught or probably bycaught animals in 2020, with a figure of 21% compared with 26% in 2019 and 31% in 2018. Although a promising small scale trend, which requires close monitoring in future reports, a 20% figure is still unacceptably high for these vulnerable and protected species.



Appendix Figure 1: The percentage of bycaught and probable bycaught common dolphin and harbour porpoise (red line) against the percentage of common dolphin and porpoise carcasses which were assessed through post mortem examination or BEEP assessment (blue bar) from 2005 to 2020.

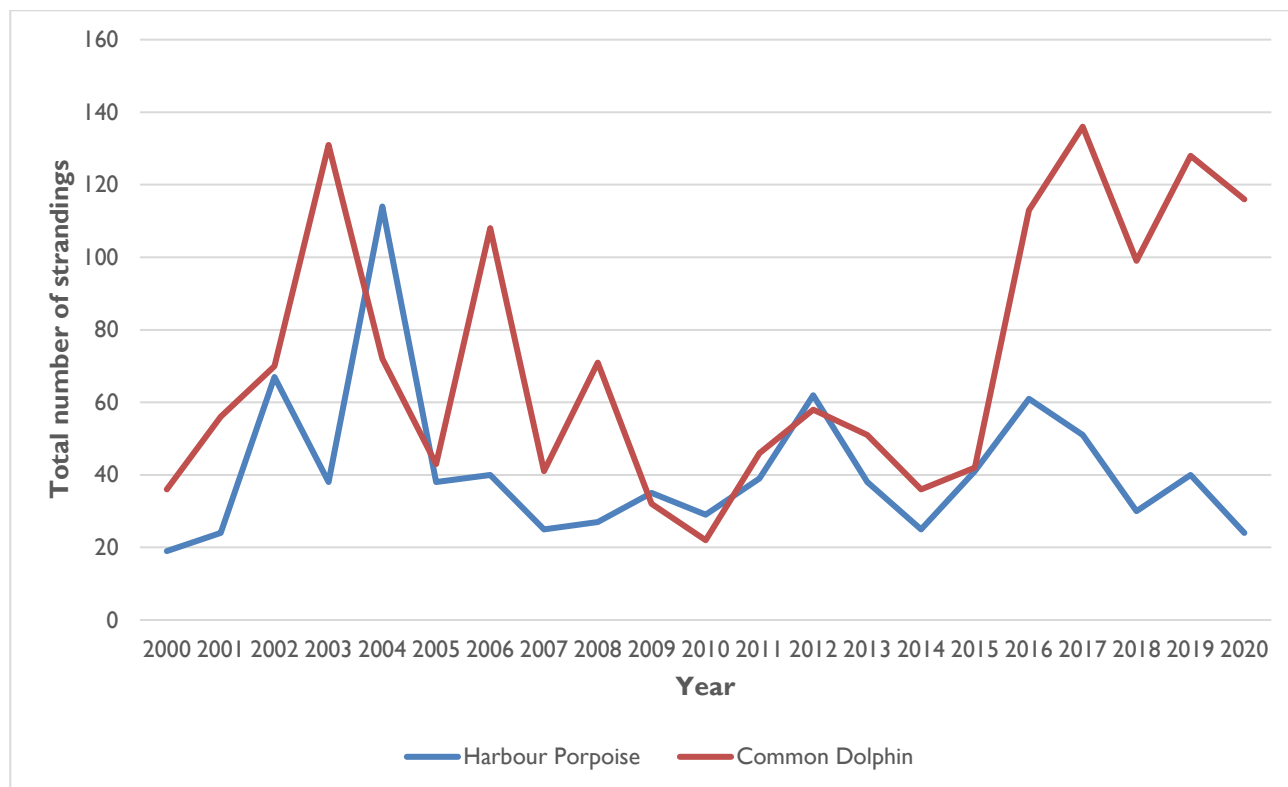


Appendix Photo 2: Common dolphin 14<sup>th</sup> August 2020, Mawgan Porth, Newquay. This animal was collected for post mortem examination with a lot of help from a team of volunteers under the experienced eye of Mick Dawton. This animal was a victim of bycatch.



## Bycatch analysis, 2020

Common dolphins and harbour porpoises are the most commonly reported cetacean species to MSN and are therefore represented in *Appendix Figure 2* to identify trends in species and stranding totals. 2020 was again a notable year for high numbers of short beaked common dolphin strandings in Cornwall and the Isles of Scilly, with 116 of the 202 cetacean carcasses strandings over the year (*Appendix Figure 2*).



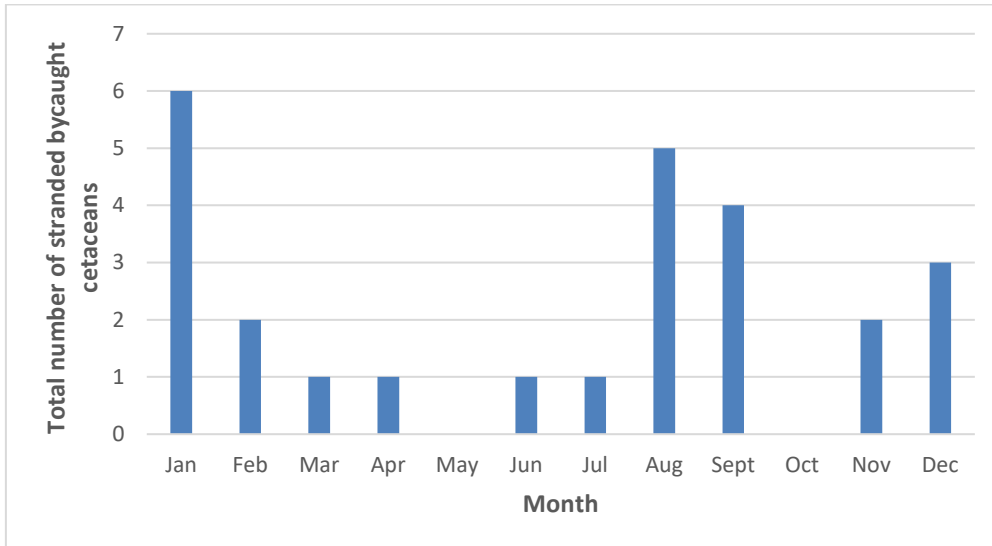
*Appendix Figure 2: numbers of common dolphin and harbour porpoise strandings form 2000 - 2020*

Species	Total Number of Strandings	Number of Carcasses Assessed	Bycatch Cases (PME and BEEP)	% of bycatch
Bottlenose Dolphin	1	1	0	0%
Cetacean	12	0	0	0%
Common Dolphin	116	93	23	25%
Cuvier's Beaked Whale	1	1	0	0%
Dolphin species	40	10	2	20%
Fin Whale	1	1	0	0%
Harbour Porpoise	24	15	0	0%
Minke Whale	2	2	0	0%
Pilot Whale	1	0	0	0%
Risso's Dolphin	3	3	1	30%
Whale species	1	0	0	0%
<b>TOTAL</b>	<b>202</b>	<b>126</b>	<b>26</b>	<b>21%</b>

*Appendix Table 1: Bycatch as a of causes of death from post mortem and BEEP assessments from cetacean cases assessed in 2020*

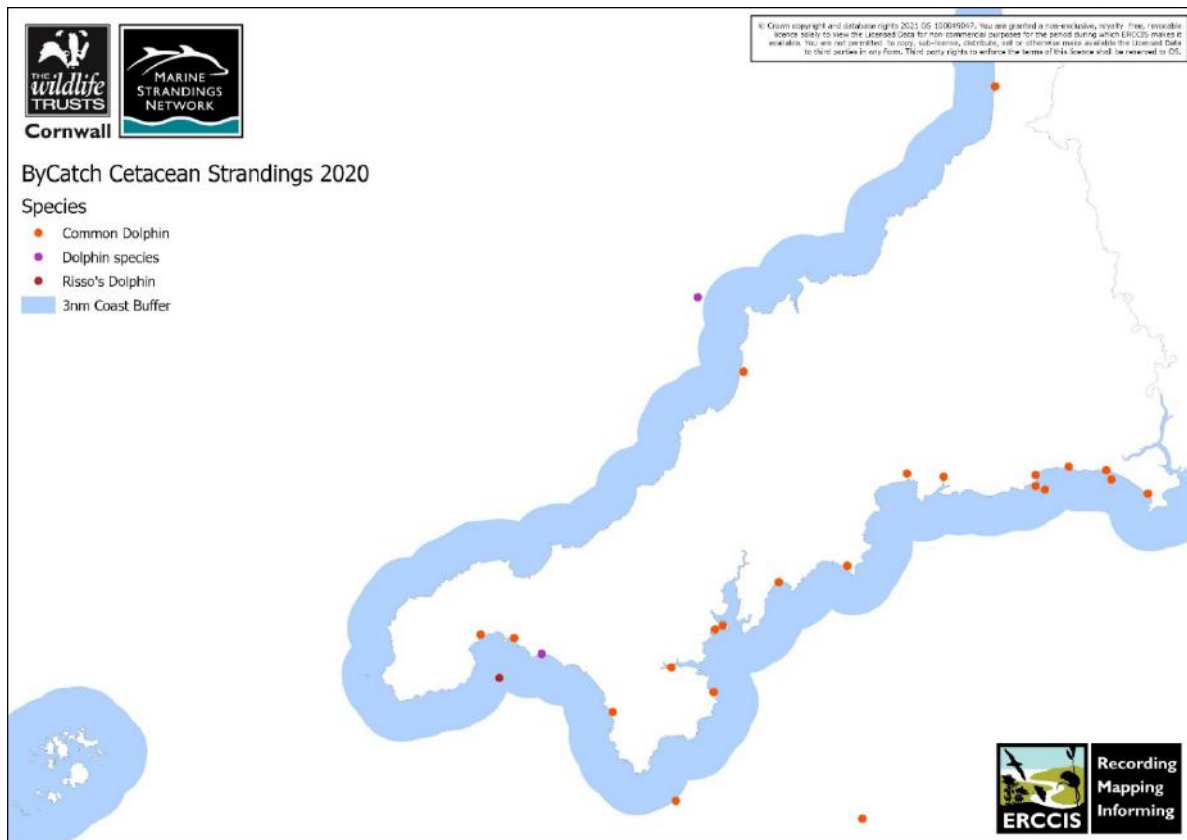
Through both post mortem examinations and BEEP assessments 21% (n=26) of assessed cetacean strandings were determined to be bycatch or probable bycatch (*Appendix Table 1*). The majority of these were common dolphin (n=23), and the remaining cases involved one Risso’s dolphin and 2 unknown dolphin species.

Bycatch cases demonstrated a slight peak in the months of January, August, and September 2020 (*Appendix Figure 3*).



*Appendix Figure 3: Number of stranded bycaught cetaceans per month in 2020*

The geographical spread of cetacean bycatch cases through 2020 shows that there were a higher portion of bycaught cetaceans along the south coast of Cornwall (*Appendix Map 1*).



*Appendix Map 1: The location of 2020 stranded cetaceans with bycatch features; bright red indicates common dolphin, purple dolphin species, and dark red Risso’s dolphin (in Mounts Bay).*

## Post Mortem Examinations

Of the 202 cetacean carcasses that stranded during 2020, 16% (n=33) 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 performed by James Barnett, the veterinary pathologist for the Marine Strandings Network both at the University of Exeter Penryn campus and other locations, assisted by trained volunteers.

Post mortem examinations (PME) concluded that accidental entanglement in fishing gear, known as bycatch, was the cause of death for 10 (30%) of the cetaceans examined, all of which were common dolphin (*Table 1, page 10 of main report*). Of note, live stranding was the reported cause of death for a further three cases, and bottlenose dolphin attack accounted for three cases. In three cases the cause of death could not be established.

### 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 before being used for any analysis. CWT 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 169 cetaceans which were not retrieved for post mortem examination, 76 cases were reported to MSN but either a volunteer was not able to attend for a wide range of reasons or we had insufficient data to assess the animal through BEEP. Therefore, these cases have not been included in the BEEP and bycatch analysis for this report.



93 (46% of the 202 total) cetacean strandings were examined and recorded *in situ* by MSN volunteers using the BEEP protocol, and photos examined in detail by experienced BEEP assessors within the Environmental Records Centre for Cornwall and Isles of Scilly (ERCCIS). It was found that 17% of the 93 (n=16) showed features consistent with definite or probable 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. A further 9 of the 93 total (n=10%) cases showed possible signs of bycatch. 22% (n=20) were cases where the BEEP assessment was inconclusive based on the data available. 2% (n=2) deaths were found to show features consistent with trauma and likely bottlenose dolphin attack.

BEEP Conclusion	Total Number of Animals	% BEEP Assessed Cases
Bycatch	11	12
Inconclusive	20	22
No features	46	49
Possible bycatch	9	10
Probable bycatch	5	5
Other trauma	2	2
<b>TOTAL</b>	<b>93</b>	<b>100%</b>

Table 2: A summary of BEEP conclusions from cetacean cases assessed *in situ* in 2020

## Summary of all animals which exhibited signs of bycatch in 2020

Blue highlights the cases which went for post mortem examination. Content in italics taken from post mortem report. 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/2020/002	Seaton, Whitsand Bay SX303543	02/01/2020	Straight edge cuts to RHS pectoral fin amputating fin. Straight edge cut to dorsal fin, amputating top of fin. Long fin slice along trailing edge of LHS pectoral fin. Small wound to crease between beak and melon.
			
Common Dolphin C/2020/005 SW2020/3	Hemmick Beach, The Roseland SW993404	04/01/2020	<i>The attachment of monofilament netting to one pectoral, the linear encircling marks and wounds over the rostrum, head, flukes and fins, the fin slices in one pectoral and both flukes and the evidence of recent feeding are consistent with bycatch as the cause of death in this animal. In addition, there is a severe, necrotic, suppurative pneumonia present, which may well explain the dolphin's suboptimal body condition. Interestingly, there is watery fluid present in one bronchus, suggesting the animal may have drowned rather than suffocated in the net; it is possible that the dolphin's compromised respiration may have precipitated this.</i>
			

Common Dolphin C/2020/009	East Looe, Looe SX257531	09/01/2020	Large fin edge slice to trailing edge LHS pectoral fin. Notches to peduncle. Linear impressions across fluke. Encircling linear impressions to RHS beak and across melon.
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Common Dolphin C/2020/013	Kenneggy Beach, Mount's Bay SW565281	12/01/2020	No torso, just the head and pectoral fins cleanly removed. Linear impressions close to amputation wound. Large scrape mark across LHS melon. Only 2 x photos received from member of public.
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Dolphin Species C/2020/024	Perprean Cove, Coverack, The Lizard SW784780	26/01/2020	Juvenile dolphin with clean, deep cuts to both sides of tailstock. Small linear impression to RHS lower jaw. Limited photos due volunteer unable to find.
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Common Dolphin C/2020/026	Poldhu, Helston SW665199	27/01/2020	Male adult with small abrasion to LHS eye. Linear impression across top of dorsal fin with associated notch to trailing edge. Thick encircling linear impressions with associated 2 x lip cuts and 1 x notch to lip - RHS upper jaw. Thick linear impressions under lower jaw. Large fin edge slice to trailing edge LHS pectoral fin. Fin edge slice to trailing edge RHS fluke.
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Common Dolphin C/2020/042	Penmarlam Boat Yard, Fowey SX128529	08/02/2020	Flukes missing. 2 x clean edged 'v' shaped notch to ventral side tailstock, 1 large, 1 small. Thick impression across upper beak. Bruising to underside lower beak.
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<p>Common Dolphin C/2020/040 SW2020/94</p>	<p>Par Beach, St Austell SX077533</p>	<p>09/02/2020</p>	<p><i>This male common dolphin is suspected to be a subadult or young adult male; the animal was in reasonable nutritive state but there was no evidence of recent feeding.</i></p> <p><i>The linear wounds on the rostrum, linear impression on the left pectoral and fin slices in the trailing edges of the flukes were consistent with bycatch as the cause of death. The width of the wounds and the mark on the rostrum and pectoral are consistent with multifilament net/rope and, coupled with the degree of skin loss and scavenging to the carcass, are most likely consistent with bycatch in a trawl. However, the location of the stranding also raises the possibility of a ring net fishery as the gear is relatively similar to that used in trawl fisheries.</i></p> <p><i>As has been seen in a number of bycatch cases now, there was clear evidence of pulmonary hypostatic congestion, which suggests the animal was not negatively buoyant at the time of death or shortly afterwards. This may have happened, for example, if the animal was in a net being hauled or was on deck at or close to the time of death. In the case of a ring fishery, it is possible that this may have occurred because the animal stranded at or close to the time of death. However, the appearance of the carcass was more suggestive of an animal that had died further offshore.</i></p> <p><i>The dolphin also had two large straight edged V-shaped notches along its dorsal midline, one at the level of the dorsal fin and one at the level of the tail stock. The first was fully healed and the second was nearly healed, with an open granulating wound present on one ventral border. The wounds would have been made by a sharp object and were most likely anthropogenic in origin. The gap between the wounds appeared too large for propeller injuries although this cannot be fully ruled out. A second possibility is that these occurred during a previous encounter with fishing gear.</i></p>
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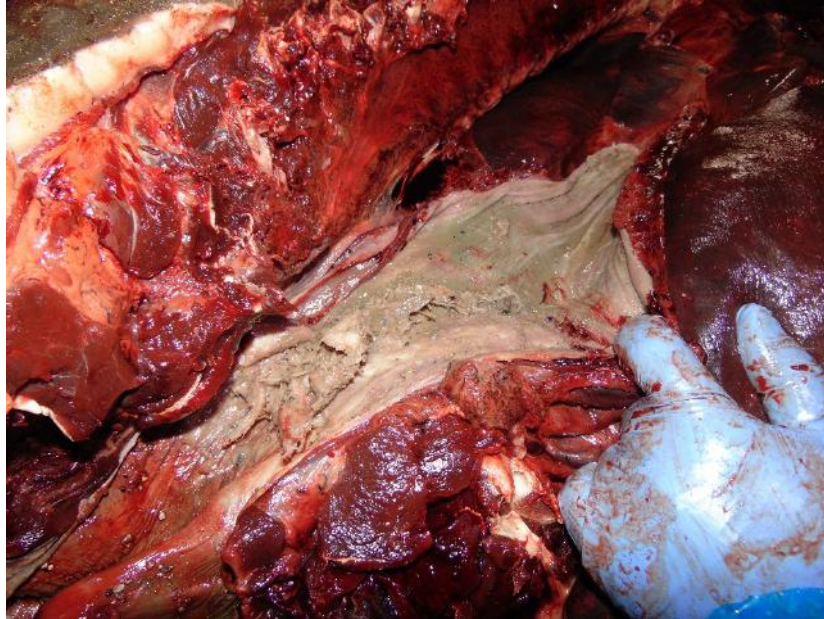


Common dolphin  
C/2020/084  
SW2020/205

Gyllyngvase Beach,  
Falmouth  
SW808315

22/03/2020

*External examination of this adult male common dolphin was limited due to extensive skin loss and scavenger damage and internal examination was limited due to autolysis. Despite this, it was clear that this animal was in good body condition and had very recently fed. Although there was no evidence of antemortem trauma associated with the attached rope and net, it had clearly been tied onto the animal and two handles fashioned into it so that it could presumably be used to drag the animal. Its presence coupled with the evidence of recent feeding was, in my opinion, very suspicious of bycatch.*





Common Dolphin C/2020/089	Porthkerris Beach, The Lizard SW806227	12/04/2020	Tail cleanly amputated.
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Common Dolphin C/2020/102	Main Beach, Looe Island SX257516	23/06/2020	Multiple notches with associated linear impressions to trailing edge RHS fluke. Fin edge slice to trailing edge flukes RHS and LHS. Linear impressions to leading edge flukes. Multiple areas of bruising to torso and under chin. 'V' shaped linear impression under leading edge LHS pectoral fin. Large fin edge slice to trailing edge RHS pectoral fin. Multiple linear impressions to ventral side of RHS pectoral fin from leading edge. 2 x crossing linear impressions across maxilla in front of melon crease with corresponding linear impression around mandible.
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<p>Common Dolphin C/2020/113</p>	<p>Vault Beach, Gorran Haven SX015049</p>	<p>31/07/2020</p>	<p>Clean edged notch to base of leading edge dorsal fin with two more smaller notches in the middle. Semi encircling linear impression to underside LHS pectoral fin with notch to trailing edge next to it. 2 x 'v' shaped notches to leading edge RHS Fluke. Multiple notches to trailing edge flukes. Linear wound to RHS leading edge fluke next to peduncle. Linear impressions to LHS upper beak. Thick linear impression running diagonally across dorsal side from RHS above pectoral fin to behind LHS dorsal fin.</p>
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Common Dolphin C/2020/115 SW2020/478	Carne Beach, The Roseland SW897381	05/08/2020	<i>This subadult male common dolphin was in reasonable body condition and had fed recently. The linear wounds and marks on the mandible, melon, fins, and flukes were consistent with bycatch as the cause of death. The carcass was very fresh, suggesting it had been bycaught in an inshore fishery, and the width and nature of the wounds was consistent with monofilament netting.</i>
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Common Dolphin C/2020/105	Boiler Beach, Whitsand Bay SX414505	06/08/2020	Flukes cleanly removed. Multiple multifilament encircling impressions to torso behind pectorals and over genitals. Partial encircling multifilament impression under chin.
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Common dolphin C/2020/120	Mawgan Porth, Newquay SW848676	14/08/2020	<p>Unfortunately, marked post mortem change including extensive skin sloughing confounded examination of this mature adult female. However, the encircling marks on the rostrum and encircling wounds on fins and particularly flukes, coupled with the evidence of very recent feeding confirmed this as a case of bycatch and Sam Andrews' photos from the beach helped to further confirm this. The areas of subcutaneous haemorrhage over the head and scapula are also likely to be due to bycatch.</p> <p>This adult female had what appeared to be a large corpus luteum on one ovary and, coupled with the inflamed, swollen vulva and albeit small amount of milk present in the mammary glands could potentially be consistent with an animal that had recently given birth.</p>
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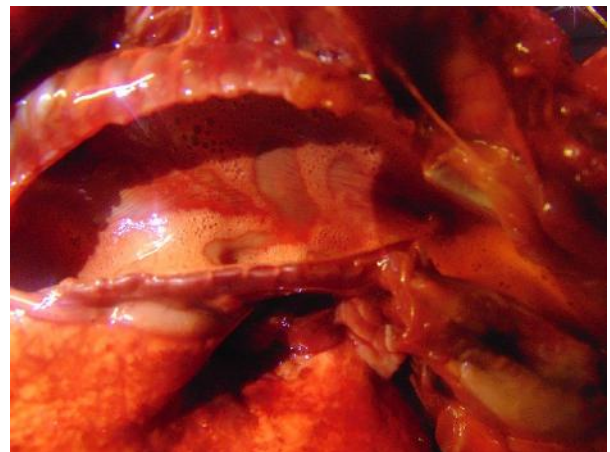
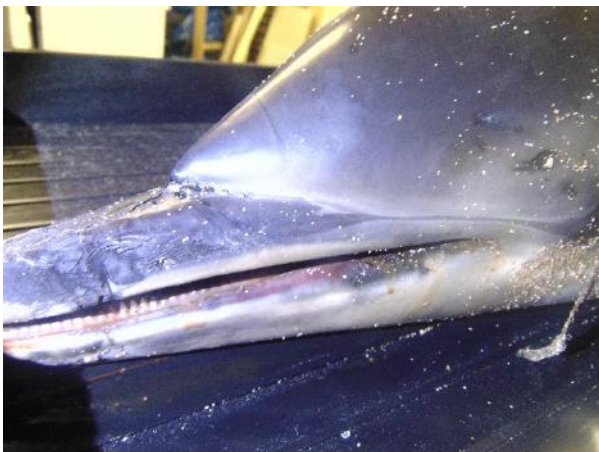
Risso's Dolphin C/2020/127	At Sea, Mount's Bay SW506247	24/08/2020	Tail amputated. Notches to leading edge RHS pectoral fin.
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Common dolphin C/2020/126	Portwrinkle, Torpoint SX356538	24/08/2020	Multiple encircling multifilament linear impressions around chin, beak and behind blowhole.
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Common dolphin C/2020/132 SW2020/604	Maer Beach, Bude SS200075	09/09/2020	<p><i>This female common dolphin calf was in reasonable body condition and showed evidence of recent suckling. The linear, often encircling marks and wounds on the rostrum were, in my opinion, consistent with a diagnosis of bycatch. The persistent froth in the airways is also consistent with this and the haemorrhage in the pharyngeal muscles and under the caudal thoracic spine may well be due to bycatch. The amount of pleural fluid present was not typical of previous bycatch cases I have seen but may be associated with acute cardiac failure in an entrapped animal, although the lungs were not notably oedematous. The changes in the abdominal cavity and viscera were largely consistent with autolysis.</i></p>
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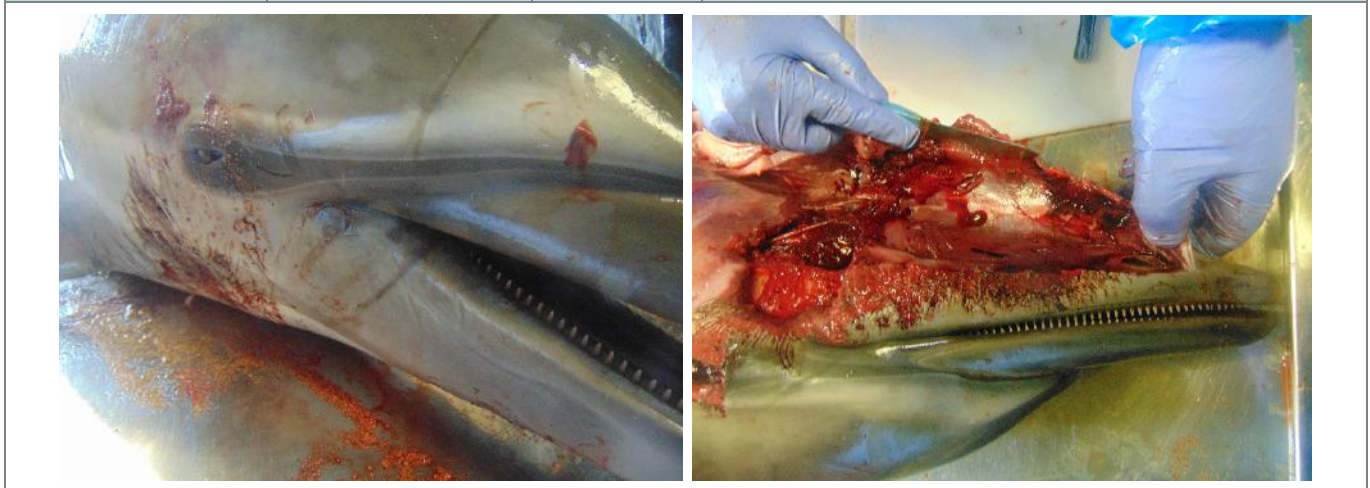
Common Dolphin C/2020/135	At Sea – 3 miles SE of the Lizard Peninsular SW753075	12/09/2020	Multiple partial encircling linear impressions across melon, rostrum and behind blowhole cutting in to leading edge LHS pectoral fin.
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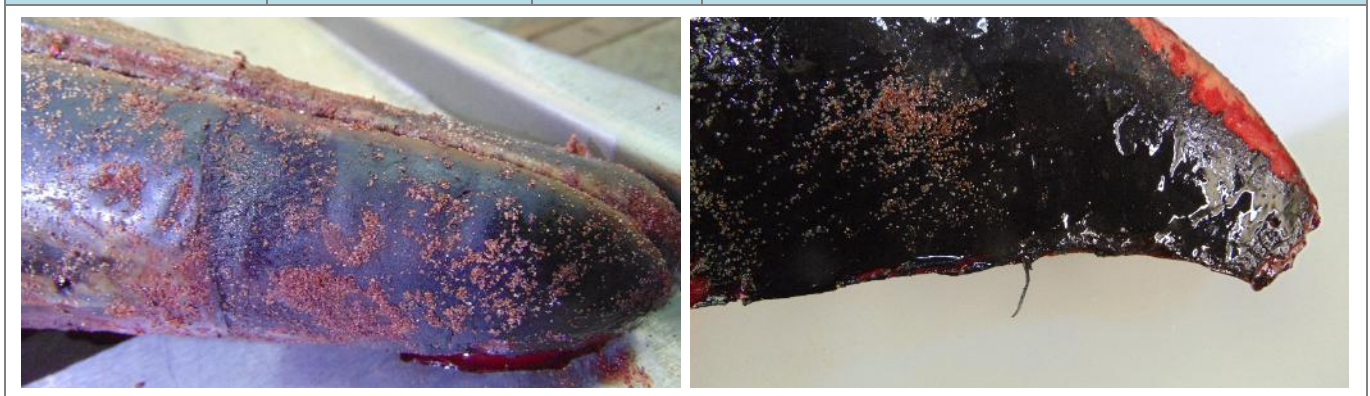
Common dolphin C/2020/134	At Sea – off Looe Island SX270511	12/09/2020	Encircling marks to beak and melon. Semi-encircling impression to torso LHS behind pectoral fin, in front of dorsal fin. Fluke cleanly removed. Fin edge slice to trailing edge dorsal fin. Multiple notches to leading edge, ventral side RHS pectoral fin.
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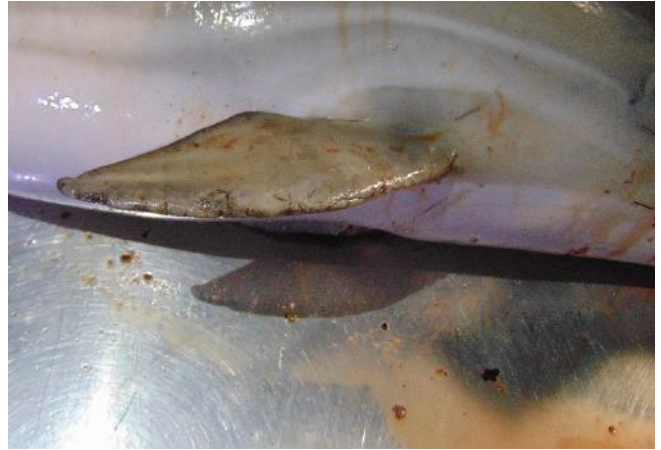
<p>Common dolphin C/2020/147</p>	<p>Poldhu Cove, Mullion SW665199</p>	<p>28/09/2020</p>	<p><i>This juvenile male common dolphin was in good body condition and showed signs of recent feeding. In my opinion, the dark linear lines over the melon, head and right mandible are consistent with bycatch associated with multifilament netting. Other findings potentially consistent with bycatch included the haemorrhages in the subcutaneous tissue of the left mandible and the localised haemorrhages in superficial muscles over the head. The distension of the renal capsules with gas also has been observed previously in cases of bycatch and, as the animal was relatively fresh, it was suspected that this was not due to post mortem decomposition.</i></p>
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<p>Common dolphin C/2020/167 SW2020/760</p>	<p>Tregantle Beach, Whitsand Bay SX363525</p>	<p>18/11/2020</p>	<p><i>There are a number of features in the post mortem examination of this mature adult male common dolphin that indicate that the cause of death was bycatch. These include the rope mark across the rostrum, fin slices on fins and flukes, amputation of the tip of one fluke and evidence of recent feeding. The localised intramuscular haemorrhages above the left scapula, on the back of the head and in the parietal pleura also are potentially consistent with bycatch.</i></p>
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Common dolphin C/2020/168 SW2020/782	Castle Beach, Falmouth SW819320	25/11/2020	<i>This juvenile female common was in good body condition and showed evidence of recent feeding. The linear marks on the rostrum and encircling wounds on fins and flukes are, in my opinion, consistent with a diagnosis of bycatch. 'There was also one deep wound at the cranial insertion of the left pectoral fin and histopathology indicated that this was made after the animal died and the presence in the wound of what appeared to be embedded net material was consistent with the wound being made to extract the animal from a net.'</i>
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<p>Common dolphin C/2020/174 SW2020/819</p>	<p>Frenchman's Creek, Helford SW747262</p>	<p>08/12/2020</p>	<p><i>This mature male common dolphin is known to have live stranded high up the Helford River but died before it could be attended to. The animal was not in optimal condition, had liver pathology indicating a period of negative energy balance and the only 'ingesta' present was a partially macerated fish in the mouth. The dolphin also had a not insignificant parasitic bronchopneumonia which is likely to have had an impact on respiratory function. These factors in particular indicate that the animal was potentially compromised before the events that led up to its live stranding.</i></p> <p><i>In addition to the pathology described above, there were clear monofilament net associated wounds on the maxilla, left mandible, dorsal fin and one tail fluke. Examination of the tail fluke and mandible wounds histopathologically indicates that they occurred at least 6 to 8 hours prior to death. It would appear, therefore that this dolphin had been entrapped in fishing gear and managed to free itself or had been freed, presumably after at most a brief period of enforced immersion as no histopathological changes indicative of hypoxia were seen. It had then subsequently live stranded within hours of being freed/coming free from the net. Therefore, although the proximate cause of death is live stranding, the ultimate cause of death is likely to be bycatch.</i></p>
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<p>Common dolphin C/2020/190</p>	<p>Marazion Beach, Mount's Bay SW527303</p>	<p>20/12/2020</p>	<p>Yellow and Black multifilament rope around tailstock. Large, scavenged fin edge slice to trailing edge LHS fluke. Wide encircling mark around beak with extensive bruising.</p>
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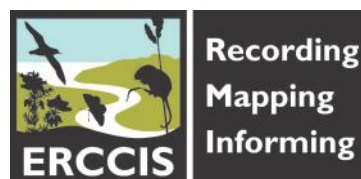


Common Dolphin C/2020/192	Longrock, Marazion SW480308	24/12/2020	Abrasion around peduncle. Fin edge slices to leading edge RHS pectoral fin and fluke due to abrasion. Small lip cuts to upper lip RHS and LHS. Fin edge slice to leading edge dorsal fin due to abrasion. Thick multifilament impression across melon crease and encircling mandible. Circular (5mm diameter) impressions cover the ventral side of the mandible. Abrasions to tip of beak. 4 x thick parallel wounds each approximately 6cm apart to tailstock. 3 x thin, long parallel wounds running under the mandible.
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All photos courtesy of the MSN team and James Barnett, veterinary pathologist.

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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.