

National Whale and Dolphin Watch 2020



25th July - 2th August

Facts and Figures



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|--|---|
|  1,938 hours of observation |  185 land watch sites |
|  1,348 sightings reported |  50 vessels |
|  9,784 individual animals |  UK sightings rate of 0.59 animals |
|  9 different cetacean species | per hour of watching |
|  4 different non-cetacean species | |

Memorable sightings include: Humpback whales off Grishipoll, in the Inner Hebrides; Risso's dolphin groups off the Outer Hebrides, Shetland, Orkney and NE Scotland; killer whale pods off Shetland and around Caithness; common dolphins and large pods of Atlantic white-sided dolphins sighted around Shetland.

Introduction

2020 marked the eighteenth year of Sea Watch Foundation's National Whale and Dolphin Watch event. Sea Watch has monitored whales, dolphins and porpoises in British waters for over forty years with the help of volunteer observers all around the UK. For the past 18 years this has been spearheaded through an annual national recording event, the National Whale and Dolphin Watch (NWDW), which marks the long-lasting collaboration between citizen scientists, wildlife enthusiasts, the general public, and researchers alike.

The aim of the survey has been to obtain a snapshot picture of the status and distribution of some of the species of cetaceans (whales, dolphins and porpoises) recorded in UK waters through systematic watches from both land and sea, as well as casual watches, whilst also raising public awareness of the wealth of marine mammals we have around our coasts.

The use of 'non-scientific members' of the general public or 'non-specialist volunteers' to collect data on cetaceans to investigate their status, distribution, abundance and wellbeing has been pioneered in the UK by the Director of Sea Watch Foundation. This organisation, dedicated to marine research, conservation and education, established a nationwide citizen science project in the 1970s by creating a network of voluntary observers who report sightings of cetaceans from all around the UK, and whose help is vital to improve our knowledge of the health of the marine environment and its inhabitants. Sea Watch encourages observations and recording throughout the year, but it is during the NWDW event that everyone is given a unique opportunity to collect a large amount of scientifically valuable data over a concentrated time period, and to learn from each other at publicised sites.



A marked harbour porpoise was photographed off Rillage Point, Devon, on 31st July 2020.
Photo credit: Rupert Kirkwood.



A selection of photographs from this year's event: (left to right, top to bottom): Young Sea Watch volunteers looking out for cetaceans off Kirkcudbright, Northumberland, ©Colin Rienewerf. Sea Watch volunteer involved in very early land-watch from Whitburn Bird Observatory, ©Paul Hindness. Sea Watch 2019 NWDW assistant involved in a 2020 land-watch in Elgol, Skye ©Charlotte Andrews. Mother and son land-watching and having fun at Heysham Cliffs, Lancashire ©Shelby Williams. Land-watching from the seaside wall at Blackpool ©Sian McGuinness. Front Cover image: Sea Watch volunteer and Bailey, the dog, looking out for cetaceans at Scrabster, Caithness ©Zoe Doran.

NWDW 2020 recorded nine species of cetaceans, two of pinnipeds and two of non-cetacean species seen around the British Isles. This is significantly lower than the number of species recorded last year but pretty solid considering the tight covid-19 restrictions which were set in place this year.

This year's NWDW marks also the great collaborations with twenty-nine different conservation and recording organisations (a full list is provided in the acknowledgement section), including ORCA, Hebridean Whale and Dolphin Trust (HWDT), Yorkshire Wildlife Trust, MARINELife, and Manx Whale and Dolphin Watch, who have contributed data collected from boats (inshore and offshore) and from land stations in different parts of the British Isles.



Volunteer and her beloved dog Buster are land-watching at Portland Bill, Dorset, on July 26th.
Photo credit: Catherine de Bertrand.



Bottlenose dolphins sighted onboard Guernsey Island Rib Voyages on July 30th, 2020.
Photo credit: Laura Harm.



Effort

During the 2020 NWDW, 752 volunteer observers all across the UK spent a total of 1,739 hours collecting effort-related data (including information on environmental parameters collected at regular intervals throughout each watch) stationed at 185 land watch sites and on 50 vessels around the British Isles (Fig.1). An additional 25 observers reported casual sightings both from land and at sea.

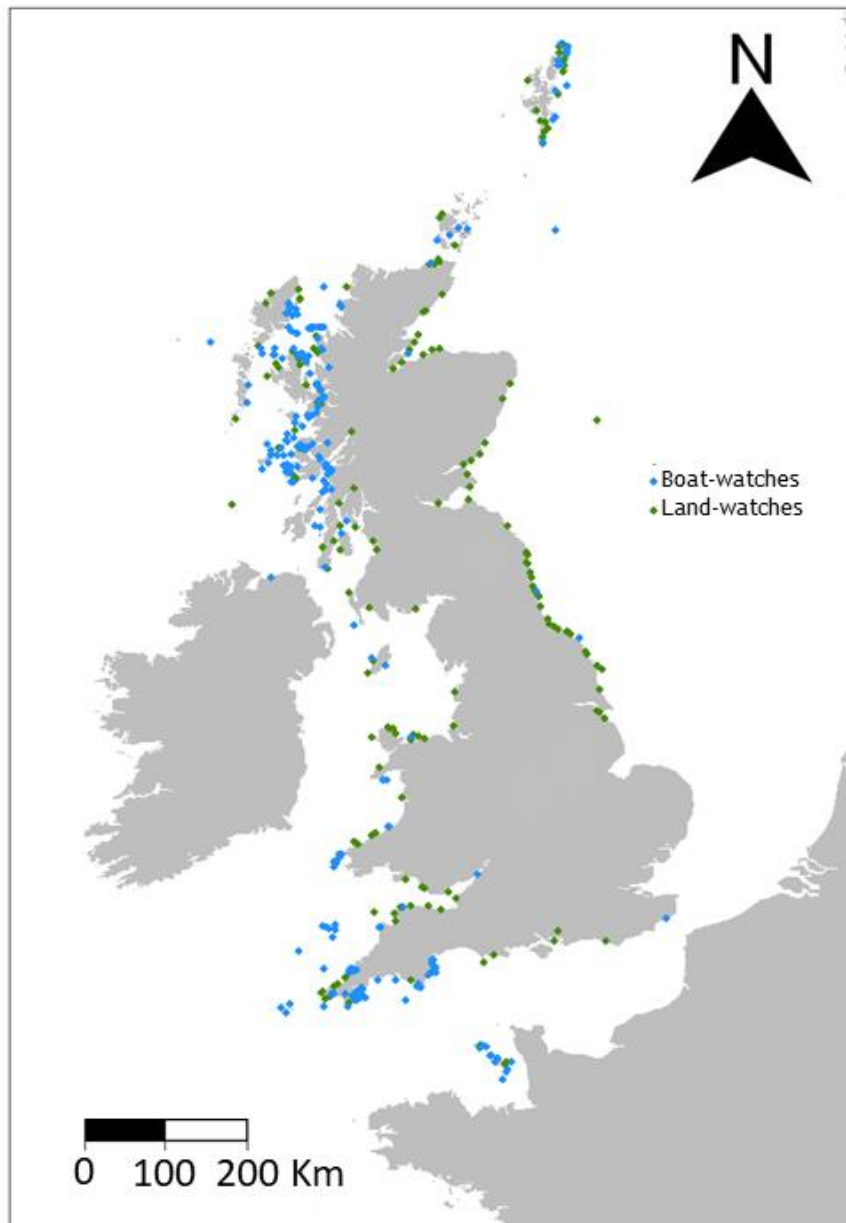


Figure 1. Watch locations for NWDW 2020 (n=185). Blue are locations of boat watches, green of land watches.

The 2020 event totalled 1,938 hours of watches conducted, over 500 hours more than in 2019. Around eight percent of the total amount of hours spent collecting effort-related data came from land-based locations. Considering the hours spent conducting boat trips, Marine Discovery Penzance based in Penzance, Cornwall (199 hrs), AK Wildlife Cruises based in Falmouth, Cornwall (164 hrs), Quinquari Marine (119 hrs) and Newquay Sea Safari and Fishing (28 hrs) spent the highest number of hours conducting boat trips during the event.

With regards to the amount of effort hours spent collecting data in each region around the country, this varied widely, and was strongly linked to observer numbers, the presence of a regional coordinator, as well as to links with other organisations which together produced the highest levels of effort data collection (Fig. 2).

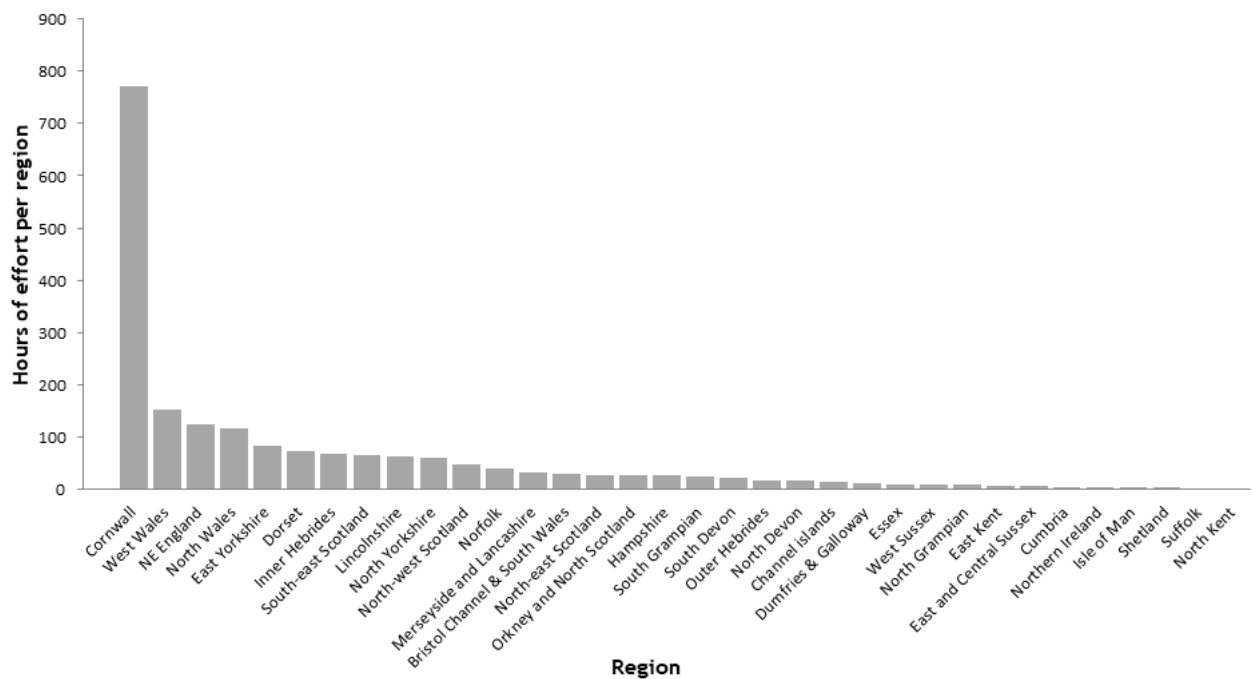


Figure 2. Number of hours of effort-related data collected by region.

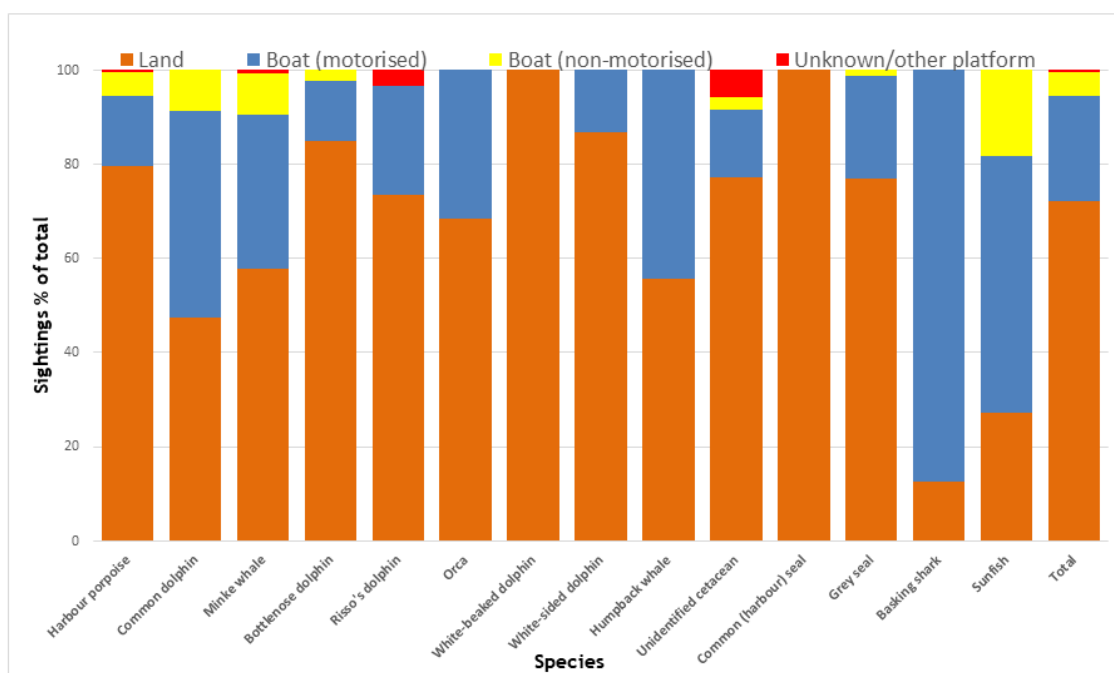


Figure 3. Proportion of sightings per species reported from land, boats (motorised and non-motorised), other (e.g. helicopter, rig), and unknown platforms

Seventy-two percent of all sightings were recorded from the land during the 2020 event. Most sightings were from different types of platforms at sea. The type of platform from which whales and dolphins were sighted varied according to each species' distribution and habitat use (Fig.3).

Weather

The ability to detect cetaceans and collect sightings information is strongly affected by several weather parameters such as sea state, swell height, glare and visibility. When the weather deteriorates due to strong winds and/or heavy rain, watches may even be cancelled altogether as conditions are no longer suitable to collect presence and absence data. Taking this into account, every year NWDW is organized over a period of nine days to increase the chances of getting favourable weather conditions to conduct land and boat watches at different sites around the UK. This year, weather was changeable, but with temperatures generally well above average. A summary of the weather conditions and daily sighting maps are provided in Appendices 1 and 2.

Sightings

1,348 sightings of cetaceans totalling 9,784 individual animals were reported during NWDW 2020 (Fig.4). This number of sightings is lower than the estimates recorded in the last four years but circumstances this year differ markedly from any other year when this event has been run. Nine different cetacean species and four non-cetacean species were recorded

around the UK, a number previously recorded in 2006 and 2009. The lowest amount of species (eight in total) was recorded in 2007, and the highest (13 species) in 2015.



Figure 4. Sightings of cetaceans during NWDW 2020 (n=1,348)

With regards to the distribution of cetacean sightings around the UK, this depends on various factors: the effort spent by each observer, the species distribution, and their sightability (how easily the animals can be detected). England recorded the highest number of sightings (n=643, 47.70% of all the records), closely followed by Scotland with 510 sightings (37.83% of total records), then Wales with 194 sightings (14.39% of total sightings records). One sighting was also recorded in Northern Ireland (0.07%).

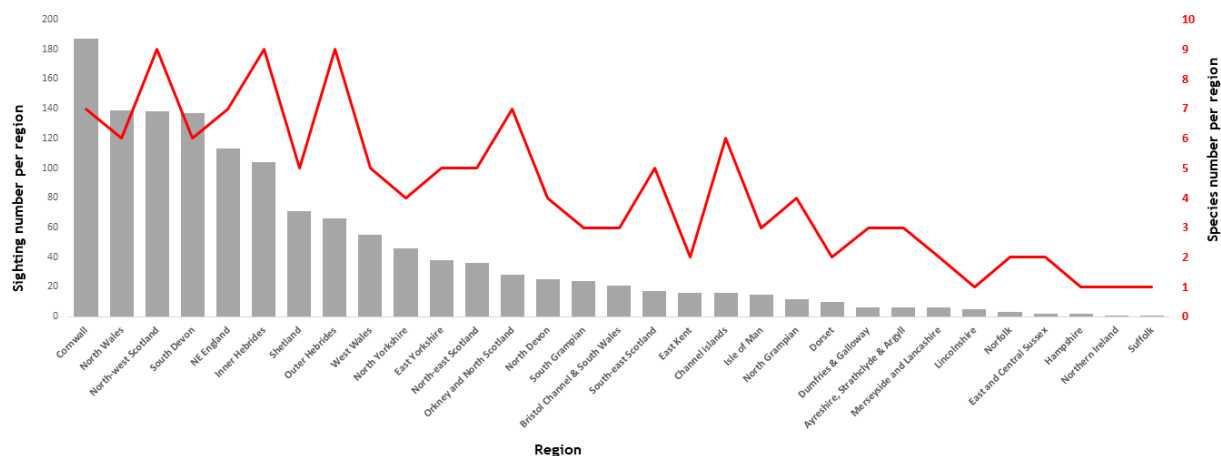


Figure 5. Number of sightings (casual and effort-related) and species per region during NWDW 2020

Cornwall (n=187), South Devon (n=137), and North-east England (n=113) were the top three regions with the highest number of sightings in England. In Scotland, the regions with the highest number of sightings were North-west Scotland (n=138), the Inner Hebrides (n=104), North-east Scotland (n=92), and Shetland (n=71). In Wales, the highest number of sightings was collected on the North coast including Anglesey (n=139).

The proportion of “casual” sightings (without associated effort data) and “effort-related” sightings has not changed since last year, although sightings with effort data (50.89%) slightly exceeded casual reports (47.11%; Figure 6).

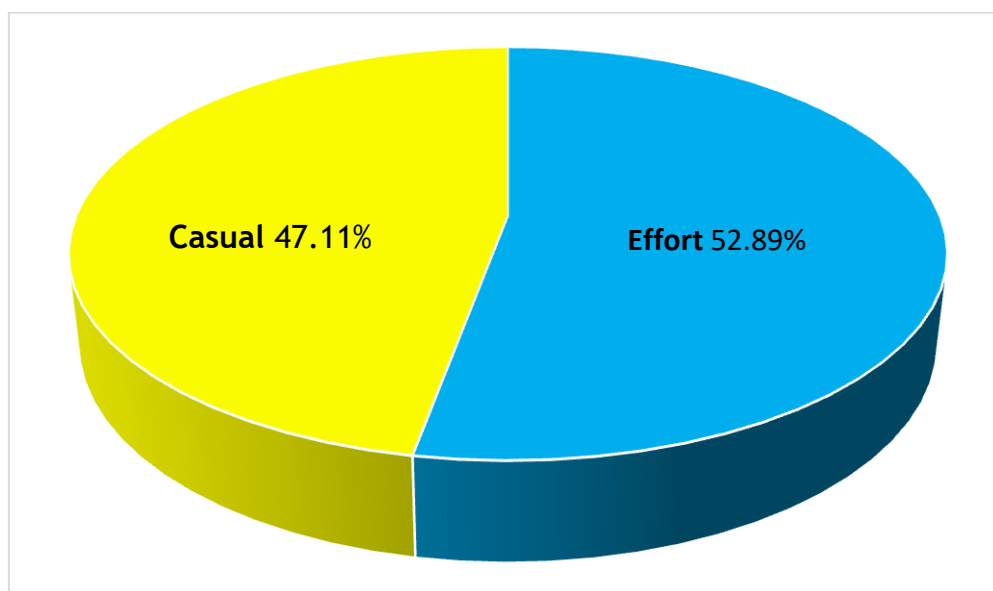


Figure 6. Proportion of effort related sightings (n=713; 52.89%) and effort sightings (n=635; 47.11%) recorded during NWDW 2020.

Figure 7 shows that East Kent is at the top of the list with sighting rates superior to a value of “2” (indicating an average of two or more cetaceans seen per hour of watching). North-west Scotland, North Grampian region, North Devon, North Wales and the Outer Hebrides recorded sighting rates above “1”. Based on this year’s results, the UK’s national average sightings rate shows a decrease compared to last year (2019 average sightings rate = 1.1).

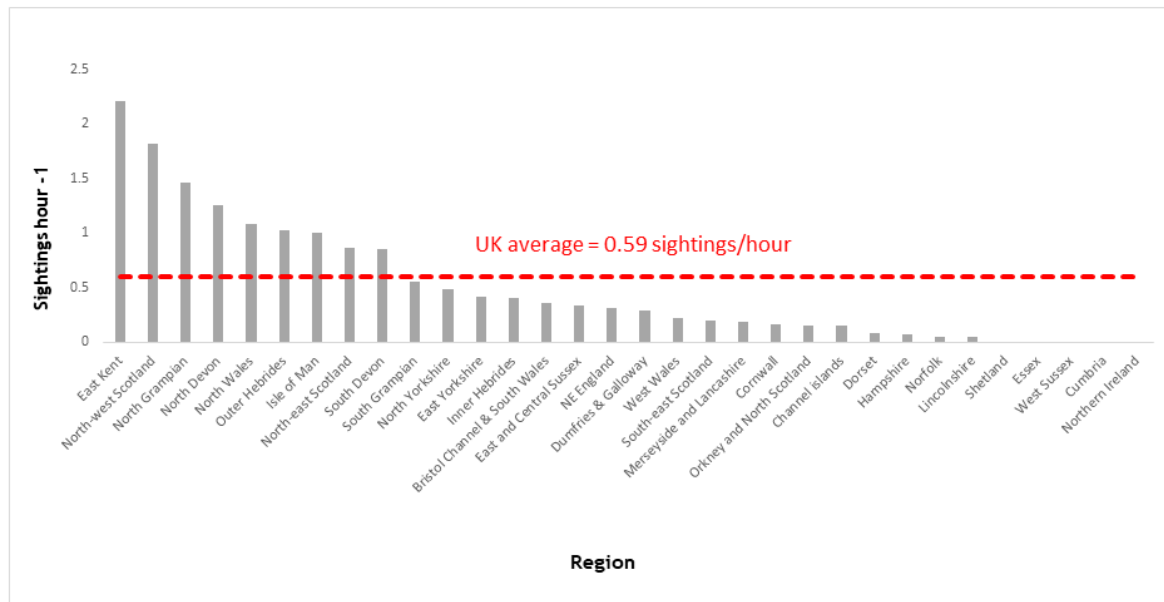


Figure 7. Sighting rates per region during NWDW 2020. The overall average UK sighting rate was 0.59 sightings per hour.

Harbour Porpoise

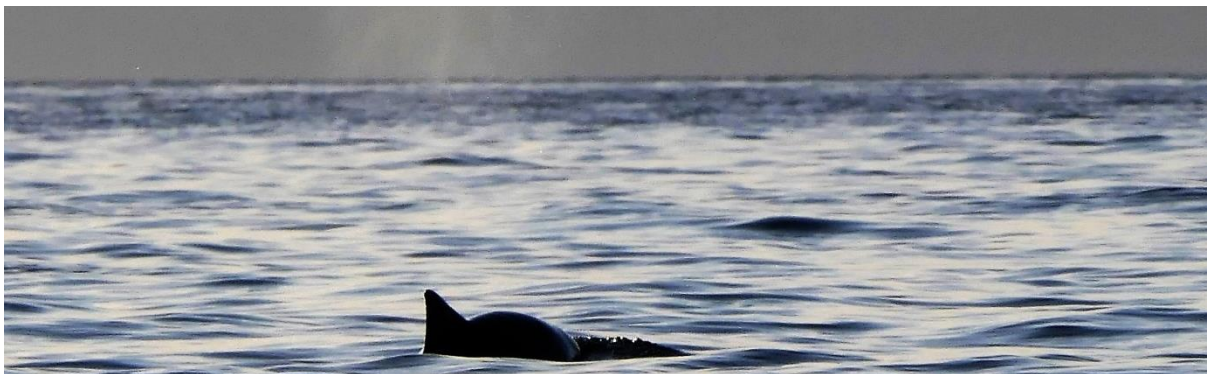


Harbour porpoises photographed off Point Lynas, Anglesey, on July 26th and August 1st.
Photos credit: Ben Murcott (left), George Boyer (right).



Harbour porpoises photographed off Corsewall Point, Dumfries and Galloway, on August 1th.
Photo credit: Diana Zilioli/Stilla.

Harbour porpoises are the most commonly seen species in most parts of the UK, and this was reflected also by this year's NWDW results, with sightings all around the British Isles. The species was recorded 507 times (37.61%). Figure 8 shows that sightings were distributed around the whole of the UK coastline but especially concentrated in Yorkshire, Lincolnshire, Cornwall, North Devon, around the Bristol Channel, in North Wales, and the Inner and Outer Hebrides. The size of groups of this species varied from a single individual to the largest aggregation of 30 animals which was seen at St Anthony's Head, Cornwall (Table 1).



Harbour porpoises photographed near Eddystone off Plymouth, Devon, on July 29th.
Photo credit: Rupert Kirkwood.



Figure 8. Sightings of harbour porpoise during NWDW 2020 (n=507; 37.61%)

Common dolphin



Common dolphins photographed off Ramsey Sound, Pembrokeshire, on July 29th.
Photo credit: Ffion Rees / Falcon Boats.

Common dolphins were the second most abundant species recorded during the 2020 NWDW event, with 274 sightings being made, accounting for 20.33% of all records. The species showed a predominantly westerly distribution (Figure 9) with the highest occurrence around south-west England, the county of Pembrokeshire in West Wales, and the Inner and Outer Hebrides. There was one sighting off the orth coast in Caithness but none in the North Sea. The largest group (200) was recorded off Falmouth Bay, Cornwall (Table 1).



Common dolphins photographed near Eddystone off Plymouth, Devon, on July 29th.
Photo credit: Rupert Kirkwood



Common dolphins photographed off Falmouth, Cornwall, on August 1th.
Photo credit: Christina Worth



Figure 9. Sightings of common dolphin during NWDW 2020 (n=274; 20.33%)

Bottlenose dolphin

Bottlenose dolphins were the third most frequently reported species during NWDW, with 213 sightings (15.80%). Two large semi-resident populations of bottlenose dolphins occur in UK waters: one in Cardigan Bay, West Wales, and the other in the Moray Firth, Northeast Scotland. Dolphins from both these populations were recorded during the event, as shown in Figure 10. A total of 2,169 individual bottlenose dolphins were recorded during this year's event, although we cannot be sure that they were of different individuals since photo-ID images were not collected from all sightings. There is therefore the likelihood that in some areas (for example in Yorkshire), individuals were spotted more than once. The largest group of 65 individuals was seen between Knockvologan and Ardanish Point, Argyllshire, an unusually high number for coastal sightings during summer months (Figure 10, Table 1).



Bottlenose dolphins photographed off Tyne piers, Tyne and Wear.
Photo credit: Martin Kitching/MARINELife



Bottlenose dolphins photographed off Traeth Bychan, Anglesey.
Photo credit: George Boyer



Bottlenose dolphins photographed off New Quay, Ceredigion.
Photo credit: Nina Herbert



Figure 10. Sightings of bottlenose dolphins during NWDW 2020 (n=213; 15.80%)

Minke whale

The minke whale was the fourth most frequently reported species (n=118), accounting for 8.75% of all sightings. The species was mainly seen in the Inner and Outer Hebrides, but with several sightings also around Orkney, Shetland, Yorkshire, Caithness, Moray and Fife as well as Devon and Cornwall (Figure 11). The largest group of five minke whales was seen off Grishipoll, Argyllshire (Table 1).



Common minke whale photographed off Falmouth Bay, Orkney, on August 3rd.
Photo credit: Christina Worth.



Figure 11. Sightings of minke whales during NWDW 2020 (n=118; 8.75%)

Risso's dolphin

Risso's dolphins were recorded around Orkney and Shetland, Caithness, Argyllshire, Inverness-shire and the Channel Islands. This species appeared 30 times (2.23% of all sightings). Group size varied from one animal to a maximum of 22 seen off Fetlar, Shetland (Figure 12; Table 1).



Risso's dolphins photographed passing Cantick Head off Hoy, Orkney. Photo credit: Alan MacKinnon



Figure 12. Sightings of Risso's dolphins during NWDW 2020 (n=30; 2.23%)



Risso's dolphins photographed off Point Lynas, North Wales after the end of NWDW. Photo credit: George Boyer.

Killer Whale or Orca



The orca “John Coe” photographed here in August after NWDW. Photo credit: Katie O’Neill.

Orcas were reported 19 times during the event all in Scotland and in particular around Shetland, but also reported from Caithness and Angus. The largest group consisted of seven animals off Lambaness, Unst, Shetland (Figure 13; Table 1).



Orcas were photographed off Fair Isle in August. Photo credit: Peter Evans.



Figure 13. Sightings of orcas during NWDW 2020 (n=19; 1.41%)

Other cetacean species

Atlantic white-sided dolphins were reported 16 times (1.19% of total sighting reports) and were seen off Shetland, Orkney and in the Outer Hebrides. The maximum observed group size for this species was 150 animals, seen off Sumburgh Head, Shetland (Figure 14, Table 1).

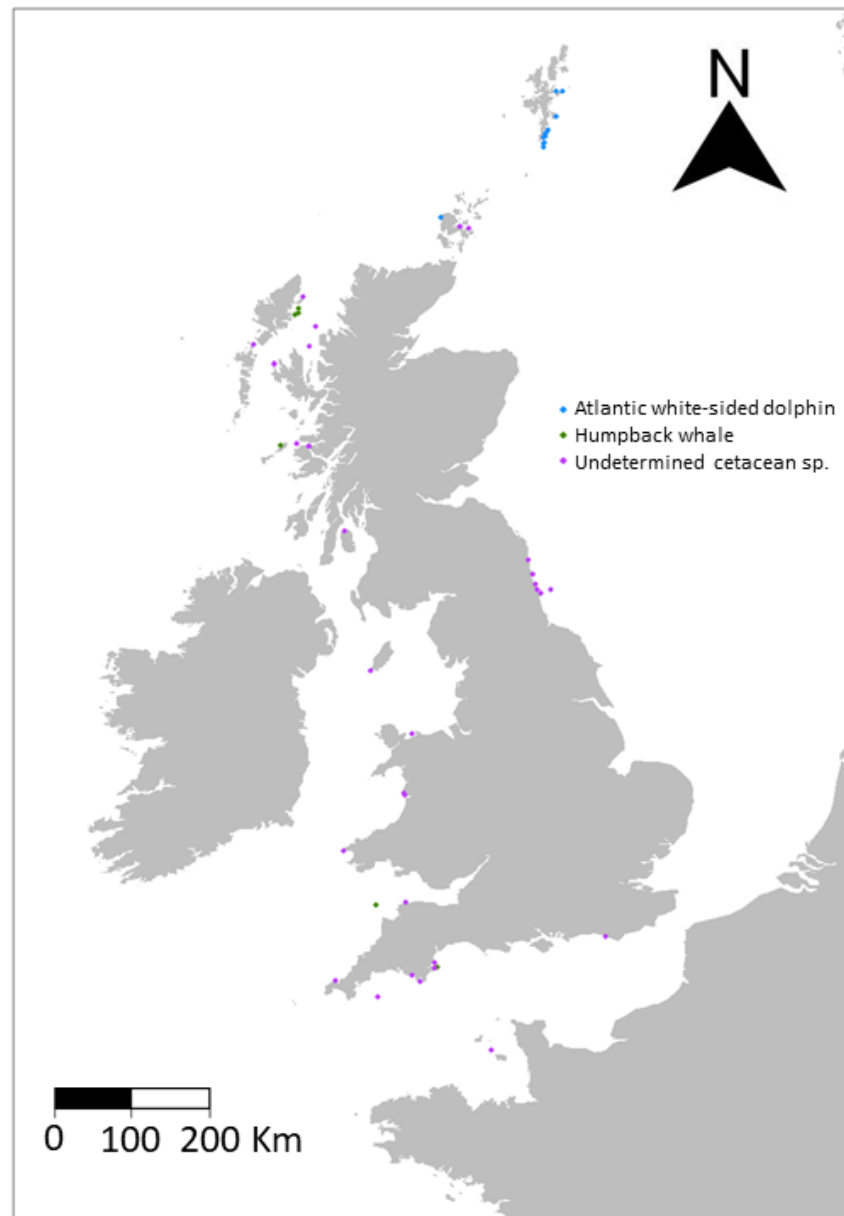


Figure 14. Sightings of Atlantic white-sided dolphins (n=16, 1.19%), humpback whales (n=9, 0.67%), and undetermined cetaceans (n=34, 2.52%) during NWDW 2020

White-beaked dolphins were reported 13 times (0.96% of total sighting reports) and were seen during the event only off Northumberland. The maximum observed group size for this species was 8 animals, seen off Seaton Sluice, Northumberland (Figure 15, Table 1).



White-beaked dolphins photographed off Druridge, Northumberland.
Photo credit: Martin Kitching / www.northernexperiencepelagics.co.uk.



Figure 15. Sightings of white-beaked dolphins during NWDW 2020 (n=13; 0.96%)

There were nine **humpback whale** records (0.67% of all sightings), all from Devon and the Inner and Outer Hebrides (Figure 14).

Finally, there were also 34 reports of undetermined cetacean species made at several different locations in the Inner Hebrides (Figure 14, Table 1).

Other non-cetacean species

Seventy-eight **grey seal** sightings were mainly recorded off Newquay, Godrevy Point and NCI Cape in Cornwall (Figure 15, Table 1). Eighteen **common (harbour) seal** sightings were mainly reported off Skye Bridge, Invernesshire and Godrevy Point in Cornwall. There were eleven sightings of **sunfish** during the NWDW, accounting for 0.82% of the total number of sightings. Both species occurred in the Inner and Outer Hebrides, and North-west Scotland (Figure 16; Table 1). There were eight records of **basking sharks** (0.59% of all records), with groups ranging from one individual sighted off Burravoe, Shetland, to 40 individuals sighted off Freester Shetland (Figure 16, Table 1).



A sunfish was photographed while kayaking between Newlyn and St. Michaels Mount, Cornwall. Photo credit: Kirstie MacMillan.

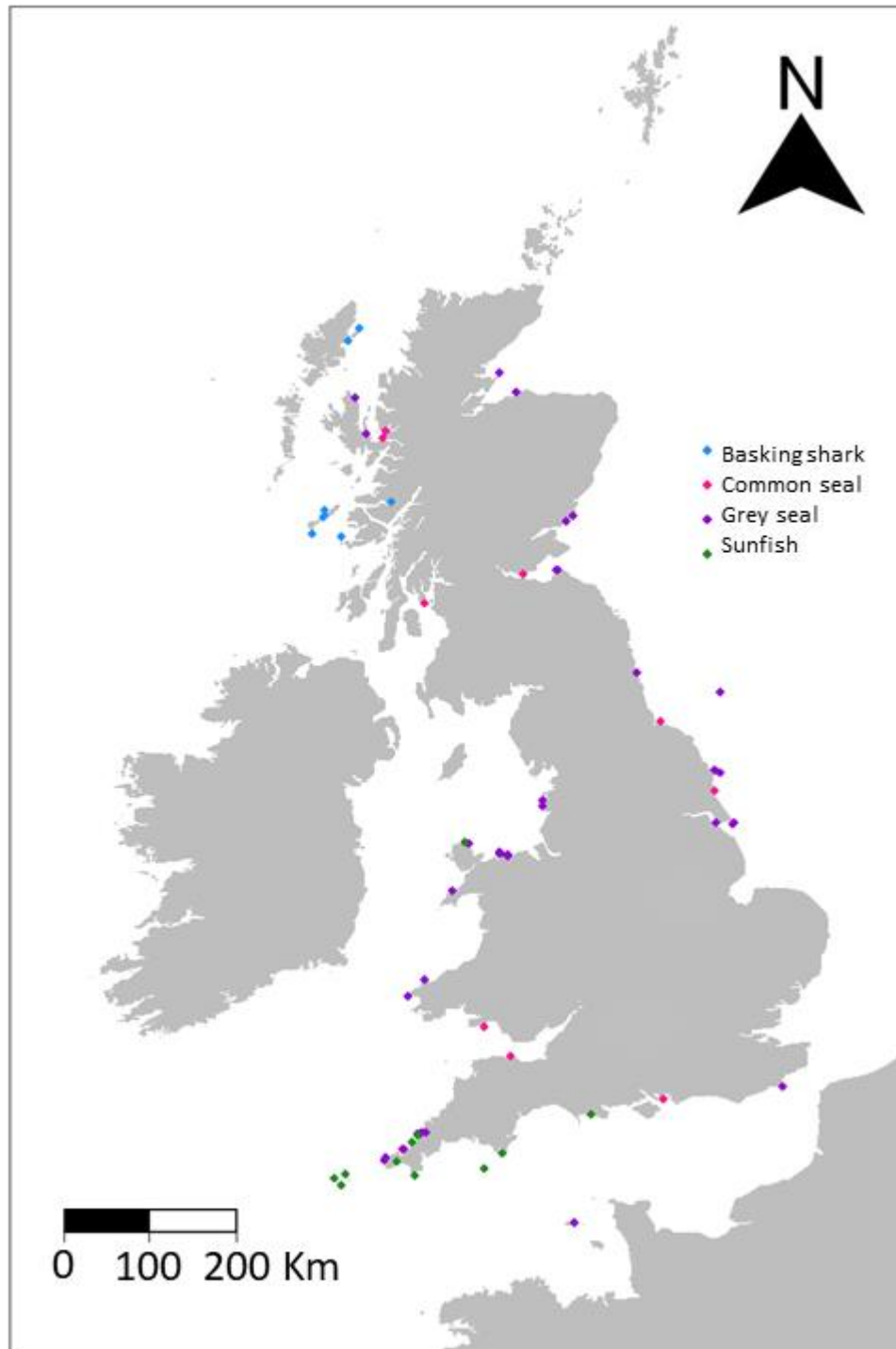


Figure 16. Sightings of grey seal (n=79, 5.86%), common seal (n=17, 1.26%), sunfish (n=11, 0.82%), and basking shark (n=8, 0.59%) during NWDW 2020

Table 1. Quantitative description of sightings per species during NWDW 2020

Species	No. of sightings	%	No. of individuals	%	Av. Group Size
Atlantic white-sided dolphin	16	1.19	667	6.82	41.69
Bottlenose dolphin	213	15.80	2169	22.17	10.18
Harbour porpoise	507	37.61	1353	13.83	2.67
Humpback whale	9	0.67	15	0.15	1.67
Minke whale	118	8.75	141	1.44	1.19
Orca	19	1.41	47	0.48	2.47
Risso's dolphin	30	2.23	289	2.95	9.63
Common dolphin	274	20.33	4385	44.82	16
White-beaked dolphin	13	0.96	44	0.45	3.38
Unidentified cetacean	34	2.52	141	1.44	4.15
Common (harbour) seal	17	1.26	25	0.26	1.47
Grey seal	79	5.86	444	4.54	5.62
Basking Shark	8	0.59	51	0.52	6.37
Sunfish	11	0.82	13	0.13	1.18
Totals	1348	100	9784	100	7.26

ACKNOWLEDGEMENTS

The Sea Watch Foundation staff would like to thank Sian McGuinness and Jay Kirkham, our 2020 National Whale and Dolphin Watch Assistants, for their endless support and help throughout. We would also like to thank Jodie Smith, Matthew Scott and Massimiliano Venezia for their dedication and commitment in advertising the event on our Facebook, Twitter and Instagram accounts. Thanks are also due to Jasmin Urwick who produced everyday blogs and committed to daily land-watches during the NWDW event this year. Immense gratitude goes to all volunteer observers who patiently spent their time collecting data from land and from the sea, and to the volunteer observers who are part of the Sea Watch Sightings Network and who report their sightings to the charity all year long. Thanks to Donna Turney, Clare Boardman, Lorna Bointon, Ben Murcott, and Jay Kirkham for helping out with online NWDW Training Courses and for turning them into interactive, fun and warm events. Special thanks are due to all Regional Coordinators and Recommended Boat Operators who are the backbone of this event and who made it all possible. Thank you also to the following organizations that have greatly contributed to the success of this year's National Whale and Dolphin Watch: ORCA, Hebridean Whale and Dolphin Trust, Yorkshire Wildlife Trust, MARINELife, Manx Whale and Dolphin Watch, National Coastwatch Institutes (Rame Head, Nare Point, Cape Cornwall, St Ives, Bocastle), Beach Academy Wales, The Little Team Room, Alderney Wildlife Trust, Somerset Wildlife Trust, Bangor University, Coastalwatch Scotland Irvine Unit, Windhaven Cafe, Camping and B & B, Dundee Ranger Service, Lincolnshire Wildlife Trust, Stilla Tours Scotland, Coast Care - Northumberland Wildlife Trust, RSPB Bempton Cliffs, Cornwall Wildlife Trust, The Three Cliffs Coffee Shop, RSPB Scotland, South Shields Surf School, Scottish Natural Heritage, ERIC North East, Orkney Marine Mammal Research Initiative, Scottish Natural Heritage, Gardline, Tees Valley Wildlife Trust. Lastly, very special thanks go to Rip Curl, Made of Sundays, and Williams Art who sponsored our event by donating free gifts for our participants.

APPENDIX 1.

General overview of the weather by country for the period of NWDW 2020 (*Met Office July-August Summaries* - <https://www.metoffice.gov.uk/research/climate/maps-and-data/summaries/index>)

July was generally changeable from the 23rd to 29th, but a brief hot southerly incursion on the 30th and 31st brought unusually high temperatures to many parts of the UK, locally reaching 37.8 °C (100 °F) in the South-east. The following three weeks saw no substantial impacts, but on the evening of the 25th a tornado in Northampton caused some damage to property. On the 27th, flooding at the Linwood Toll roundabout in Ferguslie resulted in road closures, and the B724 between Dumfries and Annan was also closed due to flooding. A brief hot spell on the 31st triggered thunderstorms, and a house in Haxby, North Yorkshire, was destroyed by fire after being struck by lightning.

August started off with low pressure and showery, mostly cloudy weather.

The UK monthly extremes were as follows: A maximum temperature of 37.8°C was recorded at Heathrow (London) on the 31st.

England

In July, Low pressure systems tracked further south bringing unsettled weather to all parts. Rain and showers spread across most parts of the country on the 25th, thundery in places, especially the south-west. Most areas had showers on the 26th, then persistent rain spread eastwards across the country on the 27th, followed by scattered showers and isolated thunderstorms. The 28th was bright and breezy for most, with some showers mainly in the north-west. It was cool and cloudy again for most on the 29th, with some rain crossing the Midlands from late afternoon. Rain became confined to northern areas on the 30th, and it became sunny and very warm in the south. A short-lived heat-wave gave a minimum of 19.1°C at St Catherine's Point (Isle of Wight) early on the 31st, and a maximum of 37.8°C at Heathrow (London). Most places were sunny, but showers developed in the south-west around midday, and thunderstorms developed over the Midlands, spreading into Humberside and Yorkshire.

In August, a slack westerly flow brought sunshine and scattered showers on the 1st and 2nd, the showers heaviest and most frequent in the north, and on the 2nd showers turned thundery over parts of Teesside and the North York Moors.

Wales

In July, the 25th was quite cloudy with scattered showers, which turned thundery in places, and a band of heavy rain crossed the south from mid-afternoon. The 26th was brighter with scattered showers. A spell of widespread, locally heavy and thundery, rain spread eastwards on the 27th followed by sunshine and showers. There were showers mainly in the north on the 28th, with fewer showers in the south, and some sunny intervals. After a mostly dry cloudy start to the 29th, rain spread from the west in the afternoon. A brief southerly incursion caused warm sunny weather to extend northwards

across the country on the 30th following a cloudy start. The night of the 30th/31st was warm in places with Mumbles (West Glamorgan) not falling below 17.4°C, and most areas had a hot sunny day with a high of 31.1°C, at Colwyn Bay (Clwyd). Showers moved into the south late in the day and spread up the west coast.

In August, a westerly flow brought scattered showers and variable amounts of cloud on the 1st, 2nd, and the showers were thundery over Snowdonia for a time on the 2nd.

Scotland

In July, showers and longer spells of rain fell on the 25th, persisting over the north-east and turning thundery in places from mid-afternoon. A belt of rain crossed the country on the 26th followed by sunshine and scattered showers, and a broader, more persistent area of rain soon reached all parts on the 27th. The 28th had rain, heavy at times, in Fair Isle and the Orkney Islands, breezy with sunshine and scattered showers elsewhere. A ridge of high pressure brought a generally dry cloudy day on the 29th, though light showers continued in the north. The 30th was a cloudy day, with rain spreading from the west by the afternoon. The 31st saw some rain in western fringes, otherwise many areas were sunny and quite hot with a maximum of 28.8°C at Kinloss (Morayshire). Thunderstorms developed across the south-west from early evening and moved north into central areas around dusk.

In August, the first three days were generally showery, cloudy on the 1st and 3rd, brighter on the 2nd, and the showers turned thundery across the north-east on the afternoon of the 2nd.

Northern Ireland

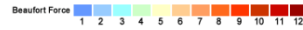
In July, after a cloudy start to the 25th with patchy light rain, it turned dry for a time, then showers and longer spells of rain developed in the afternoon, turning thundery in places. The weather continued unsettled, and Northern Ireland largely missed the brief hot interlude that affected other parts of the UK at the end of the month. It was mainly cloudy with scattered showers on the 26th, with a dry sunny interlude followed by more rain spreading from the west in the evening. The rain cleared eastwards by midday on the 27th, followed by sunshine and scattered showers. The 28th was bright and breezy with scattered showers. The 29th and 30th were cloudy with rain at times, and patchy fog affected central parts early on the 30th. The night of the 30th/31st was warm with Magilligan (County Londonderry) falling no lower than 16.9°C, and a band of rain moved eastwards on the 31st, with thunderstorms developing over the east by the afternoon, followed by scattered showers.

In August, a westerly flow brought showers and longer spells of rain on the 1st, and sunshine and scattered, locally heavy, showers on the 2nd.

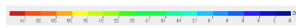
APPENDIX 2 - Weather Maps

General overview of the weather by day during the period of NWDW 2020 using pressure maps and SST maps from Magic Seaweed.

Key for Wind force maps:



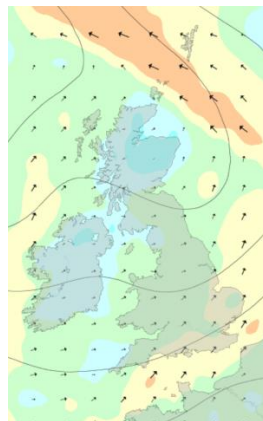
Key of SST force maps:



Saturday, 25th July



Cetacean sightings on day 1 of NWDW 2020 (25th July)



Wind map on day 1 of NWDW 2020 (25th July)

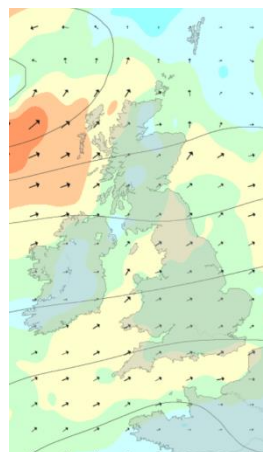


SST map on day 1 of NWDW 2020 (25th July)

Sunday, 26th July



Cetacean sightings on day 2 of NWDW 2020 (26th July)



Wind map on day 2 of NWDW 2020 (26th July)

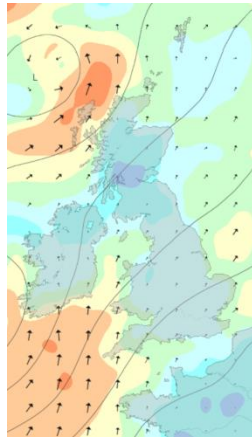


SST map on day 2 of NWDW 2020 (26th July)

Monday, 27th July



Cetacean sightings on day 3 of NWDW 2020 (27th July)



Wind map on day 3 of NWDW 2020 (27th July)



SST map on day 3 of NWDW 2020 (27th July)

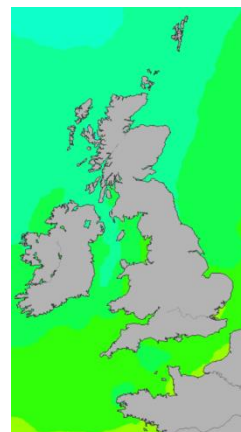
Tuesday, 28th July



Cetacean sightings on day 4 of NWDW 2020 (28th July)



Wind map on day 4 of NWDW 2020 (28th July)

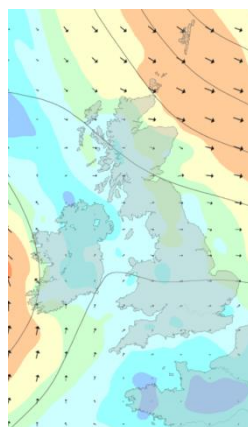


SST map on day 4 of NWDW 2020 (28th July)

Wednesday, 29th July



Cetacean sightings on day 5 of NWDW 2020 (29th July)

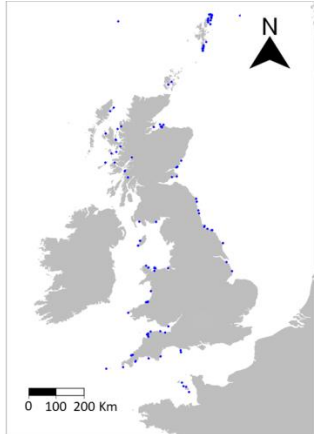


Wind map on day 5 of NWDW 2020 (29th July)

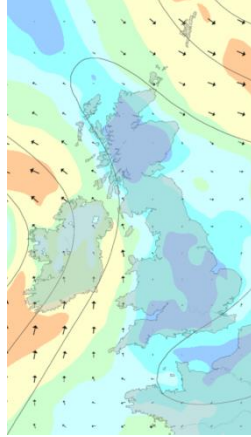


SST map on day 5 of NWDW 2020 (29th July)

Thursday, 30th July



Cetacean sightings on day 6 of NWDW 2020 (30th July)

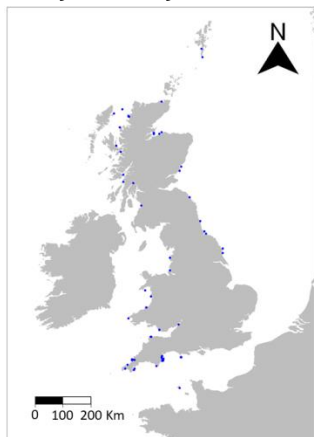


Wind map on day 6 of NWDW 2020 (30th July)

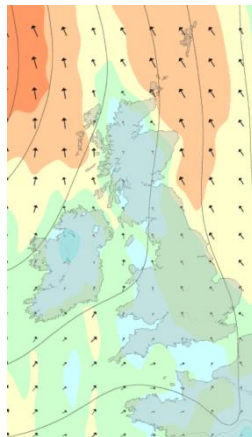


SST map on day 6 of NWDW 2020 (30th July)

Friday, 31st July



Cetacean sightings on day 7 of NWDW 2020 (31st July)

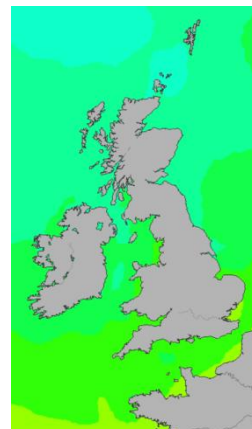
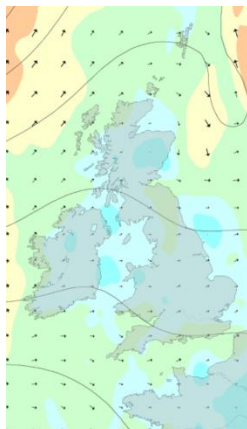


Wind map on day 7 of NWDW 2020 (31st July)



SST map on day 7 of NWDW 2020 (31st July)

Saturday, 1st August



Cetacean sightings on day 8 of
NWDW 2020 (1st August)

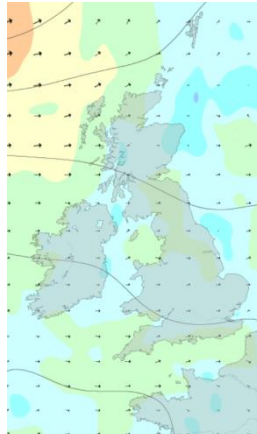
Wind map on day 8 of NWDW
2020 (1st August)

SST map on day 8 of NWDW
2020 (1st August)

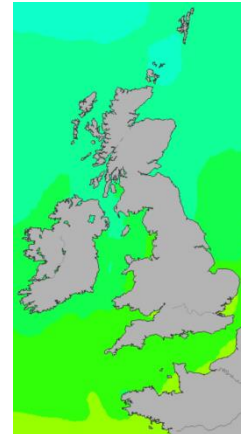
Sunday, 2nd August



Cetacean sightings on day 9 of
NWDW 2020 (2nd August)



Wind map on day 9 of NWDW
2020 (2nd August)



SST map on day 9 of NWDW
2020 (2nd August)