

Marine Environmental Monitoring



Plate 1 Common dolphin credited to D Passmore

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2021 Welsh Marine Mammal Strandings Report

1st January 2021 – 31st December 2021

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1. Executive summary

One hundred and fifty-four cetaceans were reported to Marine Environmental Monitoring (MEM) as part of the Cetacean Strandings Investigation Programme during 2021. This is a 14% decrease from 2020. As with previous years the harbour porpoise (*Phocoena phocoena*) remains the most reported cetacean (n=80). This was then followed by the Atlantic short beaked common dolphin (*Delphinus delphis*) (n=50).

During 2021 we had seven different species of cetacean reported to MEM. Along with the harbour porpoise and the common dolphin we also had reported Risso's dolphin (*Grampus griseus*) (n=2), bottlenose dolphin (*Tursiops truncatus*) (n=1), minke whale (*Balaenoptera acutorostrata*) (n=1), Sowerby's beaked whale (*Mesoplodon bidens*) (n=1), and striped dolphin (*Stenella coeruleoalba*) (n=1). There were also eighteen that were indeterminate. This number was made up of three listed as cetacean, eleven as dolphin, and four as Short-beaked common dolphin/striped dolphin (indeterminate).

Two common dolphins, two porpoises, and one Sowerby's beaked whale were reported as live stranding during 2021.

Seventeen cetaceans were collected for examination in 2021. This was made up of nine harbour porpoises, seven common dolphins and one Sowerby's beaked whale.

In 2021 we had a 27% increase in seals being reported to MEM from the previous year (n=152). Most of the reports being the Atlantic grey seal (*Halichoerus grypus*) (n=145). The rest was made up of harbour seal (*Phoca vitulina*) (n=1). The remaining six were indeterminate.

Five marine turtles were reported to MEM in 2021. All five are recorded as being alive. Four were Leatherback turtles (*Dermochelys coriacea*), which were recorded as being at sea. One Kemp's ridley turtle (*Lepidochelys kempii*) was reported as live stranding and requiring further care.

One basking shark (*Cetorhinus maximus*) was reported to MEM in 2021.

2. Introduction

In April of 2021 Marine Environmental Monitoring (MEM) was awarded a new ten-year contract as part of the new Cetacean Strandings Investigation Programme (CSIP) contract (ME6042) awarded to the Institute of Zoology (IoZ) / Zoological Society London (ZSL) by the Department for Environment, Food and Rural Affairs (DEFRA). The contract will run April 2021-March 2031. The project is co-funded by the Welsh Government (WG) and DEFRA. MEM is responsible for providing the Welsh arm of the CSIP contract as a sub-contractor (see [Fig 1](#)).

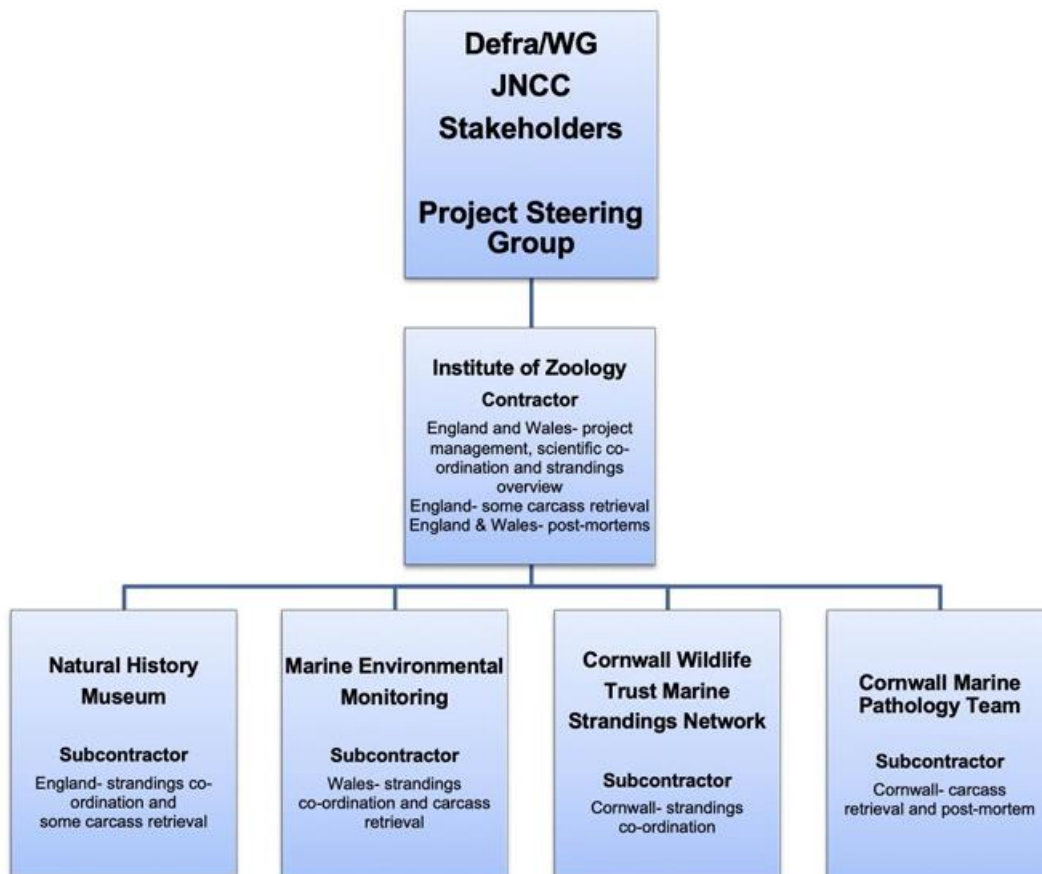


Figure 1 Operational Structure of CSIP

The project objectives under the new contract which Marine Environmental Monitoring have a responsibility for are:

- To collect/collate, analyse and report data on all cetacean strandings around the coast of Wales.
- To provide a subset of the stranded cetaceans in Wales to the project so that post-mortem examinations can be carried out.
- Help maintain the Cetacean Strandings Investigation Programme (CSIP) database, which brings together accurate and geo-referenced data on both strandings and post-mortem examination.
- To establish, improve and maintain relationships with regional volunteer networks, local authorities and other stakeholders who may support the achievement of project objectives within Wales.

- To make information on strandings, unusual occurrences and post-mortem examination results available to the Welsh Government through regular contact.
- To consider innovative ways to support efficiency and capacity of the programme within the project budget, to then present ideas and ways of streamlining the project (e.g. the expansion of the volunteer network, use of a reporting app).
- Maintain the programme of science and academic excellence through collaboration with relevant stakeholders, promotion of the programme and independent publishing.

3. Project approach

3.1. Collection of data.

A single contact number for the whole of the UK has been maintained. The UK number is a free-phone number **0800 6520333** with a stepped menu system takes the caller through whether the stranding is alive or dead and then directs them to the correct organisation and strandings co-ordinator for the appropriate country.

For Wales the caller is asked to leave a message on the answer phone reporting the animal's species, location, approximate size and state of decomposition. They are also asked to leave contact information. Once the call is finished the strandings co-ordinator automatically receives notification of the report on their mobile phone. The strandings co-ordinator will then either message the caller asking for any photographs and further info or call them for the information.

To help with the identification of the species, sex and state of decomposition all calls are now asked to provide any photographs that they might have of the animal. These photographs are kept and maintained by MEM in a searchable database and can be provided to further help the project.

A network of volunteers has been maintained who can be contacted by the Strandings Co-ordinator to confirm the stranding, assess its condition and collect further data (see [section 14](#))

All data is then entered into the CSIP database.

3.2. Recovery, transportation and storage.

Due to the time it takes to get to parts of the Welsh coastline MEM rely on a network of volunteers to help confirm location, secure the animal for later collection and where appropriate to collect the animal ([section 14](#)). These volunteers are made up of individuals, groups and organisations that have some understanding of cetaceans and marine turtles. Once details of the animal have been confirmed the stranding co-ordinator will look to collect the animal the same day to prevent any further decay or scavenger damage.

MEM have various methods for transporting the animals depending on its size. Smaller cetaceans are transported inside the vehicle either in a specially designed tray or inside cadaver bags to prevent any contamination within the vehicle. Larger cetaceans are transported inside a specially designed trailer that has a stainless-steel base designed to prevent any leakage.

As part of the new contract, it has been agreed that where possible the animals will not be frozen, and instead kept fresh. To aid this one of our chest freezers has been converted into a fridge. This enables us to store the animal for several days before we arrange transport to London Zoo. A further chest freezer is still maintained for any animal that can't be transported in a reasonable time, and to keep any samples in.

Any reported animal that isn't collected as part of the project is then notified to the local council or landowner (when known), so they can arrange safe disposal.

3.3. Engagement and education

Marine Environmental Monitoring will always look to engage with the public and the various groups and organisations that operate around the Welsh coastline to educate them to the work of CSIP. To aid in this we have updated our website www.strandings.com and also created a new Facebook page <https://www.facebook.com/Marine.Environmental.Monitoring> to advertise the ongoing work of CSIP and MEM.

MEM will always look to support any request to attend any group meetings to discuss the ongoing work of CSIP and MEM around the Welsh coast. To support this, we have created several presentations along with maintaining other educational material to support learning. We will also look to support other groups and organisations that carry out educational work about our seas around the Welsh coastline, by either providing literature or attending events.

Marine Environmental Monitoring regularly reaches out to the various councils around the Welsh coastline to advise on the project and its progress. Each council is asked to pass any reports of strandings they receive to MEM by either the free phone number 0800 652 0333 or by emailing us at info@strandings.com. Any council within Wales can contact MEM for free advice on cetaceans, seals, marine turtles and shark strandings and their safe disposal.

4. Covid

In the early part of 2020 a severe acute respiratory syndrome Coronavirus (SARS Covid-19) entered the UK. Levels of infection became so high 'lockdowns' were implemented in countries to restrict the movement of people and thus hopefully to restrict the spread of the virus. These lockdowns and restrictions continued into 2021

The lockdown that started on the 20th December 2020 continuing until 13th March 2021 in Wales. At this point people still had to stay local (within 5 miles of home) and couldn't mix. The stay local restrictions were lifted on the 27th March but further restrictions still stayed in place controlling the number of people you could mix with.

Throughout the various lockdowns, MEM maintained recording of strandings that were reported to us, but we did not attend any reports or carry out any recoveries. Once the lockdowns were lifted, we still avoided the use of our volunteer network to prevent any unnecessary exposure.

Unfortunately, lockdowns in England occurred out of sync with Welsh lockdowns causing problems with transportation to and from ZSL where strict restrictions on PM Laboratory usage also impacted on the program in Wales.

As a result of the pandemic, we expected to see a drop in stranding numbers due to the travel restrictions imposed on the reporting public. However, numbers are similar to the previous year in Wales, but we were not able to collect as many animals for post-mortem examination.

5. Results and findings

5.1. Overview

During 2021 a total of 154 cetaceans were reported to MEM along with 153 seals and one basking shark ([Table 1](#)). Out of the 154 cetaceans reported we were able to identify 136 of them to species. The remaining 18 we were unable to identify the species. This was due to either state of decomposition, or lack of photographs.

There is a small population of harbour seals (common seal) along the north coast of Wales. We also occasionally see harbour seals along the south coast that are believed to have come from Cornwall and Devon coast. Although the numbers are small, we will be including them in all future reports so to better understand the population within Wales.

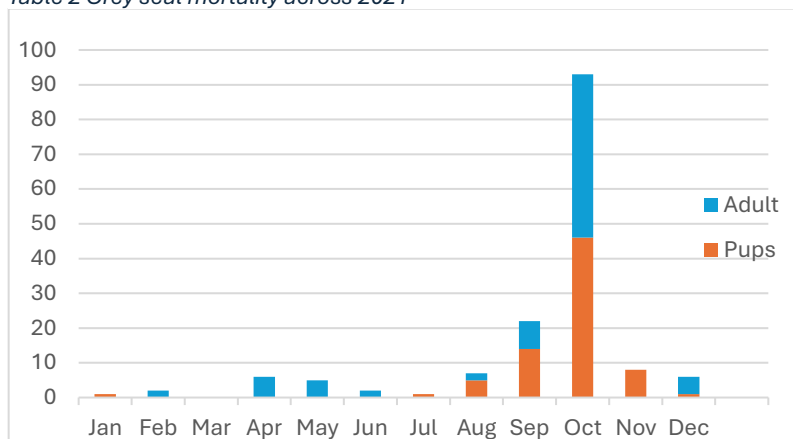
We had 153 seals reported to us in 2021([Table 1](#)). Of those 145 were grey seals and one harbour seal. A further 7 were unidentifiable due to the state of decomposition or lack of photos.

Table 1 Total reports for 2021

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bottlenose dolphin					1								1
Harbour porpoise	3	1	8	4	7	5	5	6	18	16	3	4	80
Minke whale												1	1
Risso's dolphin								1	1				2
Common dolphin	6	2	6	6	8		2	7	2	9		2	50
Sowerby's beaked whale											1		1
Striped dolphin			1										1
Common/stripped dolphin (indeterminate)					1	1		1		1			4
Cetacean (indeterminate)				1				2					3
Dolphin (indeterminate)				3				1	2	5			11
Total cetaceans	9	3	15	14	17	6	7	18	23	31	4	7	154
Harbour seal										1			1
Grey seal	1	2		2	4	2	1	5	22	92	8	6	145
Seal (indeterminate)				4	1			2					7
Total seals	1	2		6	5	2	1	7	22	93	8	6	153
Basking shark		1											1
Total animals	10	6	15	20	22	8	8	25	45	124	12	13	308

We see a huge spike of mortality in seals between September and October ([table 1](#) & [table 2](#)). This is also around the time that the grey seals give birth to their pups. Many of the stranded grey seals we see reported around this time are pups. From the beginning of September to end of October 60 of the reported seals were pups.

Table 2 Grey seal mortality across 2021



5.2. Live strandings

Of the 154 cetaceans we had reported in 2021, 5 were listed as live stranding ([Table 3](#)). This was made up of two short beaked common dolphins, two harbour porpoises and one Sowerby's beaked whale.

Table 3 Live strandings 2021

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Common Dolphin	1	1											2
Harbour porpoise				1		1							2
Sowerby's beaked whale											1		1
Total live strandings	1	1		1		1					1		5

5.3. Animals sent for post-mortem examination

During 2021 17 cetaceans were collected for post-mortem examination (see [Table 4](#)). This only equates to 11% of the total cetaceans and is down on previous years. This is in part due to the impact of COVID (see [section 4](#)). During January, February and most of March we were unable to collect any animals. For the remainder of the year the use of volunteers was greatly restricted.

Table 4 Animals selected for post-mortem examination

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Harbour porpoise			1		1	1		1	2	2		1	9
Common dolphin				1	2		1			2		1	7
Sowerby's beaked whale											1		1
Total sent for post-mortem			1	1	3	1	1	1	2	4	1	2	17

The results for the post-mortem examinations can be found in [section 9 \(Table 9\)](#).

6. Mass stranding event

Two stranding events involving two animals found in close temporal and spatial proximity (mass stranding events or MSEs) were reported to MEM during 2021. Both were within the Swansea area (Figure 2), with the first being in January (SW2021/41). The next event was October (SW2021/761).

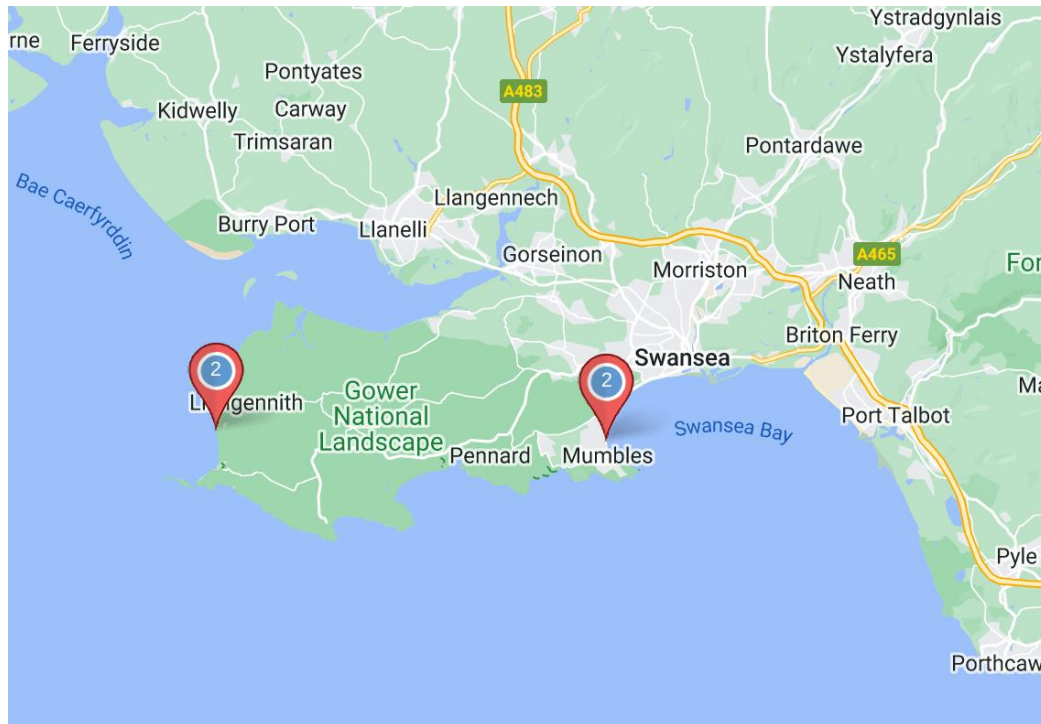


Figure 2 Mass strandings events 2021

7. Summary of strandings

7.1. Bottlenose dolphin (*Tursiops truncatus*)

Although there is a large resident population of bottlenose dolphins off the Welsh coast, strandings of this species are relatively unusual. Bottlenose dolphins in UK waters are large robust animals often measuring over three metres in length, these animals have a substantial mass of muscle. It may be possible, that once dead, these large animals become negatively buoyant only returning to the surface once gasses from decomposition counteract this effect. This may explain why so few bottlenose dolphins are found stranded dead in a fresh condition compared to decomposed carcasses.

Bottlenose dolphins are a feature of the relevant Special Areas of Conservation (SAC's) on the Welsh coast and are a priority species within the CSIP, it is for this reason that any reports of bottlenose dolphins are investigated fully.

One bottlenose dolphin was reported in 2021 (**SW2021/378**). The animal was found on Freshwater West beach in Pembrokeshire in May. The bottlenose was in advanced state of decomposition (see [plate 2](#)).

Table 5 10-year data on bottlenose dolphin strandings

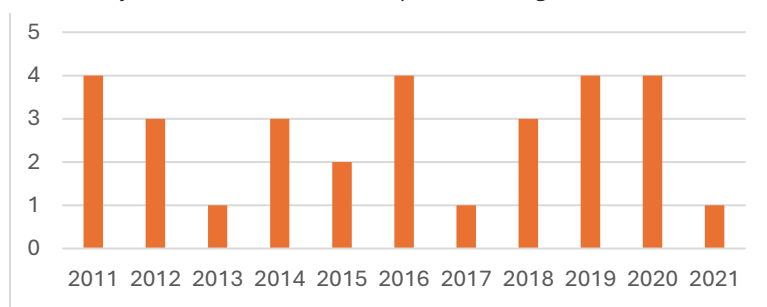


Plate 2 Bottlenose dolphin (SW2021/378)

Unfortunately, due to the state of decomposition no further data could be collected on this animal.

7.2. Harbour porpoise (*Phocoena phocoena*)

The harbour porpoise is one of the most common cetaceans in the waters around the Welsh coastline but faces many challenges and as a result they are consistently the most frequently reported stranded cetacean on the Welsh coast. In 2021 this remained the same with 80 being reported to MEM around the Welsh coast. This is one less than the previous year and shows a slight decline over the past five years ([table 6](#)).



Plate 3 Harbour porpoise (SW2021/255)

The map below shows the distribution of the reported strandings around the Welsh coastline ([Fig 3](#)) and shows that they are distributed around the whole Welsh coastline.

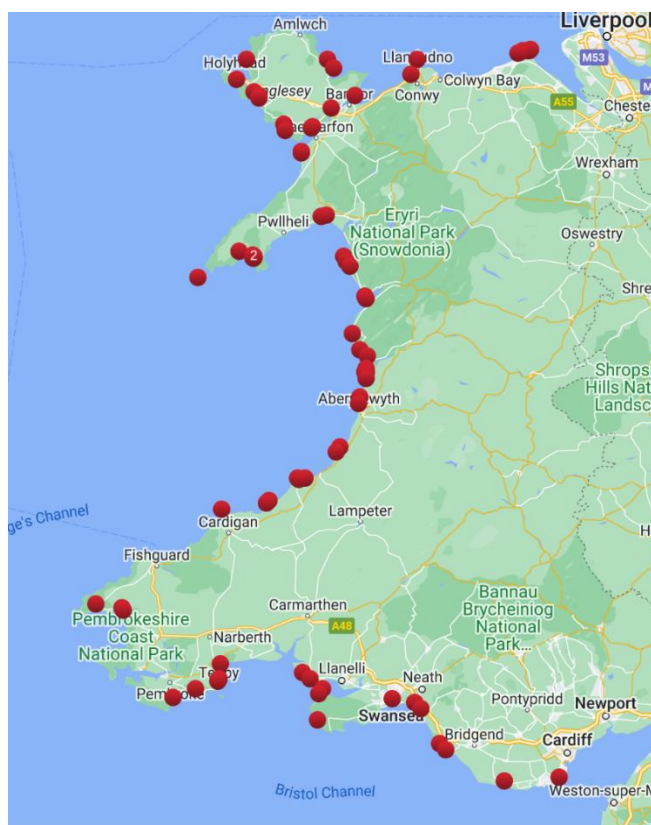
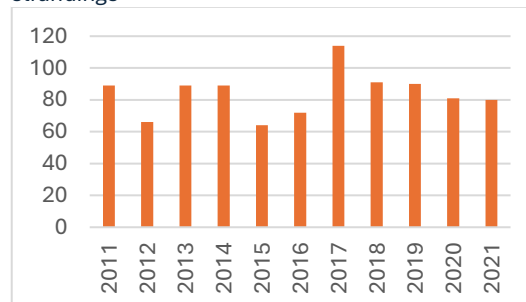


Figure 3 Location of harbour porpoise strandings 2021

Table 6 10-year data on harbour porpoise strandings



Nine porpoises were collected throughout the year and made available for post-mortem examination in 2021 (see [table 4](#)). The results of those post-mortem are in [section 9](#) (see [table 9](#)).

7.3. Short beaked common dolphin (*Delphinus delphis*)

The reports of common dolphin have been increasing over the last ten years with large jumps in numbers in 2019 and 2020 ([table 7](#)). In 2021 we had 50 reports of common dolphins stranded on the Welsh coast. This is down 26% on the previous year but is still nearly three times as many as we had reported in 2018.

We receive regular reports from the various tour boat operators around the Welsh coast saying that they now regularly see large pods of common dolphins on their tours.



Plate 4 Common dolphin (SW2021/330)

It currently isn't clear what is causing this increase in numbers, or if we will continue to see the increase over the coming years. It is also not clear if this increase will have a detrimental impact on the other cetaceans around the Welsh coast like the harbour porpoise.

Table 7 10-year data on common dolphin strandings

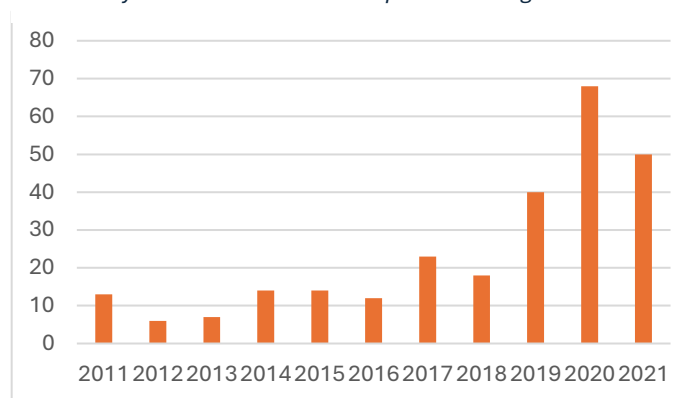


Figure 4 Location of common dolphin stranding 2021

7.4. Minke whale (*Balaenoptera acutorostrata*)

Over the past four years we have seen five minke whales being reported to Marine Environmental Monitoring, with the sixth one being reported in 2021 (SW2021/906). Prior to 2017 it was very rare to get any reports of minke whales around the Welsh coast.

(SW2021/906) Had washed up on Porth Tywyn Mawr (Sandy beach), Isle of Anglesey on the 2nd December 2021. It was in an advanced state of decomposition (plate 5) which meant no further investigation could be carried out.



Plate 5 Minke whale (SW2021/906)

7.5. Risso's dolphin (*Grampus griseus*)

There is a family pod of Risso's that can be regularly seen around Isle of Anglesey and along the North coast of Wales. For this reason, most years we will see one or two being reported to MEM as stranding around the Northwest coast of Wales.

In 2021 we had two Risso's dolphins reported to MEM. The first was on the 11th August 2021 which had been taken upstream by the incoming tide and was found in the estuary in Aberffraw (**SW2021/584**). This animal was a male that was 3.1m in length but in an advanced state of decomposition ([plate 6](#)). Despite its state of decomposition, we decided that with the help of Charles Lindenbaum from Natural Resources Wales (NRW) we would collect various samples from the animal. Due to the state of decomposition, no clear cause of death could be ascertained.



Plate 6 Risso's dolphin (SW2021/744)

A second Risso's dolphin was reported on the 24th September 2021 (**SW2021/744**). This was also a male but only 1.35m long. You were still able to see the foetal folds on this dolphin, and it is thought that it most likely died during birth or shortly afterwards. This animal wasn't collected due to the scavenger damage on it.

7.6. Sowerby's beaked whale (*Mesoplodon bidens*)

Prior to 2021 there had only been five reports of Sowerby's beaked whales in Wales. In 2021 we had the sixth one reported which live stranded on a beach at Rhos-on-sea, North Wales on the 10th November. This animal was filmed live stranding by a member of public.



Plate 7 Sowerby's beaked whale (SW2021/838)

(**SW2021/838**) was a juvenile female at 3.95m length. A field necropsy was conducted by ZSL and MEM with the support of staff from NRW. It was found to be in reasonable nutritional condition, with no evidence of recent feeding and no evidence of marine debris/plastic ingestion. The findings were consistent with live stranding of an out of habitat individual.

7.7. Striped dolphin (*Stenella coeruleoalba*)

Although striped dolphins are not common around the Welsh coast, we do normally see one or two reported to MEM each year. In 2021 we had a striped dolphin reported to MEM on the 29th March 2021 (**SW2021/250**). This animal was in a moderate state of decomposition. Due to COVID restrictions only just being eased it was decided not to attend.

7.8. Basking Shark (*Cetorhinus maximus*)

In January 2021 we had a large mass reported to us that had washed up on Broad Haven South beach, Pembrokeshire. On further investigation it was found to be an advanced decomposed basking shark (**SB2021/1**).

Due to state of decomposition no further investigation could be carried out.



Plate 8 Basking shark (SB2021/1)

7.9. Atlantic grey seal (*Halichoerus grypus*)

There is a large grey seal population that seems to be doing very well in Wales. You can find grey seals on almost the whole coastline. As a result, the numbers of reported grey seal mortality we get reported around the coast is the highest of any single species of animal.

In 2021 MEM received 145 reports of grey seals. This is 48% higher than the previous year and the second highest in the last ten years ([table 8](#)). The high mortality in 2017 was caused by several large storms across the pupping season, in particular storm 'Ophelia' which hit in October killing many of the pups. 2021 had five named storms, but only one was during the pupping season. This was storm 'Arwen' which hit towards the end of the pupping season on the 25th November. By looking at the figures across 2021 ([table 2](#)), it doesn't look like the storm had much impact. It is possible that the high mortality rate in 2021 is down to how well the grey seal population is doing around the Welsh coast which is resulting in a greater number of pups being born.



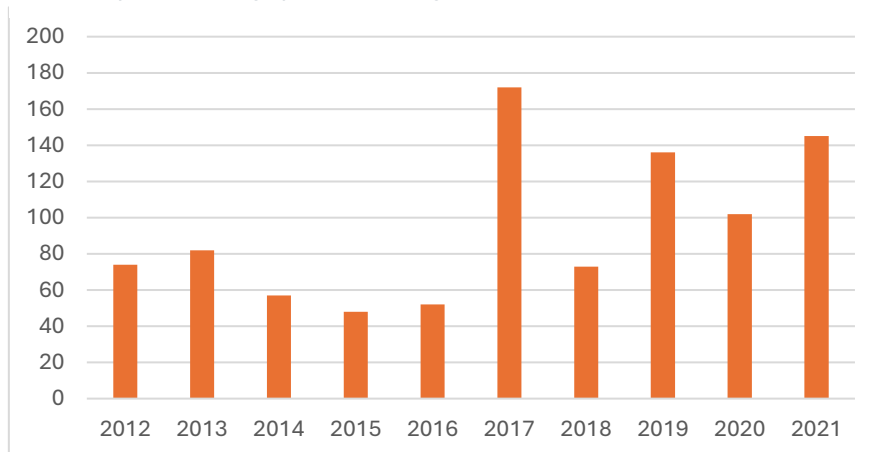
Plate 9 Grey seal (SS2021/359)



Plate 10 Flipper tag

One of the seals (**SS2021/359**) we had reported to us during 2021 was fitted with a tag ([plate 10](#)). It is rare for us to get reports of seals with a tag, but it does mean we have an opportunity to get some of the history of the seal. Thanks to help by Ellie West and Gareth Richards, both from the RSPCA we were able to learn that this seal was called Fishface. He was originally rescued near the River Severn near Tewkesbury as a pup and was taken to the RSPCA facility at West Hatch where he was rehabilitated and released in 2010. He wasn't seen again until he washed up on a beach on the Gower. Unfortunately, we currently don't collect seals for further investigation, so cause of death couldn't be ascertained.

Table 8 10-year data on grey seal strandings



7.10. Harbour seal (*Phoca vitulina*)

We had one harbour seal (common seal) reported to MEM in 2021 (**SS2021/380**). This was a pup that had been found on the south coast in Carmarthenshire.

7.11. Marine turtles

Marine Environmental Monitoring is responsible for the management of the British Isles & Republic of Ireland 'TURTLE' Database which keeps records of all marine turtle sightings and strandings. This report only covers those that relate to Wales. The full turtle report can be found by following this link ([2021-Turtle-Annual-Strandings-Report.pdf](#)) or by going to either www.strandings.com or www.ukturtles.online.

There were five reports of turtles around the Welsh coast to MEM in 2021. Four were leatherback turtles (*Dermochelys coriacea*) (LBT), which were all seen alive and at sea. One was a Kemp's Ridley (*Lepidochelys kempii*) that was found alive on Talacre beach in North Wales (**T2021/13**).



Plate 11 Kemp's Ridley (T2021/13)

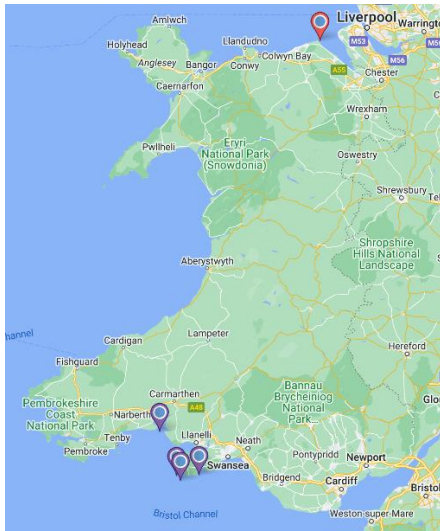


Figure 5 Location of marine turtle reports 2021

T2021/13 was a Kemp's ridley turtle found on Talacre beach, North Wales on the 28th November. Originally thought to be dead but further investigation showed it to be alive and it was recovered to Anglesey Sea Zoo for rehabilitation.

8. Unusual occurrences

8.1. Wally the walrus

On the 20th March, Marine Environmental Monitoring received a call from Terry Leadbetter who runs a seal rescue centre saying he had received a call saying that there was a walrus near Broad Haven, Pembrokeshire. If the call had come from anyone else, we probably would have ignored it but instead agreed to meet him and colleagues from the RSPCA there. Much to all our surprise there was in fact a walrus perched on some rocks resting ([plate 12](#)).



Plate 12 Wally the walrus

The walrus looked to be in poor body condition with him being underweight. He had small cuts to various locations, but we deemed this nonlife threatening. Thankfully the location he was in was very remote and due to the time of year we knew he was unlikely to get disturbed. The decision was made that the best option was to leave him alone and let him rest. Some of Terry Leadbetter's team would monitor from a safe distance.



Plate 13 Wally in Tenby

Unfortunately, Wally as he would be later named had other ideas. A couple of days after being first sighted he decided to move to Tenby harbour in Pembrokeshire and set up home on the lifeboat slipway. This created many issues mainly due to members of public trying to get too close and causing disturbance. A multi-agency group was set up with Pembrokeshire council leading and the British Divers Marine Life Rescue (BDMLR) taking on the responsibility for Wally's welfare.

Whilst in Tenby and thanks to the group's effort Wally was able to put his weight back on and after being there for several weeks he moved on. Initially going South where he was seen Cornwall, France, Spain before turning around and making his way back North. He was last seen in Iceland.

MEM remained part of the group throughout Wally's stay in Wales, advising where we could.

8.2. Live rescue

On 12th February 2021, MEM received a call from Cliff Benson at the Sea Trust in Goodwick harbour reporting a live stranding of a common dolphin inside the harbour.

We attended to support Cliff and members of Sea Trust. A member of the British Divers Marine Life Rescue, and members of the Wales Marine Rescue who are based nearby.



Plate 14 Live rescue, Fishguard

On investigating the animal was found to be a young common dolphin that had stranded on a sand bank with the outgoing tide. The animal was breathing well despite being in distress and showed no sign of injury. As the tide came back in three of us were able to guide the dolphin back to deeper water where it then swam off under its own strength.

9. Causes of death

Seventeen animals were collected during 2021 for examination within the project. This is below the required twenty for Wales. This was in part due to the ongoing COVID pandemic.

The provisional cause of death is given in the table below ([table 9](#)).

All animals underwent a full post-mortem examination at the Zoological Society of London (ZSL), except for SW2021/838 which was examined by the team from ZSL and MEM in situ at Rhos on Sea.

Table 9 Causes of death

Reference	Species (common)	Location	Local Authority	Cause of Death
SW2021/255	Harbour porpoise	Traeth Cymyran Rhosneigr	Anglesey	not established
SW2021/284	Short-beaked common dolphin	Gwbert by Cliff Hotel	Ceredigion	parasitism gastric (severe)
SW2021/330	Short-beaked common dolphin	Ffrith Beach Prestatyn	Denbighshire	not established
SW2021/332	Harbour porpoise	Swansea Marina	Swansea	parasitism gastric pulmonary and hepatic
SW2021/380	Short-beaked common dolphin	Aberaeron South beach	Ceredigion	parasitism gastric
SW2021/445	Harbour porpoise	Aberdaron beach	Gwynedd	generalised debilitation
SW2021/536	Short-beaked common dolphin	Fishguard	Pembrokeshire	live stranding
SW2021/602	Harbour porpoise	Tenby South Beach	Pembrokeshire	fused atlanto-occipital joint associated muscular trauma
SW2021/687	Harbour porpoise	Dinas Dinllie	Gwynedd	parasitism pulmonary
SW2021/746	Harbour porpoise	Penycwm Beach Newgale	Pembrokeshire	peritonitis
SW2021/767	Harbour porpoise	Cefn Sidan Beach	Carmarthenshire	not established
SW2021/768	Short-beaked common dolphin	Llanengan Beach	Gwynedd	physical trauma dystocia
SW2021/804	Harbour porpoise	Tenby South Beach	Pembrokeshire	pulmonary vasculitis
SW2021/805	Short-beaked common dolphin	Criccieth Beach	Gwynedd	parasitism gastric
SW2021/838	Sowerby's beaked whale	Rhos-on-Sea	Conwy	live stranding out of habitat
SW2021/924	Harbour porpoise	Newgale beach	Pembrokeshire	live stranding
SW2021/926	Short-beaked common dolphin	Tenby south beach	Pembrokeshire	not established

10. Maps

Marine Environmental Monitoring has invested in new mapping software which allows public access to an interactive map. By following the [map link](https://fortress.maptive.com/ver4/8d5028d1b70d4f55d13a4004e47f45de), you can see the locations of all the individual strandings around the Welsh coastline and by clicking on the tags see information about each stranding. It is hoped that in future we will be able to attach pictures to the maps as well.

Map link:

<https://fortress.maptive.com/ver4/8d5028d1b70d4f55d13a4004e47f45de>

11. Strandings by county

The below set of maps and data shows the locations of all the reported 2021 strandings within Wales by county. This information has been included to allow those that manage the beaches around Wales to understand types and numbers that stranded during 2021 so they can better plan for the coming years. The numbers are only the animals that have been reported to MEM and most likely do not represent the total numbers of animals that strand on the coastline each year.

11.1. Gwynedd

Gwynedd	Amount
Bottlenose dolphin	
Harbour porpoise	22
Minke whale	
Risso's dolphin	1
Common dolphin	9
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	6
Harbour seal	
Grey seal	50
Seal (indeterminate)	2
Basking shark	
Total	90

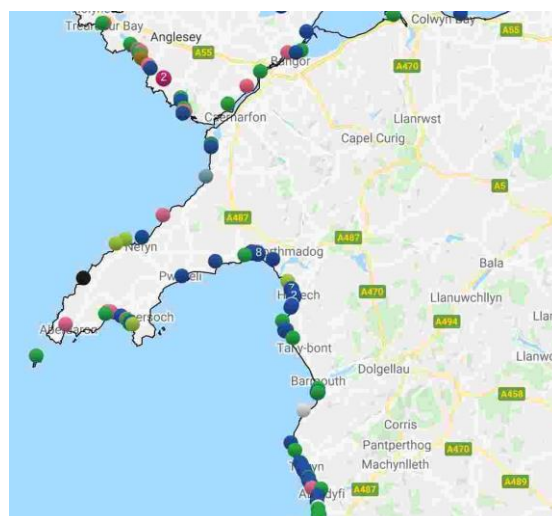


Figure 6 map of strandings, Gwynedd

11.2. Pembrokeshire



Figure 7 Map of strandings, Pembrokeshire

Pembrokeshire	Amount
Bottlenose dolphin	1
Harbour porpoise	10
Minke whale	
Risso's dolphin	
Common dolphin	11
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	1
Harbour seal	
Grey seal	36
Seal (indeterminate)	2
Basking shark	1
Total	62

11.3. Ceredigion

Ceredigion	Amount
Bottlenose dolphin	
Harbour porpoise	18
Minke whale	
Risso's dolphin	
Common dolphin	4
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	1
Harbour seal	
Grey seal	27
Seal (indeterminate)	1
Basking shark	
Total	51

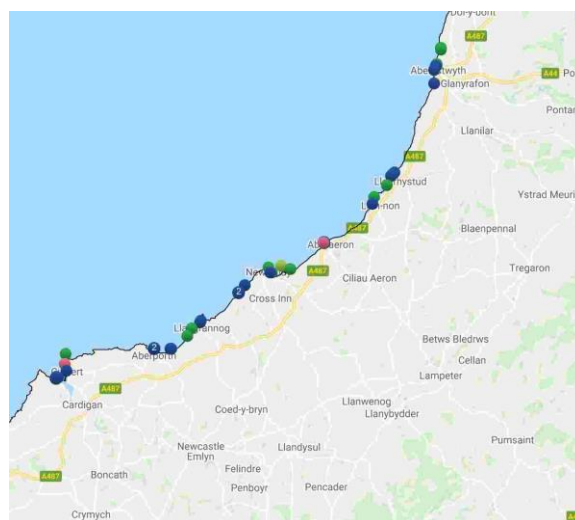


Figure 8 Map of strandings, Ceredigion

11.4. Isle of Anglesey

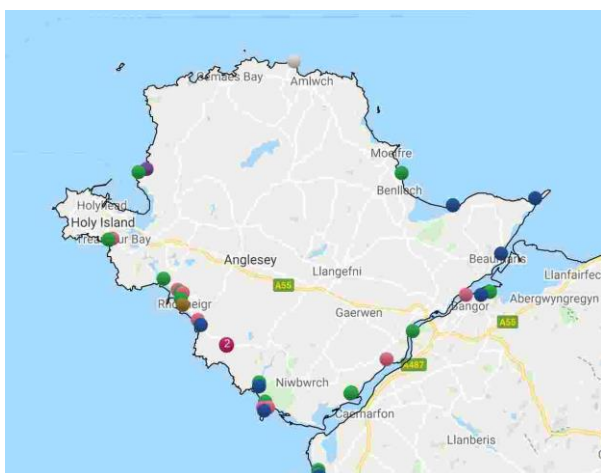


Figure 9 Map of strandings, Anglesey

Isle of Anglesey	Amount
Bottlenose dolphin	
Harbour porpoise	11
Minke whale	1
Risso's dolphin	1
Common dolphin	8
Sowerby's beaked whale	
Striped dolphin	1
Cetacean (indeterminate)	1
Harbour seal	
Grey seal	6
Seal (indeterminate)	1
Basking shark	
Total	30

11.5. Swansea

Swansea	Amount
Bottlenose dolphin	
Harbour porpoise	4
Minke whale	
Risso's dolphin	
Common dolphin	9
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	4
Harbour seal	
Grey seal	10
Seal (indeterminate)	
Basking shark	
Total	27

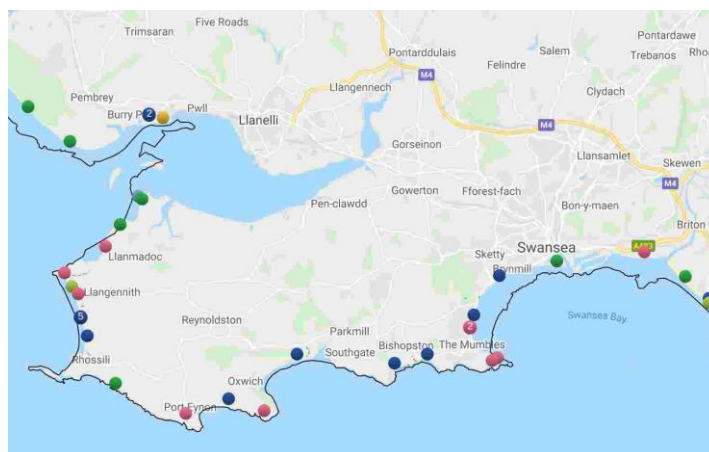


Figure 10 Map of strandings, Swansea

11.6. Flintshire

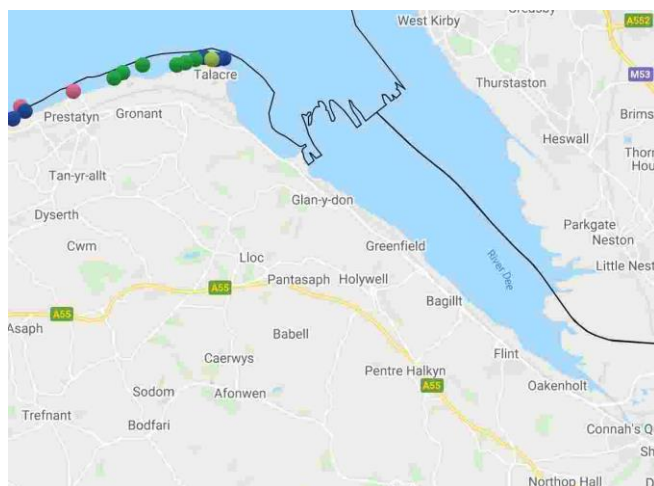


Figure 11 Map of strandings, Flintshire

Flintshire	Amount
Bottlenose dolphin	
Harbour porpoise	4
Minke whale	
Risso's dolphin	
Common dolphin	
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	1
Harbour seal	
Grey seal	3
Seal (indeterminate)	
Basking shark	
Total	8

11.7. Conwy

Conwy	Amount
Bottlenose dolphin	
Harbour porpoise	2
Minke whale	
Risso's dolphin	
Common dolphin	
Sowerby's beaked whale	1
Striped dolphin	
Cetacean (indeterminate)	
Harbour seal	
Grey seal	4
Seal (indeterminate)	
Basking shark	
Total	7

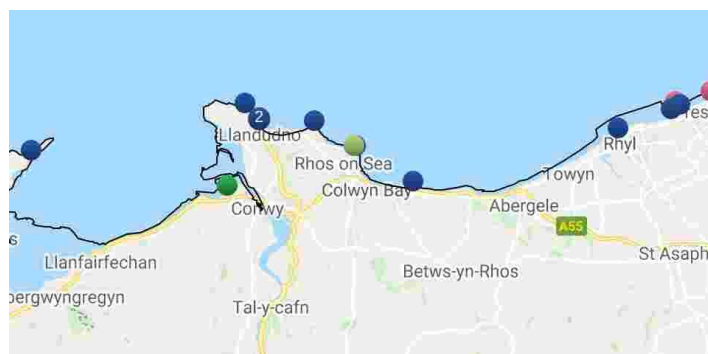


Figure 12 Map of strandings, Conwy

11.8. Carmarthenshire



Figure 13 Map of strandings, Carmarthenshire

Carmarthenshire	Amount
Bottlenose dolphin	
Harbour porpoise	2
Minke whale	
Risso's dolphin	
Common dolphin	1
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	1
Harbour seal	1
Grey seal	3
Seal (indeterminate)	
Basking shark	
Total	8

11.9. Bridgend

Bridgend	Amount
Bottlenose dolphin	
Harbour porpoise	2
Minke whale	
Risso's dolphin	
Common dolphin	3
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	
Harbour seal	
Grey seal	3
Seal (indeterminate)	
Basking shark	
Total	8

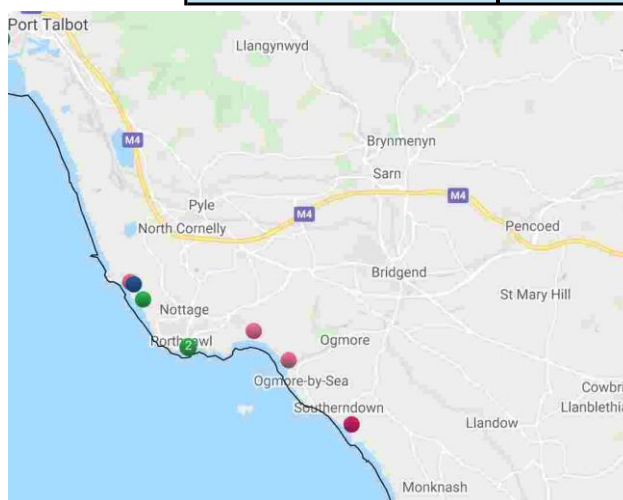


Figure 14 Map of strandings, Bridgend

11.10. Denbighshire

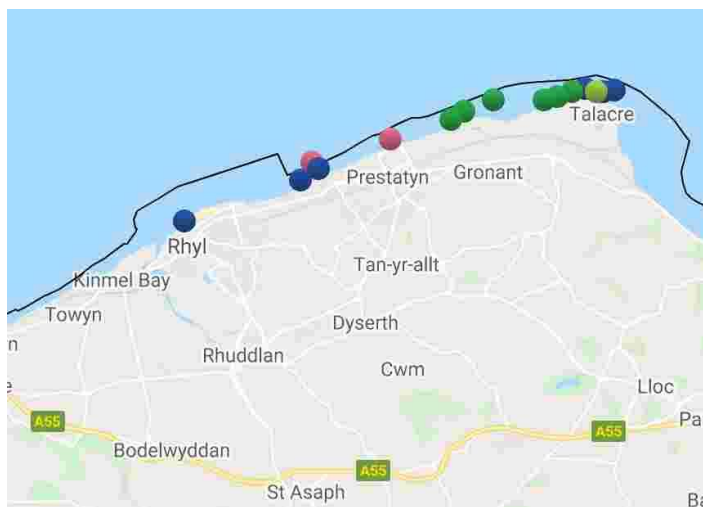


Figure 15 Map of strandings, Denbighshire

Denbighshire	Amount
Bottlenose dolphin	
Harbour porpoise	1
Minke whale	
Risso's dolphin	
Common dolphin	2
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	
Harbour seal	
Grey seal	3
Seal (indeterminate)	
Basking shark	
Total	6

11.11. Vale of Glamorgan

Vale of Glamorgan	Amount
Bottlenose dolphin	
Harbour porpoise	2
Minke whale	
Risso's dolphin	
Common dolphin	2
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	1
Harbour seal	
Grey seal	
Seal (indeterminate)	
Basking shark	
Total	5



Figure 16 Map of strandings, Glamorgan

11.11. Neath Port Talbot

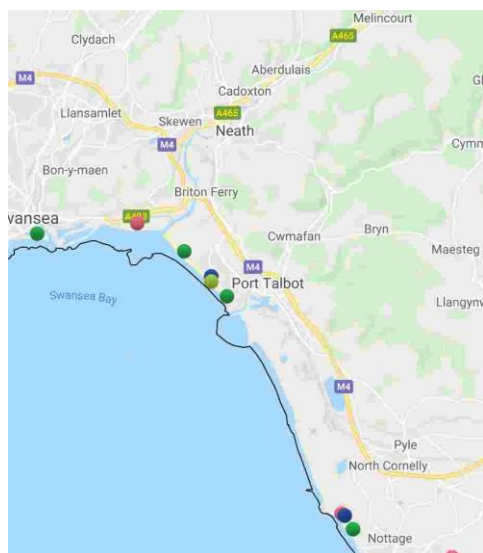


Figure 17 Map of strandings, Neath Port Talbot

Neath Port Talbot	Amount
Bottlenose dolphin	
Harbour porpoise	2
Minke whale	
Risso's dolphin	
Common dolphin	1
Sowerby's beaked whale	
Striped dolphin	
Cetacean (indeterminate)	1
Harbour seal	
Grey seal	1
Seal (indeterminate)	
Basking shark	
Total	5

12. Public engagement

In 2021 MEM has set up a new look website to hopefully encourage greater engagement. The website has the same address of www.strandings.com. We have also set up a new Facebook page <https://www.facebook.com/Marine.Environmental.Monitoring>. We hope that both encourage further engagement in the project around Wales.

Due to the ongoing covid restrictions in Wales, it was difficult to carry out any face-to-face talks with public groups. The team at ZSL did carry out online dissections for Bangor University which MEM supported. We were also able to do an in-person dissection of two Angel sharks at Aberystwyth university for the Angel shark project ([plate 15](#)).

During 2021 we managed to get some press interest in some of the strandings resulting in articles being printed in Wales online and IFL Science. All articles did generate interest engagement in the project.



Plate 15 Angel shark dissection at Aberystwyth University

13. Collaboration work

In 2021 MEM has started working with the Angel shark project to help provided collection and storage of stranded Angel sharks around the Welsh coast. We were also able to support the Angel shark dissection demonstration at Aberystwyth University as part of the Angel shark project ([plate 15](#)). We are looking forward to supporting this project going forward.

14. Volunteers

Due to the time it can take to get to some of the strandings, and to try and prevent unnecessary journeys we rely on various volunteers located around the Welsh coastline. These volunteers can confirm location and species, secure them to prevent them from being washed away by incoming tides, take measurements and photos, and in some cases collect the animals on behalf of the project.

The volunteers we currently have are made up of likeminded individuals who all have an interest in the marine life around Wales. Some are from professional organisations such as the North Wales Wildlife Trust and Natural Resource Wales (NRW), others are members of public who have an active interest in marine life.

Unfortunately, due to the ongoing Covid-19 (see [section 4](#)) we haven't been able to fully engage in our volunteer base or be able to develop it further.

We were able to invite several of them along to the Sowerby's beaked whale dissection (see [section 7.6](#)). This gave them opportunity to observe the dissection and speak to the team from ZSL.

We hope that in 2022 we will be able to get back to using the volunteers fully and hopefully do further development with them.

15. List of Scientific names

Table 10 Table of scientific names

Common name	Scientific name
Bottlenose dolphin	<i>Tursiops truncatus</i>
Harbour porpoise	<i>Phocoena phocoena</i>
Minke whale	<i>Balaenoptera acutorostrata</i>
Risso's dolphin	<i>Grampus griseus</i>
Common dolphin	<i>Delphinus delphis</i>
Sowerby's beaked whale	<i>Mesoplodon Bidens</i>
Striped dolphin	<i>Stenella coeruleoalba</i>
Harbour seal	<i>Phoca vitulina</i>
Grey seal	<i>Halichoerus grypus</i>
Basking shark	<i>Cetorhinus maximus</i>
Leatherback turtle	<i>Dermochelys coriacea</i>
Kemp's riddley turtle	<i>Lepidochelys kempii</i>

16. Equipment

In 2020 the day-to-day running of Marine Environmental Monitoring was taken over by Matthew Westfield with Rod Penrose taking a supportive role. As part of this change, we needed to transfer the reporting line telephone number to a new address. Due to the importance of the reporting line, BT was contacted by mail, email and telephone. Although BT did not respond to the several letters that were sent, we were reassured by them on the phone that this transfer would take no more than a day meaning the phone line would be down less than 24 hours. It was agreed the transfer would happen on May 31st, 2021. On that day the phone line went down. Despite us contacting BT every day and submitting three complaints the phone line wasn't reinstalled until June 15th. During this time BT was obstructive, unhelpful and incompetent resulting in a lot of frustration on our part. To try and mitigate the issues of not having a reporting line we contacted various organisations that people might report strandings too, including the RSPCA to make them aware of the issues we were facing so they could pass on reports to us. We also relied on our Facebook page to get the message out.

17. Acknowledgements

We wish to acknowledge, the team at NRW including Charles Lindenbaum, Ceri Morris & Holly Self, Ellie West & Keith Hogben of the RSPCA, Dr Sarah Perry & her team at the Cardigan Bay Marine Wildlife Centre, Gem Simmons of the North Wales Seal Research Organisation. Nia Haf Jones at the North Wales Wildlife Trust, all the volunteers and staff with the British Divers Marine Life Rescue, all the various councils around the Welsh coast, Milford Haven Coastguard, Holyhead Coastguard plus the many auxiliary coastguards, Lin Gander, Emma Beattie, Terry Leadbetter, Sal Shipley, Madison Bowden Parry for their support with the project and help in retrieving animals, the Strandings Network volunteers within Wales, too numerous to mention for their help confirming, reporting and securing animals for collection. Welsh Government & Defra for providing funds and guidance towards the project. We would also like to say a special thankyou to Rod Penrose for his continued support of the project.