

National Whale and Dolphin Watch 2017



29th July – 6th August

Facts and Figures



 **1529** hours of observation

 **1410** sightings reported

 **6590** individual animals

 **11** different species

 **108** land watch sites

 **48** vessels

 UK sightings rate of **0.93**
animals per hour of watching!

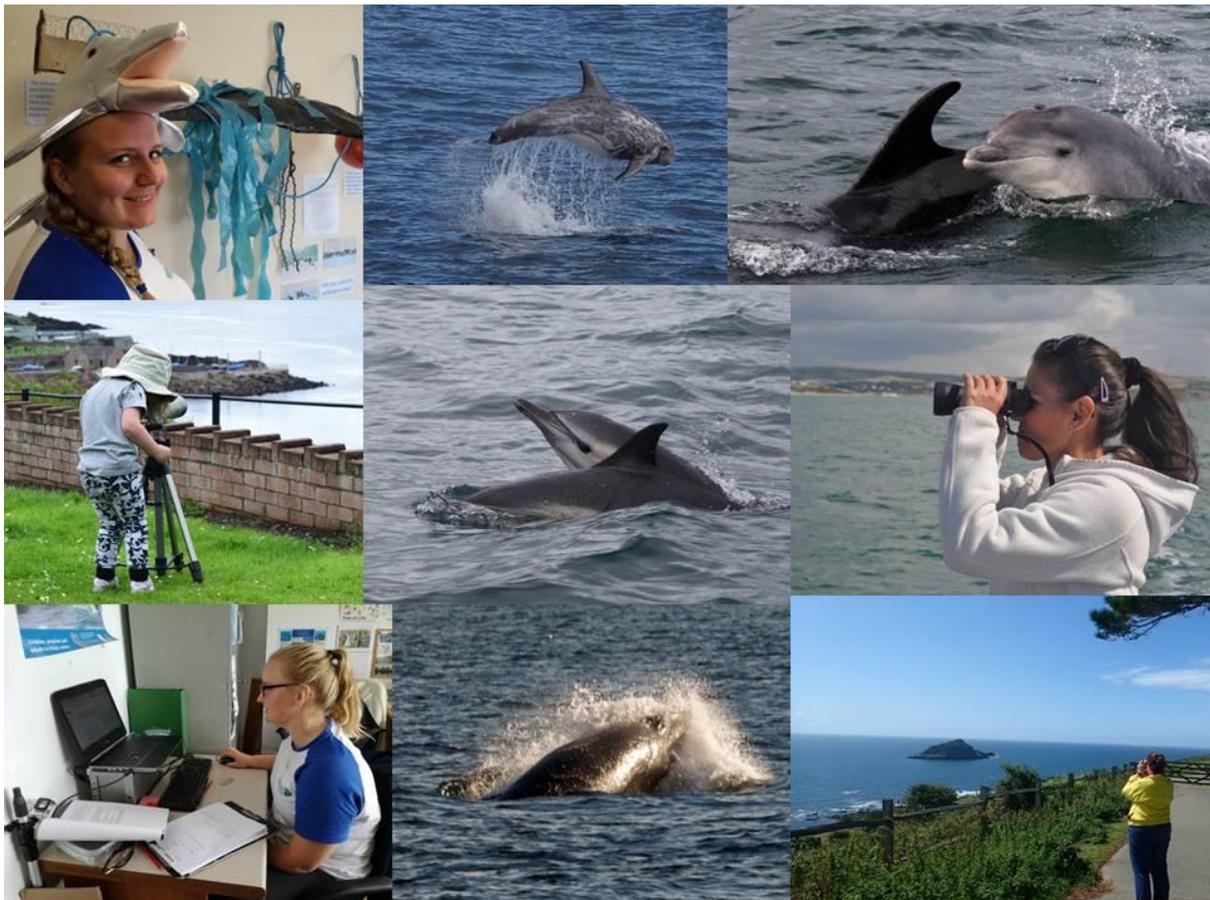
Memorable sightings include... long-finned pilot whales in the Moray Firth, striped dolphins near the Isles of Scilly, many sightings of killer whales in the north of Scotland and humpback whale sightings in the north-east of the UK and the Isle of Man.



Introduction

2017 marked the sixteenth year of Sea Watch Foundation's National Whale and Dolphin Watch event. The National Whale and Dolphin Watch (NWDW) is an annual, national recording event forming a collaboration between citizen scientists, wildlife enthusiasts, the general public and researchers alike. The event aims to raise the profile of Britain's whales, dolphins and porpoises (collectively termed cetaceans) whilst finding out more about their distribution. Members of the public were invited to join organised whale and dolphin watches around the UK as well as conducting their own surveys and reporting their casual sightings.

The Director of Sea Watch Foundation pioneered this method of citizen science in the UK, as the first organisation to ask members of the public to record and report their cetacean sightings back in the early 1970s. Whereas the research organisation encourages such observations and recording throughout the year, the NWDW provides an opportunity to collect a large amount of scientifically valuable data within a concentrated period of time.



A selection of photographs from this year's event: (left to right, top to bottom) Lauren, Sea Watch's National Whale and Dolphin Watch Assistant @ *Kathy James/SWF*, breaching Risso's dolphin, Orkney @ *Peter Hazlehurst*, bottlenose dolphins off Anglesey @ *Peter Evans/SWF*, young sea-watcher, Bea, at Kinghorn in Fife @ *Ronnie Mackie*, common dolphins in Mount's Bay, Cornwall @ *Marine Discovery Penzance*, eager watcher on a specially arranged boat trip from Weymouth, Dorset @ *Catherine De Bertrand*, Research Intern, Tara, working hard to process public sightings @ *Kathy James/ SWF*, lunge-feeding minke whale off Whitby, Yorkshire @ *Jill Fraser-Smith at Whitby Whale Watching*, a beautiful scene at Wembury Marine Centre, Devon @ *Devon Wildlife Trust*.

NWDW 2017 was a record-breaking year in terms of the amount of hours spent on dedicated watching for cetaceans in UK waters (more than 300 hours greater than during the 2016 event).

With this increased amount of 'effort-data' it is clear that the event is building in popularity year on year and we continue to foster collaborations with a number of other conservation and recording organisations, not least with ORCA whose 'Ocean Watch' on offshore vessels was once again run alongside the NWDW to contribute data to the national recording event.

There were a vast number of sightings reports made too, second only to our bumper year in 2016.



Pictured: Volunteer Sea-watchers at Lee Abbey, North Devon by Dan Lay.

 **Results****Effort**

Thanks to the efforts of 445 volunteer cetacean observers all over the UK, 1529 hours of effort data were collected during the course of the nine-day event. These observers, collecting dedicated effort-related data (whereby a timed watch takes place and environmental details are systematically recorded), were stationed at 108 land watch sites and on 48 vessels around Britain (Fig.1). In addition to these, 170 volunteer observers reported casual sightings both from land and at sea. A further 1763 unnamed individuals were recorded in attendance at NWDW events. We anticipate that not all attendees were recorded at all events and that several hundred more people were also taking part.

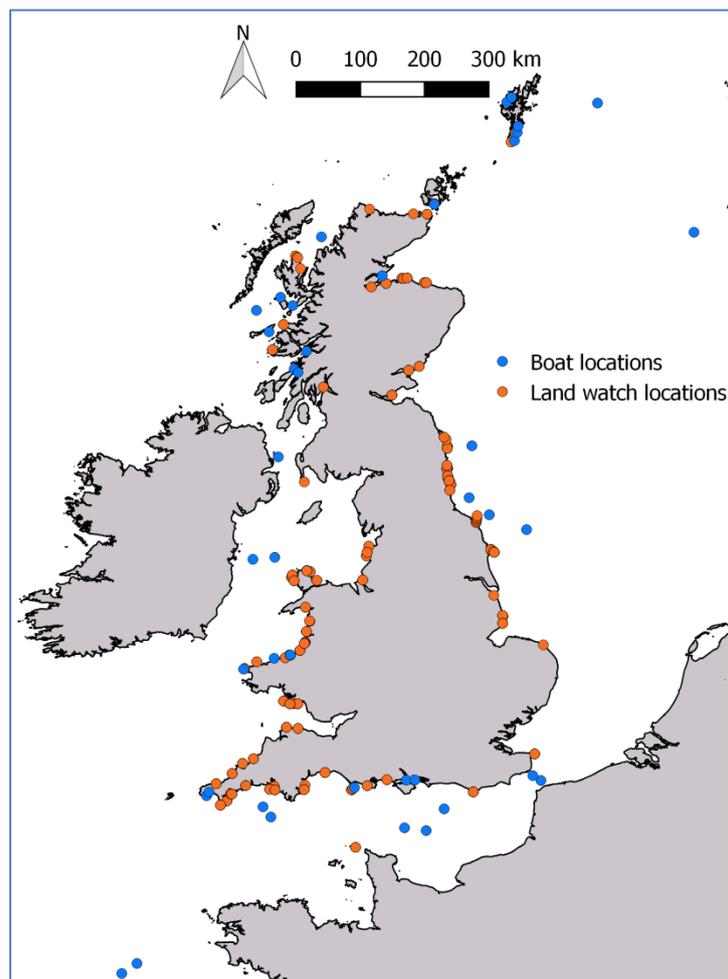


Figure 1. Watch locations for NWDW 2017 (n=156)

The 2017 event was the best yet in terms of volunteer hours spent watching our seas for cetaceans! 1529 hours of surveys were contributed at 108 land watch sites and on 48 vessels around the British Isles. We are particularly pleased with the increase in the number of land watch sites occupied which represented almost a 30% increase on the year before. Over fifty percent of the hours put in were from land-based locations with the remainder taking place on a range of vessels from small boats offering wildlife-watching tourist trips to cruise ships. Almost 600 hours were contributed by volunteers taking part in ORCA's Ocean Watch which deliberately coincided with the NWDW.

Once again, the volume of effort data recorded in each region varied widely and was strongly linked to observer numbers. Areas with strong regional networks and links with other organisations once again produced the highest levels of effort data collection (Fig 2.).

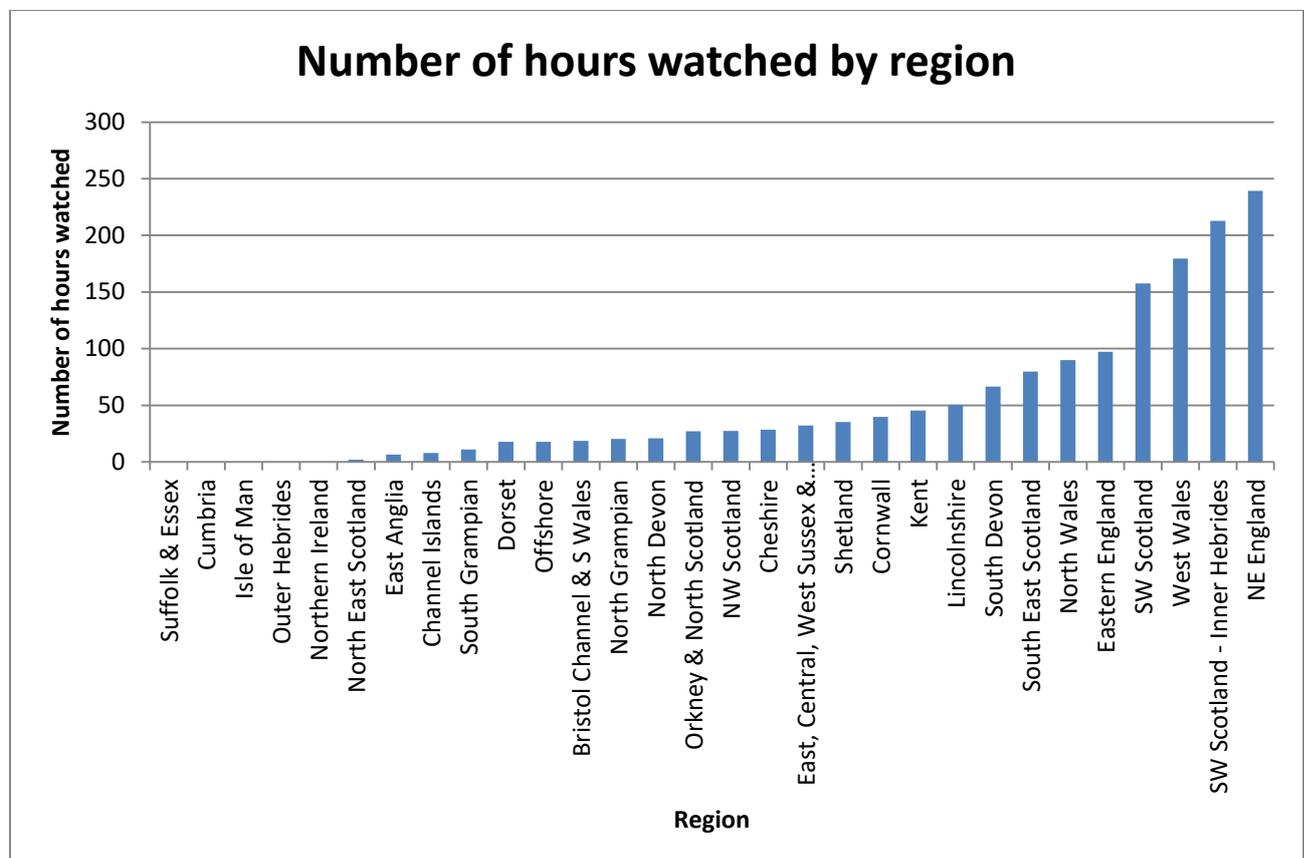


Figure 2. Number of hours of effort-related data collected by region

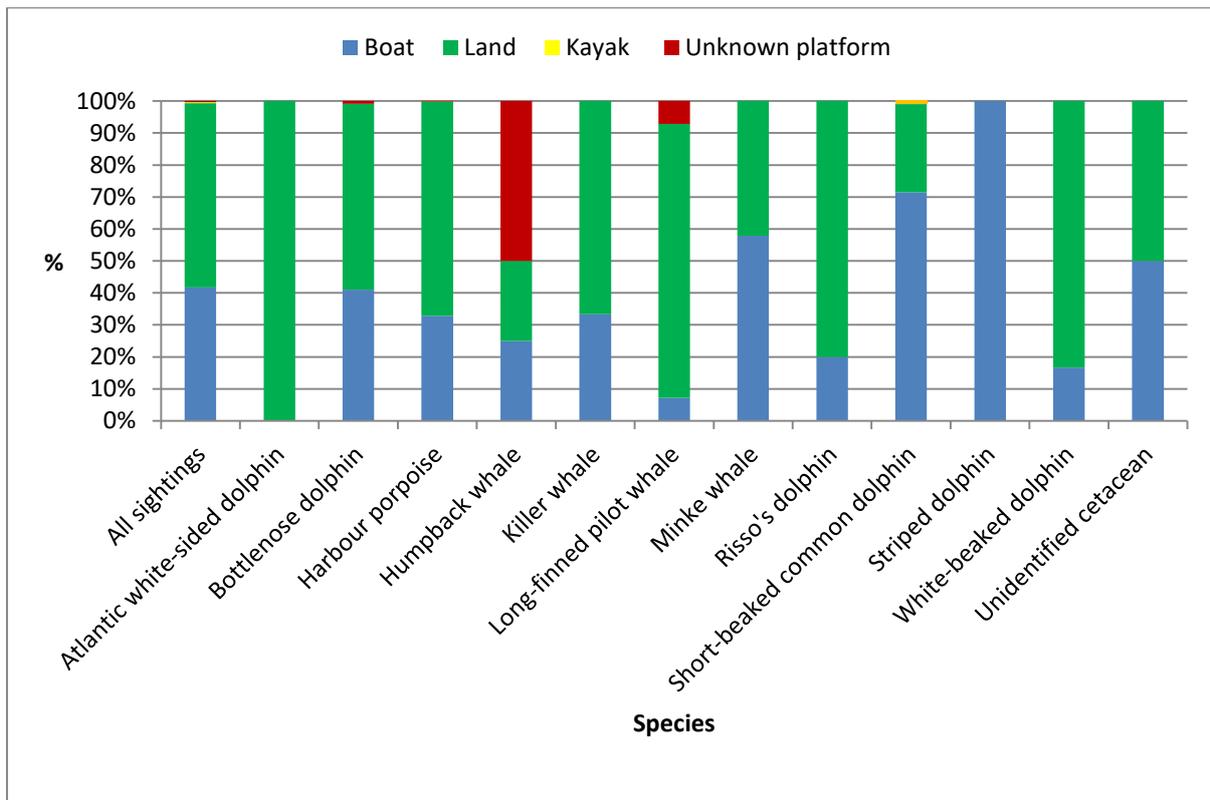


Figure 3. Proportion of sightings per species reported from land, boats, kayaks or unknown platforms

Fifty-two percent of effort data was recorded from the land during the 2017 event. The platform from which species were seen varied depending on the species in question (Fig.3). For widespread and coastal species such as the harbour porpoise and bottlenose dolphin, a larger proportion was sighted from land. This reflects the overall trend that 60% of records were from the land. Striped dolphin, which only accounted for one record (from the Ocean Watch dataset), were sighted from a vessel. Atlantic white-sided dolphin also only accounted for one record from the land.

Weather

Cetacean data collection is strongly weather dependant. Factors such as sea state, swell height and visibility to the horizon affect how easily animals can be detected during a watch. Heavy rain and wind can even cause watches to be cancelled altogether. For these reasons, every year, we rely heavily on good weather conditions for the success of NWDW. Similar to previous years, this year's event was scheduled over nine days in order to increase the chances of coinciding with a favourable weather window. As it happened, the event took place during a very changeable weather window beginning with generally above average rainfall. Northern Ireland and Scotland were sunnier than average, but sunshine over the rest of the UK was slightly below average. A summary of the weather conditions and sightings by day is provided in Appendices 1 and 2.



Pictured: It wasn't all rain! There was plenty of opportunity to get out on land and boat-based surveys like this chap on board Dolphin Spotting Boat Trips, New Quay, West Wales.
Photo by Kathy James/ Sea Watch Foundation.

Sightings

1410 sightings of cetaceans totalling 6590 individual animals were reported during the NWDW 2017 watch period (Fig.4). This represents the second highest NWDW sightings figure and only slightly fewer sightings than in 2016 when we hit the record figure of 1424.

Eleven different cetacean species were recorded around the UK which is in line with previous NWDW events (averaging 11.5 species over the past five years since the event has been nine days in length). The list of different species recorded during NWDW has varied year on year.

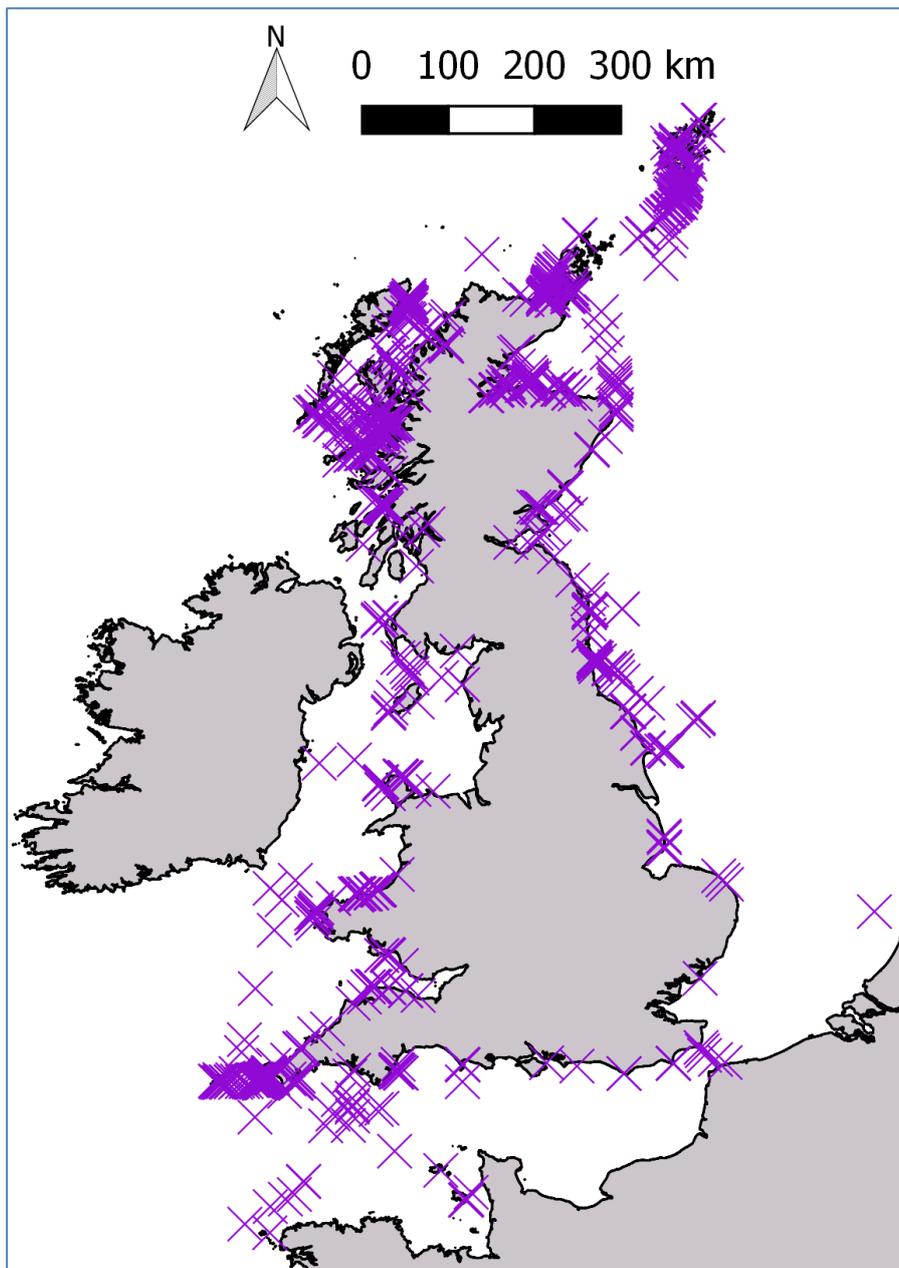


Figure 4. Sightings of cetaceans during NWDW 2017 (n=1410)

The distribution of sightings around UK coasts reflects a combination of factors: observer coverage, species distribution and sightability (how easily the cetaceans can be detected). Scotland once again held the highest number of sightings at 608 (43% of all the records), closely followed by England with 555 sightings (39% of total records), then Wales with 231 sightings (16% of total sightings records). Observers around the Channel Islands reported 11 sightings (>1% of the total), and there were five reports around the Isle of Man (also >1%). Unfortunately, no sightings were recorded in Northern Ireland.

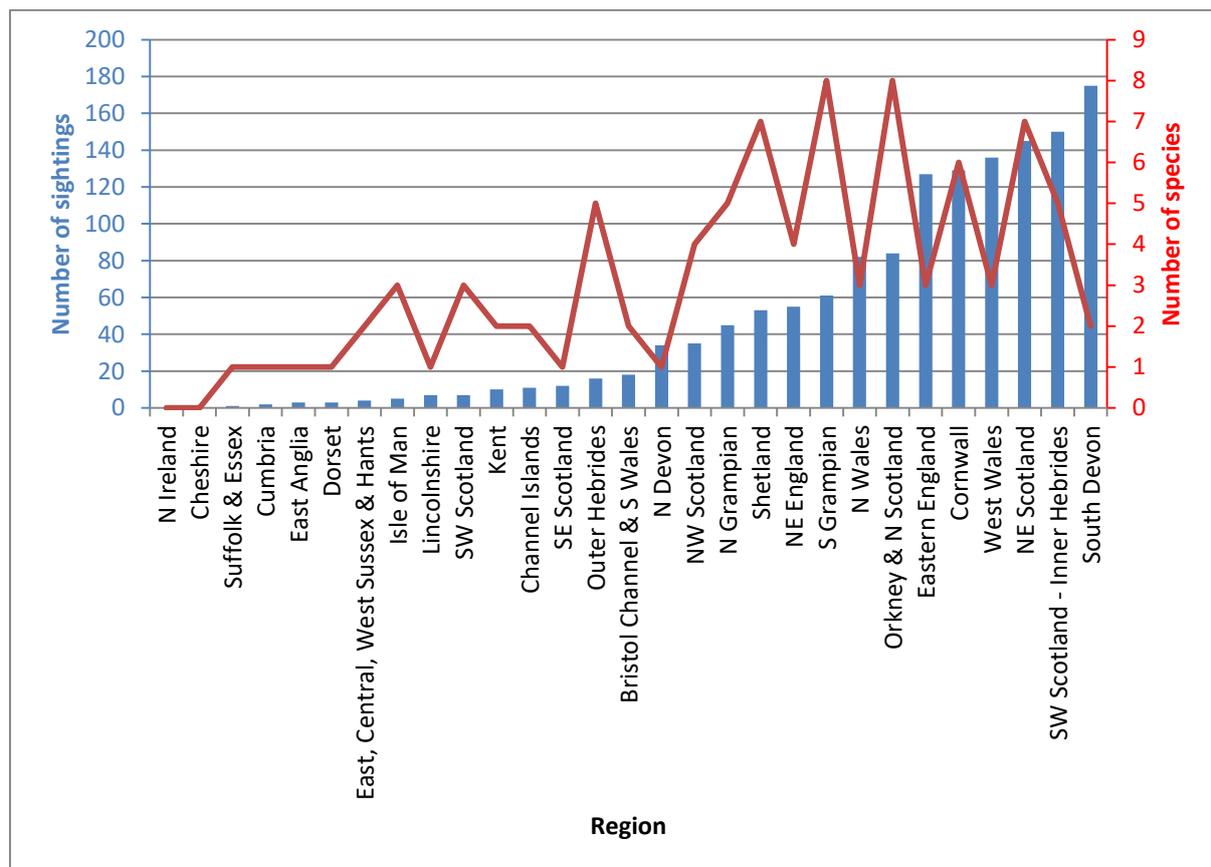


Figure 5. Number of sightings (casual and effort-related) and species per region during NWDW 2017

South Devon (175 sightings) and Southwest Scotland (150 sightings) were the most successful regions in terms of the absolute number of sightings reported, closely followed by Northeast Scotland (145 sightings).

Orkney and the north of Scotland as well as South Grampian saw the highest species diversity with eight species recorded in each. Shetland and Northeast Scotland also recorded high species diversity, with seven species reported in each region. The Outer Hebrides showed a very high species diversity for the number of sightings recorded (5 species).

No sightings were recorded off Northern Ireland or the Cheshire coastline of England. Whilst sighting numbers remain low in the south-east of England, there has been an increase this year, doubtless because of increased volunteer effort in these areas. The south-east of England along with Dorset, North Devon, Cumbria and South-east Scotland showed low species diversity (one or two species where sightings were made).

This year, the ratio of “casual” sightings (without associated effort data) to “effort-related” sightings has remained at a similar level to last year with casual records accounting for 33.5% of all sighting records reported during the event. The effort-related sightings percentage is 66.5%.

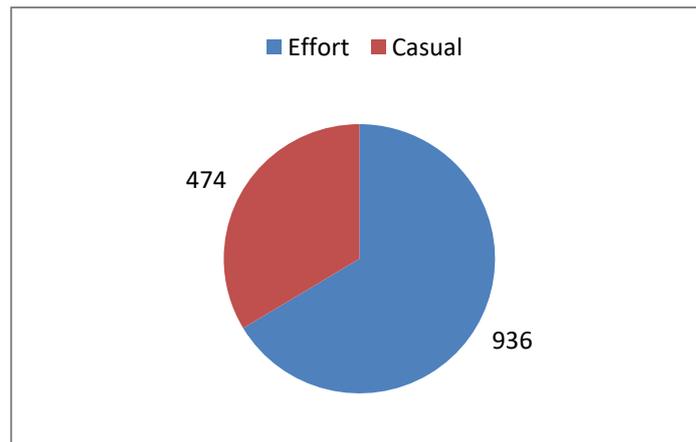


Figure 6. Proportion of effort related sightings (n=936; 66.5%) and casual sightings (n=474; 33.5%) recorded during NWDW 2017

Figure 7 places South Grampian as well as South Devon and Cornwall at the top of the list with sighting rates far superior to “1” (indicating an average of one or more cetaceans seen per hour of watching). Based on this year’s results, the UK’s national average sightings rate has remained steady at 0.93 or one cetacean seen each hour of watching.

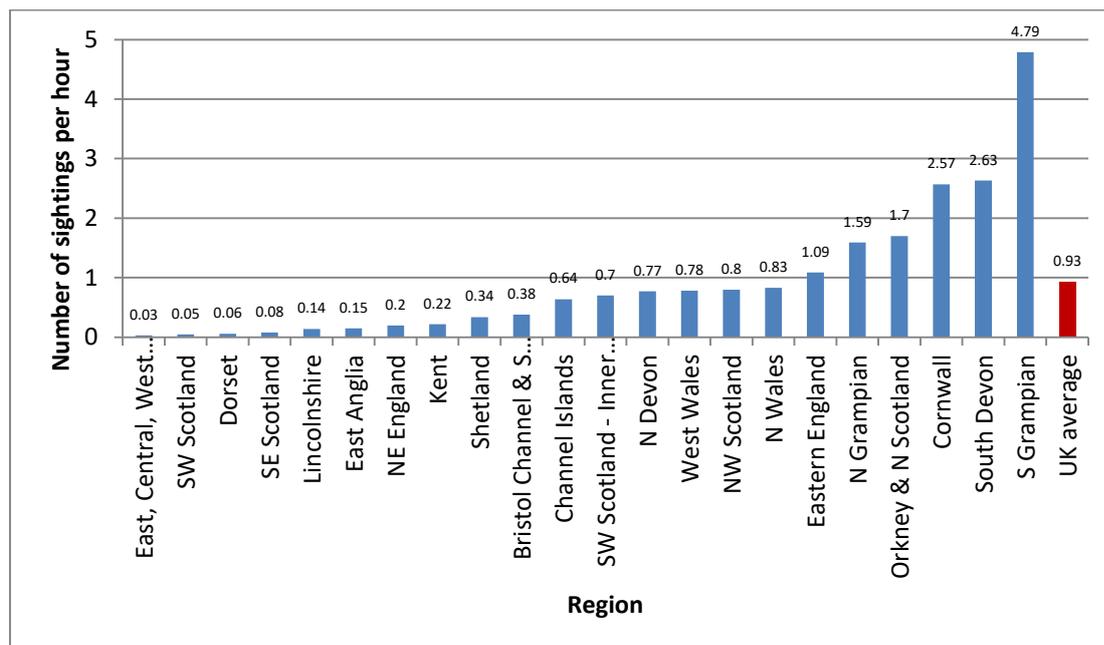


Figure 7. Sighting rates per region during NWDW 2017

Harbour Porpoise



Pictured: harbour porpoises photographed off Overstrand, Norfolk during NWDW 2017.
Photo by Carl Chapman.

Harbour porpoises are common in most parts of the UK and this was once again reflected by this year's NWDW results. The species was recorded 697 times and made up half of all records for the event (49.43%). As illustrated in Figure 8, sightings were distributed around the whole of the UK coastline and concentrated in areas of high effort such as Northeast England, the Inner Hebrides, North and West Wales, and Cornwall (Fig. 2). The size of groups of this species varied widely from a single individual to the largest aggregation of 20 animals which was seen in Mount's Bay, Cornwall (Table 1).

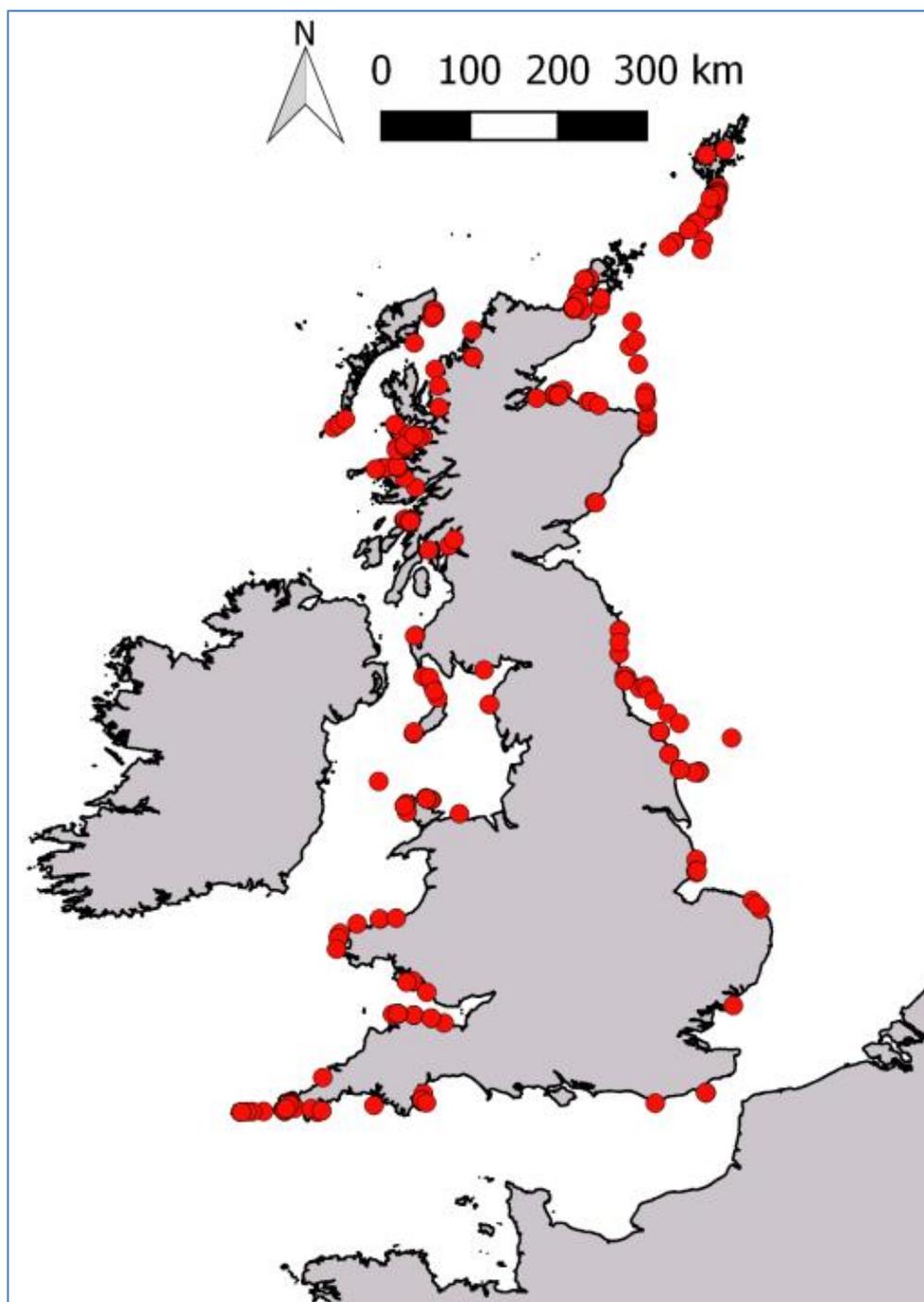


Figure 8. Sightings of harbour porpoise during NWDW 2017 (n=697; 49.43%)

Bottlenose dolphin



Pictured: Bottlenose dolphins photographed off Berwick-upon-Tweed, Northumberland during NWDW 2017.
Photo by Amber Thomas.

Once again, bottlenose dolphins were the second most frequently reported species during NWDW, with 224 sightings (15.89%). Two large semi-resident populations of bottlenose dolphins can be found in UK waters: one occupying Cardigan Bay, West Wales; the other largely in the Moray Firth, Northeast Scotland. Animals from both these populations were well recorded during the event, as illustrated in Figure 9. However, bottlenose dolphin sightings were actually widespread around the UK during the 2017 event, occurring even in Southeast England.

1041 individual bottlenose dolphins were recorded during the event. We cannot assume that all of these sightings were of different dolphins, many animals will have been spotted more than once. The largest groups of 20 individuals were seen off West Sussex, Northumberland and Aberdeen (Table 1).

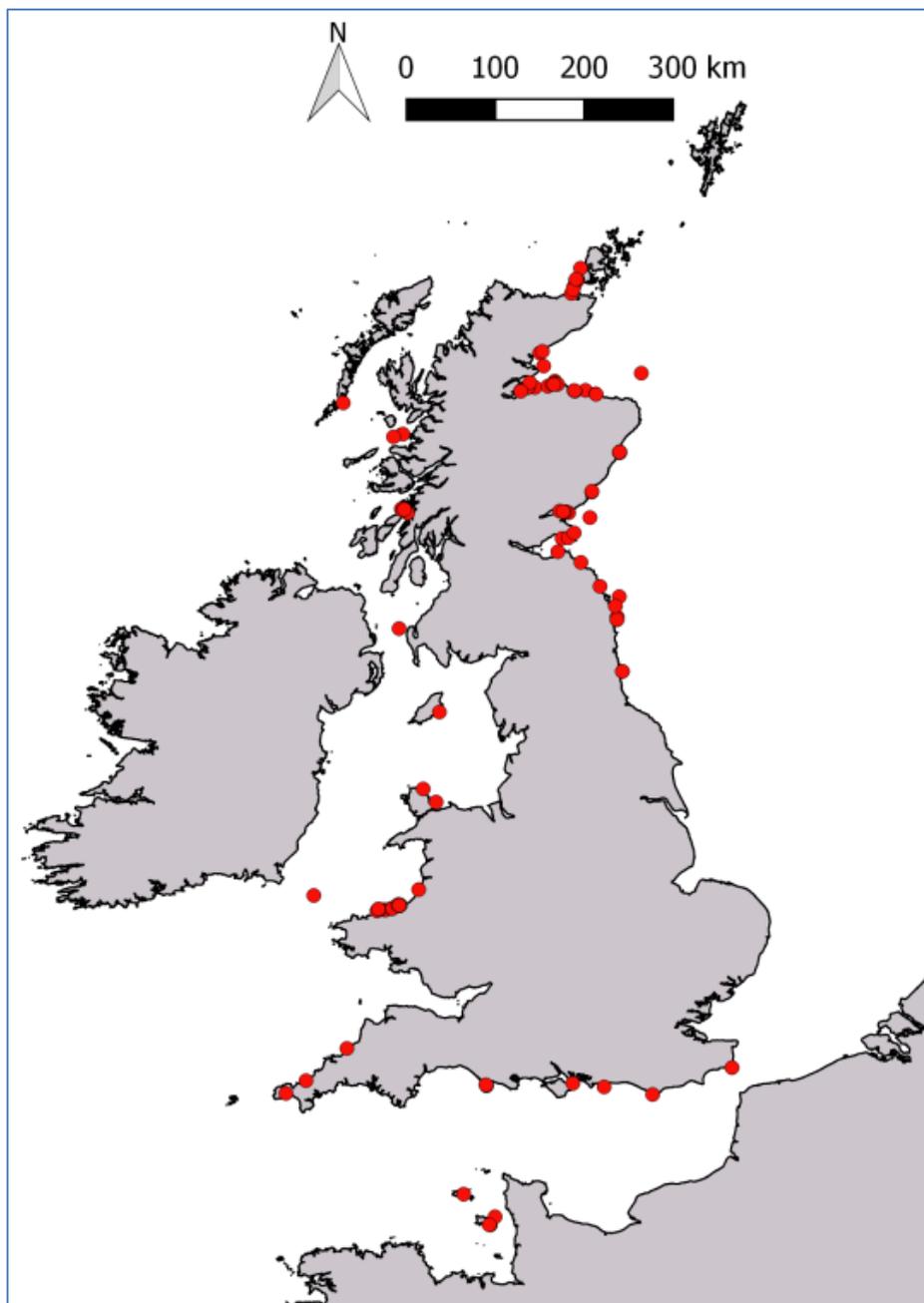


Figure 9. Sightings of bottlenose dolphins during NWDW 2017 (n=224; 15.89%)

Minke whale



Pictured: minke whale with St Buryan, Cornwall, in the background.

Photo by Marine Discovery Penzance.

The most frequently reported whale species was the minke whale, accounting for 8.1% of the entire sightings total. The species was mainly seen in the northern half of the British Isles, but with further sightings reported off Cornwall (Fig. 10). The largest group of eleven minke whales was seen off Penzance, Cornwall (Table 1).

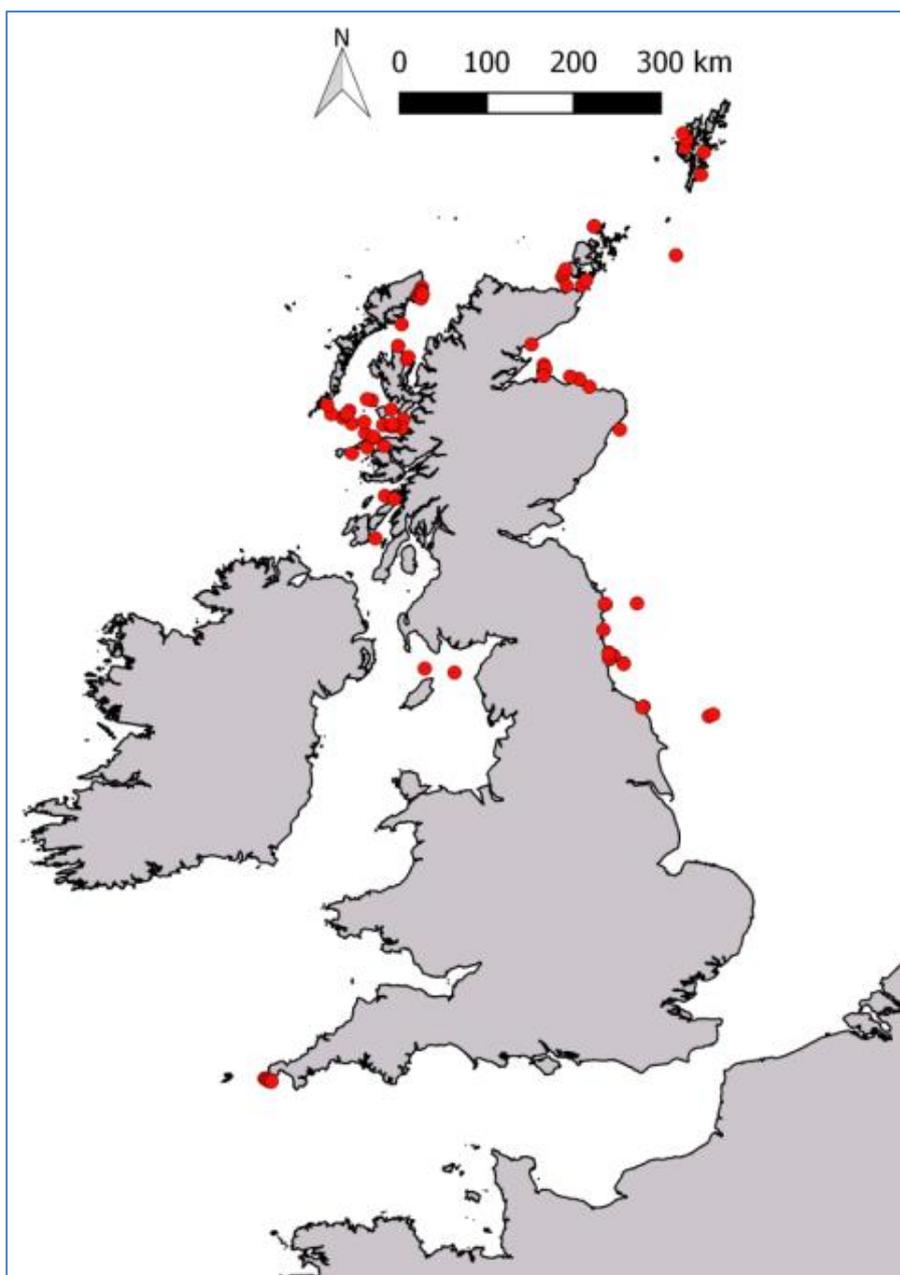


Figure 10. Sightings of minke whales during NWDW 2017 (n=114; 8.09%)

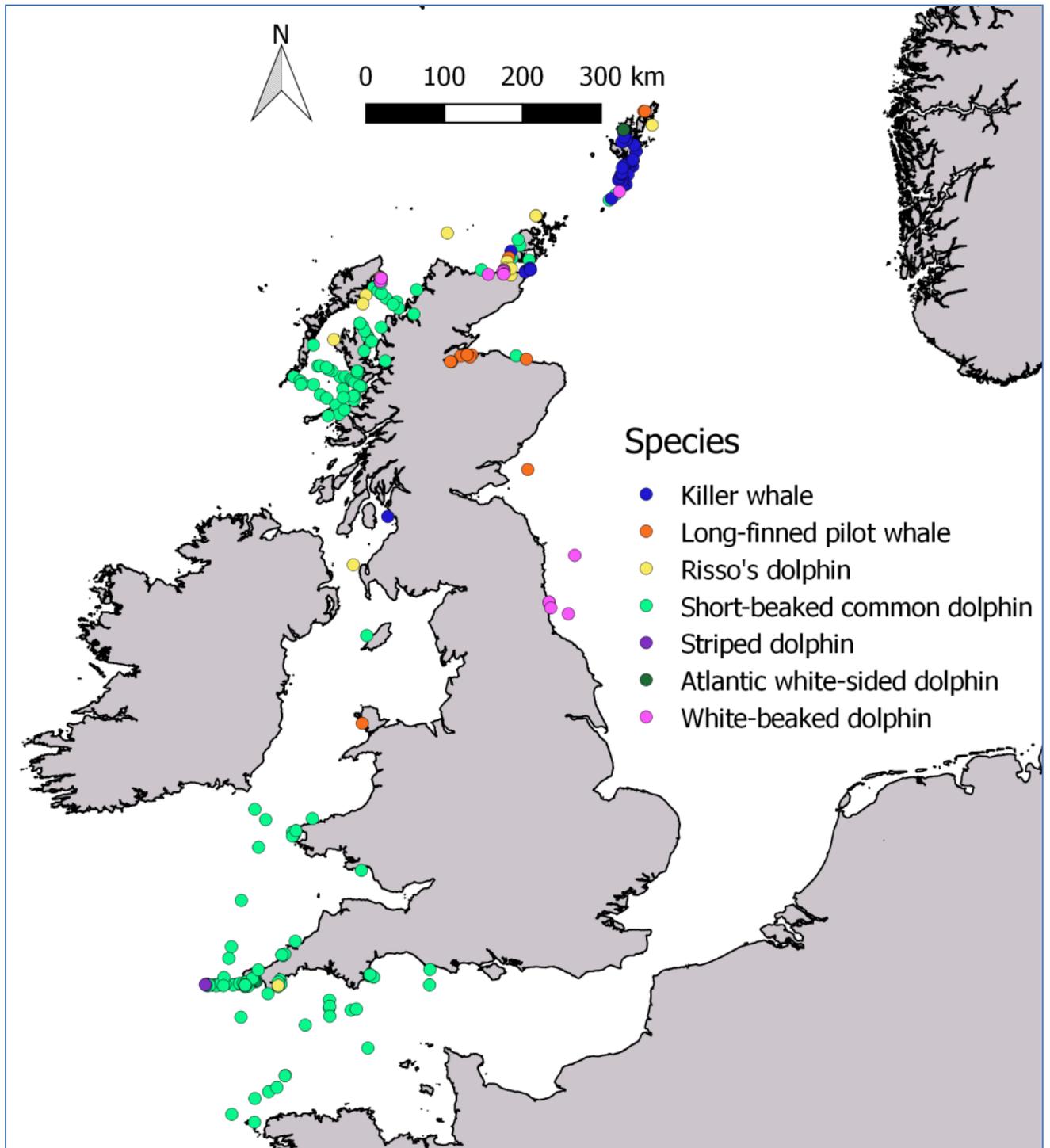


Figure 11. Killer whale (n=39; 2.77%), long-finned pilot whale (n=14; 0.99%), Risso's dolphin (n=35; 2.48%), short-beaked common dolphin (n=207; 14.68%), striped dolphin (n=1; 0.07%), Atlantic white-sided dolphin (n=1; 0.07%), white-beaked dolphin (n=18; 1.28%) during NWDW 2016.

Short-beaked common dolphin



Pictured: common dolphins from Marine Discovery off Penzance.
Photo by Rebecca Knee.

Common dolphins were the third most abundant species recorded during the 2017 NWDW event, with 207 sightings being made accounting for 14.7% of all records. The species showed a predominantly westerly distribution. The largest group (150) was recorded in Falmouth Bay, Cornwall (Fig.11, Table 1).

White-beaked dolphin

Other species of dolphins were less frequently reported but nevertheless presented clear distributions. White-beaked dolphins were reported 18 times (1.3% of total sighting reports) and were concentrated off the north-east coast of England and north of Scotland. The maximum observed group size for this species was 30 animals, seen off Northumberland and Caithness (Fig. 11, Table 1).

Striped dolphin

Striped dolphins made one appearance during the NWDW, off Cornwall. Five animals were recorded near to St Mary's, Isles of Scilly (Fig. 11, Table 1).

Atlantic white-sided dolphin

There was only one record of a group of 15 Atlantic white-sided dolphins off Shetland (0.07% of all records) (Fig. 11, Table 1).

Killer whale



Pictured: a killer whale off Brae, Shetland. Photo by Rhona Clarke.

Killer whales were reported 39 times during the event, in the waters around Shetland, Orkney, North Scotland and the west coast of Scotland. The largest group consisted of 7 animals around Shetland (Fig. 11; Table 1).

Risso's dolphin



Pictured: a Risso's dolphins photographed off Noup Head, Orkney. Photo by Peter Hazelhurst.

Risso's dolphins were recorded along the west coast of Britain from Pembrokeshire right up to North-west Scotland and Shetland. This species appeared 35 times (2.5% of all sightings). Group size varied from one animal to 35 seen off Thurso, Caithness (Fig. 11; Table 1).

Long-finned pilot whale



Pictured: Pilot whales in the Moray Firth. Photo by Pippa Low/North 58

There were 14 sightings of pilot whales during the NWDW, accounting for 0.99% of the total number of sightings. These mainly occurred in the wider Moray Firth (a group numbering up to 30 individuals) but sightings also occurred offshore Arbroath in eastern Scotland and a stranded neonate was recorded on an Anglesey beach in Wales (Fig. 11; Table 1).

Other whales

Four humpback whale records came from the Isle of Man and Aberdeenshire. There were also 56 reports of unidentified cetaceans accounting for 190 animals. These unidentified sightings reports were spread around the UK (Fig. 12, Table 1).

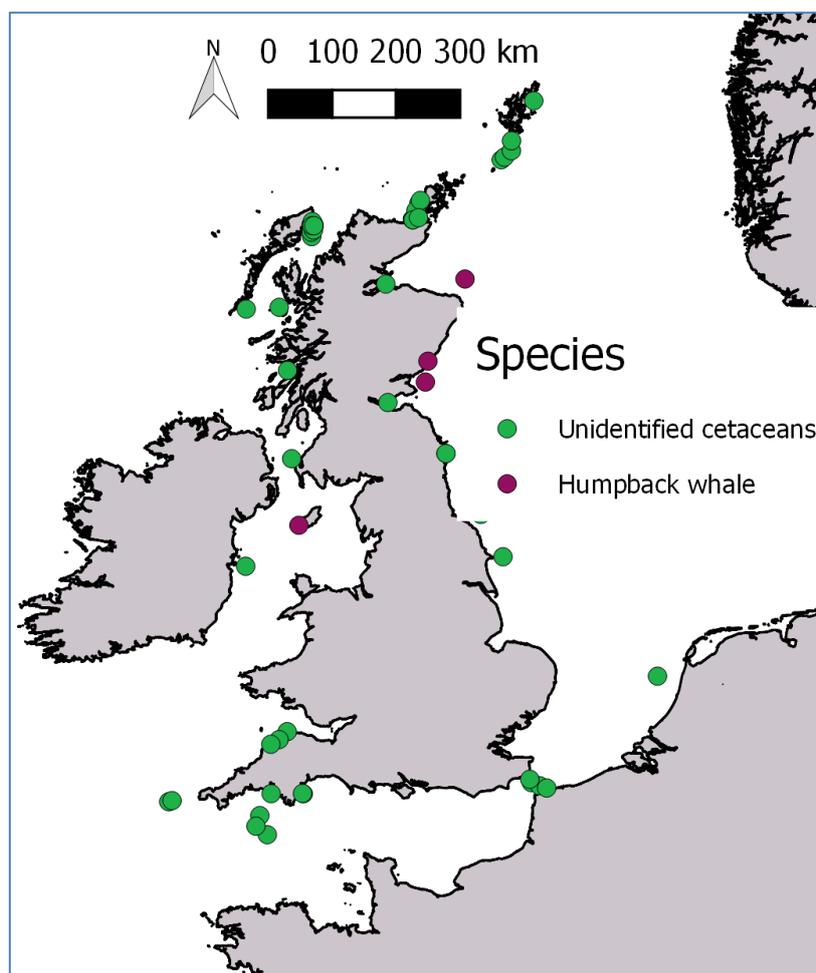


Figure 12. Distribution of humpback whales (n=4; 0.28%) and unidentified cetaceans (n=56; 3.97%) during NWDW 2017

Table 1. Quantitative description of sightings per species during NWDW 2017

Species	No. of sightings	%	No. of individuals	%2	Av Group Size
Atlantic white-sided dolphin	1	0.07	15	0.23	15.00
Bottlenose dolphin	224	15.89	1041	15.80	4.65
Harbour porpoise	697	49.43	2107	31.97	3.02
Humpback whale	4	0.28	4	0.06	1.00
Killer whale	39	2.77	204	3.10	5.23
Long-finned pilot whale	14	0.99	229	3.47	16.36
Minke whale	114	8.09	137	2.08	1.20
Risso's dolphin	35	2.48	198	3.00	5.66
Short-beaked common dolphin	207	14.68	2296	34.84	11.09
Striped dolphin	1	0.07	5	0.08	5.00
White-beaked dolphin	18	1.28	164	2.49	9.11
Unidentified cetacean	56	3.97	190	2.88	3.39
Totals	1410	100	6590	100	7.34

ACKNOWLEDGEMENTS

The National Whale and Dolphin Watch would not be possible without the sterling efforts of volunteers up, down and around the UK. Sea Watch, and its Sightings Officer in particular, would like to extend thanks to all the incredible volunteers who gave up their time to record cetaceans during the event and to offer particular thanks to those who record throughout the year. Often unsung heroes of the scheme are the various volunteer Regional Coordinators spread around the UK, tirelessly striving to improve knowledge about, and monitoring of, the UK's cetaceans. We are ever grateful for your support. Once again, thanks go to Oli Claydon of the Met Office for his provision of satellite maps for the report. Additional thanks to Amanda Sleath and Laura Bartlett-Short along with our team of enthusiastic research interns for their invaluable assistance in the run-up to, during and after the event with regards to recording and advertising watches, organising and running NWDW themed educational events, speaking with observers, and undertaking data entry. Lastly, heart-felt thanks to Lauren Fidler, our 2017 National Whale and Dolphin Watch Assistant for her boundless enthusiasm, bright ideas and hard work throughout.

APPENDIX 1.**General overview of the weather by country for the period of NWDW 2017 (Met Office – metoffice.gov.uk)**

From the 21st [July] it was wet and often quite cool, with some heavy persistent rain at times especially in the south, while in Scotland and Northern Ireland the weather was mostly bright and showery. It was slightly warmer than average in the Midlands, East Anglia and southern England, but slightly cooler than average in Scotland and Northern Ireland. Rainfall was generally above normal, particularly in the south, and many parts of central southern and south-east England had over twice the normal amount. Sunshine was generally near or slightly below normal over much of England, Wales and southern Scotland, but it was sunnier than average in Northern Ireland and in North-west Scotland.

The start of August saw a continuation of the generally westerly flow which had been in place through the second half of July. This brought cloud and rain at times, with only brief intervals of fine weather, and it was mostly cool. Temperatures were near average in Northern Scotland and some eastern coasts, and rather below elsewhere. Rainfall was generally above normal, with more than 150% of average in places, but South Wales, Norfolk and Northumberland were a little drier than average. Sunshine was generally near normal, slightly below in some western areas with the brightest area being North-east England.

England

There were showers across the north on the 29th, and more general rain over the south from mid-morning onwards. Sunshine and showers on the 30th, and the showers turned progressively more widespread, heavy and thundery as the day went on, particularly over the spine of Devon and Cornwall with 79 mm recorded at Okehampton (Devon). The 31st was another day of sunshine and showers, with the showers heaviest and most frequent in the west. Heavy showers on the 1st spread east and thunderstorms developed mainly to the east of the Pennines. The 2nd was cloudy and rain spread from the South-west, heavy across southernmost counties. The 3rd was brighter for many, punctuated by showers, heaviest in the north. There was sunshine mixed with scattered showers on the 4th. The 5th also had sunshine and showers, these showers [turned] thundery in some places. It was sunny in the South-east on the 6th, but rain spread into western parts and the Midlands during the day.

Wales

It was generally cloudy on the 29th with isolated showers, and turned wet in the south in the evening. There was sunshine on the 30th, but with showers, becoming heavier and more frequent as the day went on. The 31st was another day of sunshine and scattered showers. There were heavy showers on the 1st, with 10 to 20 mm of rain across Carmarthenshire. Rain on the 2nd turned showery and Capel Curig (Gwynedd) recorded 45.4 mm. Showers almost everywhere on the 3rd, but it was brighter along Gwynedd coasts. The 4th was a much brighter day with 10.4 hours of sunshine at Valley (Anglesey), though there were scattered showers elsewhere. Bright spells and thundery showers on the 5th, and it was wettest through south central parts. It was sunny in the south on the

6th, cloudy and cool in the north with a maximum of only 13.4 °C at Lake Vyrnwy (Powys), and turned wet everywhere by the evening with 45.8 mm of rain at Capel Curig (Gwynedd).

Scotland

There were showers for most on the 29th and it was particularly wet over in the west. It was showery again on the 30th, and again wettest in the west. Sunshine and frequent showers on the 31st over all of the country. There were showers on the 1st, heaviest north-west of the Great Glen. It remained unsettled on the 2nd with longer spells of rain spreading north from late morning. Showers again on the 3rd, particularly wet across the north Highlands and Shetland, but with brighter spells in the south and east. It was wet on the 4th with rain or showers, heaviest across the Northwest Highlands. The 5th had a mixture of sunshine and showers. It was sunny over the east on the 6th, cloudy elsewhere with rain crossing central and southern areas during the day, followed by widespread showers later on.

Northern Ireland

There was sunshine mixed with frequent heavy showers and isolated thunderstorms between the 27th and 31st with northern areas seeing the majority of the showers. Heavy showers spread east on the 1st and turned thundery for some. Further rain spread northwards during the 2nd, turning more showery later. Showers on the 3rd became increasingly frequent across northern districts towards evening. The 4th was much brighter, with only isolated showers. Staying bright on the 5th with showers again, but a cooler day. The 6th was wet in the morning, brighter but very showery in the afternoon.

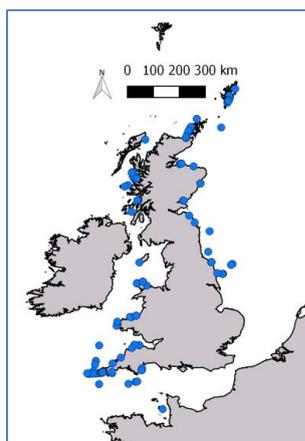
APPENDIX 2 – Weather

General overview of the weather by day during the period of NWDW 2017 using pressure maps from Magic Seaweed and satellite maps from the Met Office.

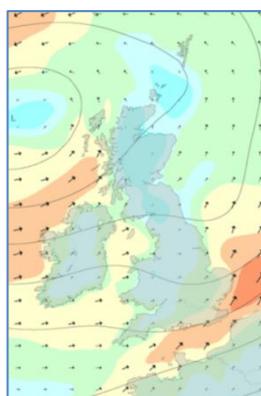
Key for Wind force maps:



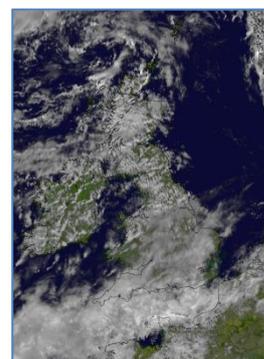
Saturday, 29th July



Cetacean sightings on day 1 of NWDW 2017 (29th July)

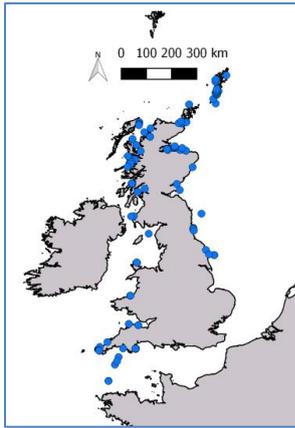


Wind map on day 1 of NWDW 2017 (29th July)



Satellite map on day 1 of NWDW 2017 (29th July)

Sunday, 30th July



Cetacean sightings on day 2 of NWDW 2017 (30th July)

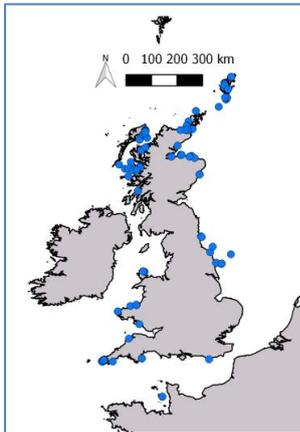


Wind map on day 2 of NWDW 2017 (30th July)



Satellite map on day 2 of NWDW 2017 (30th July)

Monday, 31st July



Cetacean sightings on day 3 of NWDW 2017 (31st July)

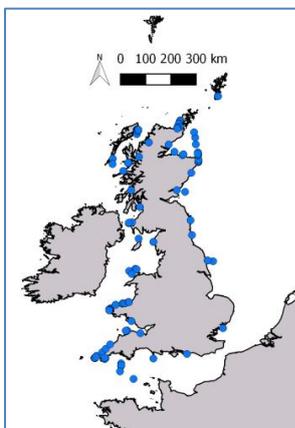


Wind map on day 3 of NWDW 2017 (31st July)

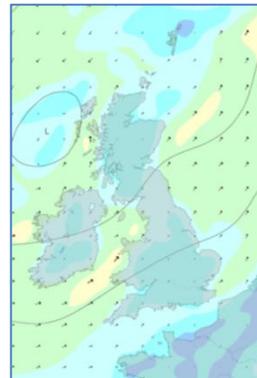


Satellite map on day 3 of NWDW 2017 (31st July)

Tuesday, 1st August



Cetacean sightings on day 4 of NWDW 2017 (1st August)

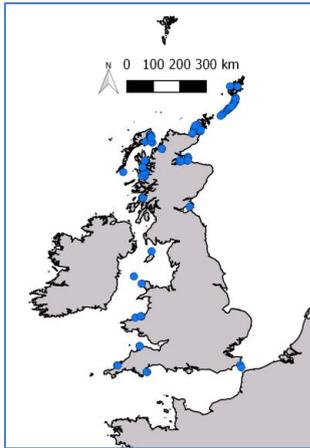


Wind map on day 4 of NWDW 2017 (1st August)

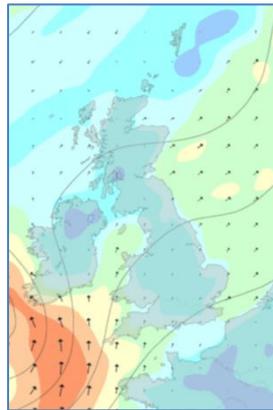


Satellite map on day 4 of NWDW 2017 (1st August)

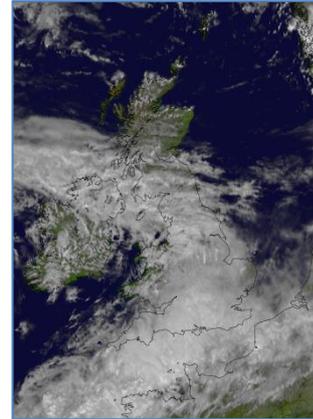
Wednesday, 2nd August



Cetacean sightings on day 5 of NWDW 2017 (2nd August)

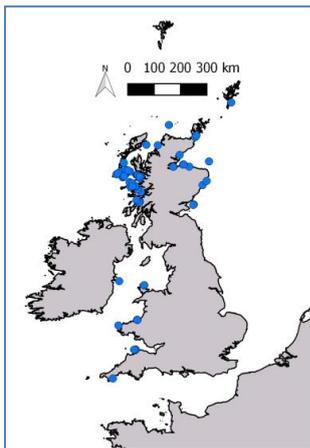


Wind map on day 5 of NWDW 2017 (2nd August)



Satellite map on day 5 of NWDW 2017 (2nd August)

Thursday, 3rd August



Cetacean sightings on day 6 of NWDW 2017 (3rd August)

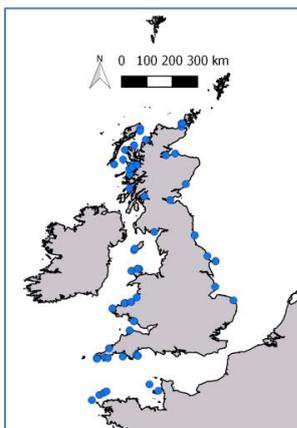


Wind map on day 6 of NWDW 2017 (3rd August)

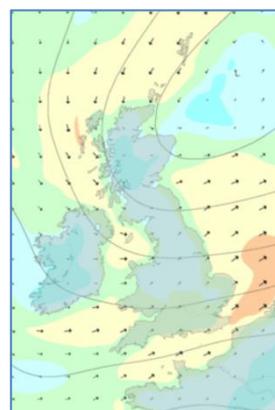


Satellite map on day 6 of NWDW 2017 (3rd August)

Friday, 4th August



Cetacean sightings on day 7 of NWDW 2017 (4th August)

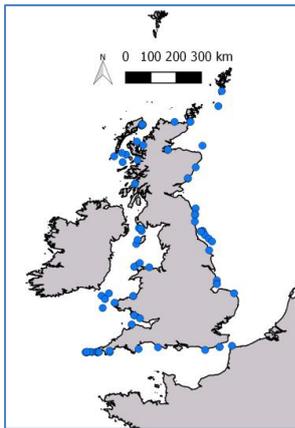


Wind map on day 7 of NWDW 2017 (4th August)

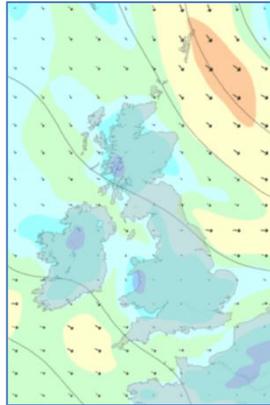


Satellite map on day 7 of NWDW 2017 (4th August)

Saturday, 5th August



Cetacean sightings on day 8 of NWDW 2017 (5th August)

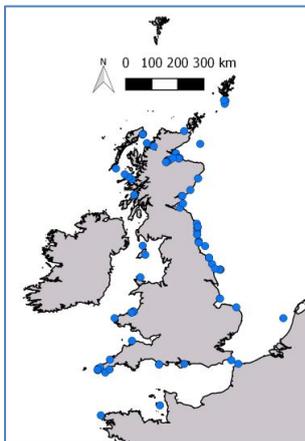


Wind map on day 8 of NWDW 2017 (5th August)

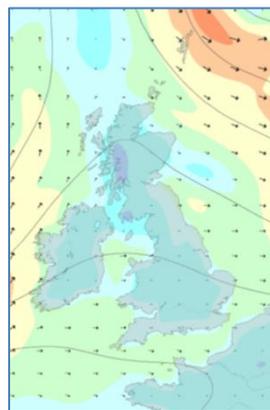


Satellite map on day 8 of NWDW 2017 (5th August)

Sunday, 6th August



Cetacean sightings on day 9 of NWDW 2017 (6th August)



Wind map on day 9 of NWDW 2017 (6th August)



Satellite map on day 9 of NWDW 2017 (6th August)