

Cetacean Research in Manx Waters

2018

Manx Whale and Dolphin Watch

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Boat based surveys

During 2018, 7 boat-based surveys were carried out between May and August including trips aboard vessels of opportunity, namely tourist boats. This resulted in 449km of survey coverage in Manx waters. Of the 449km surveyed, 400 km (89 %) were surveyed in good conditions (sea states 0 and 1) and 49km (11%) were surveyed in sea states 2 and above. The effect of sea states on sightings rate is very powerful; sightings rate decreases by an order of magnitude between sea states less than 1 and sea states of 2 and above.

Overall, there were 38 boat-based sightings in 2018, equating to a sighting rate of 0.085/km. This is a similar sighting rate to previous years, perhaps a little lower due to a relatively low survey effort.

Table 1: Species composition of boat based sightings in 2018

Species	No. of sightings	No. of adults	No. of juveniles	No. of calves
Bottlenose dolphin	0	0	0	0
Harbour porpoise	28	50	4	0
Minke whale	7	8	0	0
Risso's dolphin	3	17	2	1
Short-beaked common dolphin	0	0	0	0

As would be expected from previous surveys, harbour porpoise were the most commonly seen cetacean species. Despite sightings of short-beaked common dolphin and bottlenose dolphin during previous years, there were no sightings of these species during boat surveys in 2018.

On the 26th of June 2018, at least seven minke whales and 25 harbour porpoise were recorded during one day of surveying. This was the highest number of individuals observed in one day during 2018. Only four harbour porpoise juveniles were observed this year, and only two Risso's dolphin juveniles and one calf were observed.

Land-based surveys

In 2018, 143.5 hours of land-based surveys were carried out. This equated to 574 observation intervals (environmental and sightings data are collected in fifteen minute intervals). Slightly fewer hours were recorded in 2018 compared to 2017, when 149.5 hours of effort were carried out (equating to 598 intervals). The temporal and spatial distribution of effort was as follows:

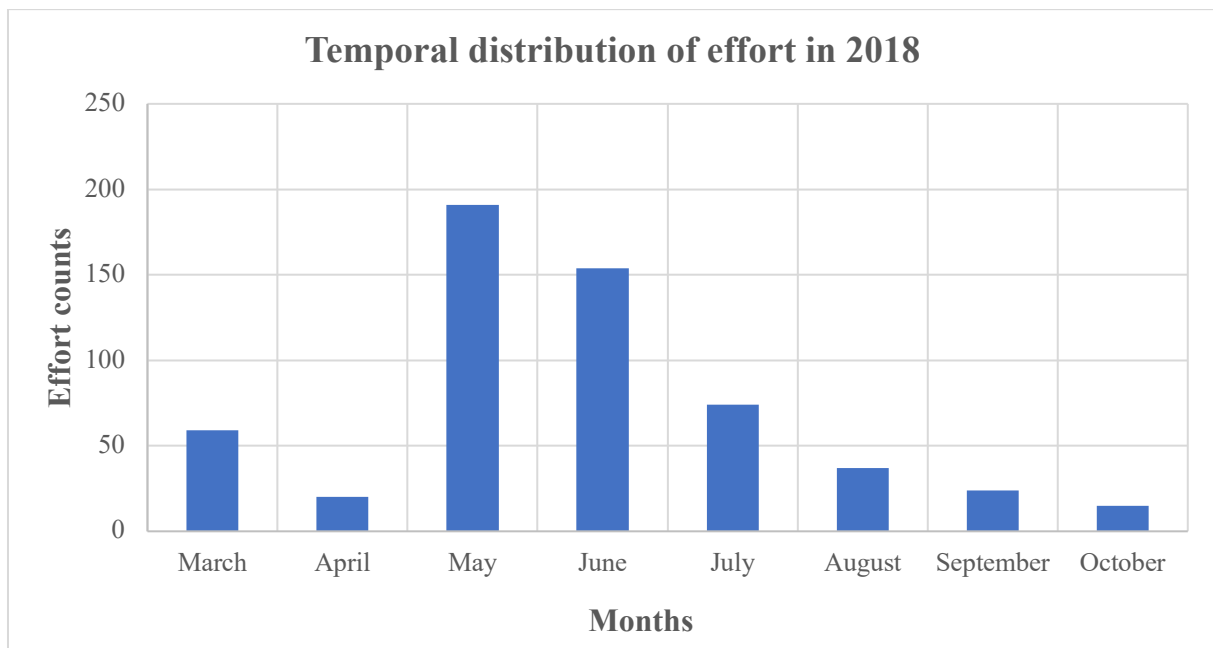


Figure 1: Temporal distribution of effort around the Isle of Man during 2018.

The majority of effort was carried out in May and June (Figure 1) due to the favourable weather conditions. The lack of effort between November and February was due to the typically poor winter weather resulting in unsuitable survey conditions.

During the year, 37.7% of the effort intervals were carried out on the west coast and 31.0% of effort was carried out in the south of the island. 27.6% of effort was carried out on the east coast.

Table 2: Number of intervals surveyed and hours of effort at each survey site around the Isle of Man.

Location	Number of intervals surveyed	Hours of effort
Calf East	84	21
Calf West	80	20
Sound (cross)	12	3
Marine Drive	90	22.5
Niarbyl	158	39.5
Peel Castle	56	14
Port St Mary	73	18.25
Point of Ayre	21	5.25
Total	574	143.5

The Sound (cross) is a new survey site and only used during public watch events due to accessibility and presence of seals for public engagement.

There were a total of 173 cetacean positive intervals (an interval in which at least one individual or group of cetaceans were observed), therefore, 30.1% of effort intervals were cetacean positive. This is again a similar sightings frequency to previous years (between 25% and 35%). However, this does not mean that there were 173 different sightings made, as many of the sightings are repeats of sightings recorded in previous effort intervals. Additionally, the species composition of sightings intervals is greater than the overall number of cetacean positive intervals, as more than one species can be seen in the same interval. The composition of the cetacean positive intervals was as follows:

Table 3: Number of cetacean positive intervals, different groups sighted, and number of individuals of each species recorded around the Isle of Man during land-based surveys in 2018

Species	No. of +ve intervals	No. of different groups	No. of individuals seen
Bottlenose dolphin	0	0	0
Harbour porpoise	186	116	194
Minke whale	27	17	17
Risso's dolphin	49	19	109
Short-beaked common dolphin	0	0	0
Total	262	152	320

As expected from previous years, harbour porpoise were the most commonly seen cetacean species seen during land-based surveys (Table 3). There were no sightings of short-beaked common dolphins or bottlenose dolphins during land-based surveys this year.

There was a high number of Risso's dolphin positive intervals (Table 3: 49 intervals in 2018 compared to 37 in 2017), likely due to a good spell of calm weather in the summer which resulted in a string of Risso's dolphin sightings.

The sightings rates at each of the survey sites is as follows:

Table 4: Number and percentage of cetacean positive intervals observed at different survey sites around the Isle of Man.

Location	No. of cetacean +ve intervals	% of cetacean +ve intervals
Calf East	15	17.9
Calf West	28	35.0
Sound (cross)	2	16.7
Marine Drive	19	21.1
Niarbyl	48	30.4
Peel Castle	4	7.1
Port St Mary	53	72.6
Point of Ayre	4	19.0

Port St Mary had the highest sightings rate of any of the sites (Table 4), which has also been the case in years prior. Marine Drive has fewer positive intervals than previous years; although the number of intervals was higher than last year (90 intervals compared to 58 in 2017), only 21.1 % of intervals were cetacean positive, compared to 32.2 % in 2017.

Opportunistic (Public) Sightings

Throughout 2018, 503 opportunistic sightings were reported to MWDW through various media outlets, including the website, Facebook, by phone, or by word of mouth. Some sightings were also reported to us using our Boat Users logbook. The fantastic weather, coupled with our Whatsapp live sightings group, resulted in an extremely busy season with sighting flooding in from the public. Species composition of the sightings is as follows:

Table 5: Total number of opportunistic sightings, individuals and juveniles of each species observed around the Isle of Man

Species	Total no. sightings	Total No. of Individuals	Total No. of juveniles	% of total sightings
Bottlenose dolphin	29	908	75	5.8
Harbour porpoise	236	555	42	46.9
Minke whale	63	101	7	12.5
Risso's dolphin	153	860	42	30.4
Short-beaked common dolphin	13	252	23	2.6
Unidentified dolphin	9	64	0	1.8

As expected, harbour porpoise were the most commonly sighted species, followed by the Risso's dolphin. There were still a large number of sightings of Risso's dolphin compared to previous years (40 in 2017 and 87 in 2016). Bottlenose dolphins, although typically a winter species, were spotted in small numbers through the summer. Short-beaked common dolphin are usually seen further offshore than other cetacean species, resulting in fewer sightings reports, and indeed this was true of 2018 with the majority of the 13 sightings reported via fishing boats off the west coast.

Minke whales have always followed a typical pattern in Manx waters of west coast May and August, heading to the east coast during the autumn, however there has been a notable increase over the last two years. In 2018, 63 sightings and 101 individuals were observed during the year (including repeats) This is the highest number of sightings that have been observed over the past two years (57 in 2017 and 21 in 2016). As 2017, the minke whales again spent considerable time through September, October and into November extremely close inshore on the east coast. Their proximity to land made sightings easy, particularly from Douglas Bay and Derbyhaven. The Whatsapp group allowed people to keep up to date with reports, and watch them from the shore. There is no doubt that the species is predated on the Herring that spawn off the east of the Isle of Man during the autumn, and we are quite certain that the increase of Minke numbers indicates an increase in Herring stocks.

Figure 2: Distribution of cetaceans recorded through public sightings around the Isle of Man during 2018.

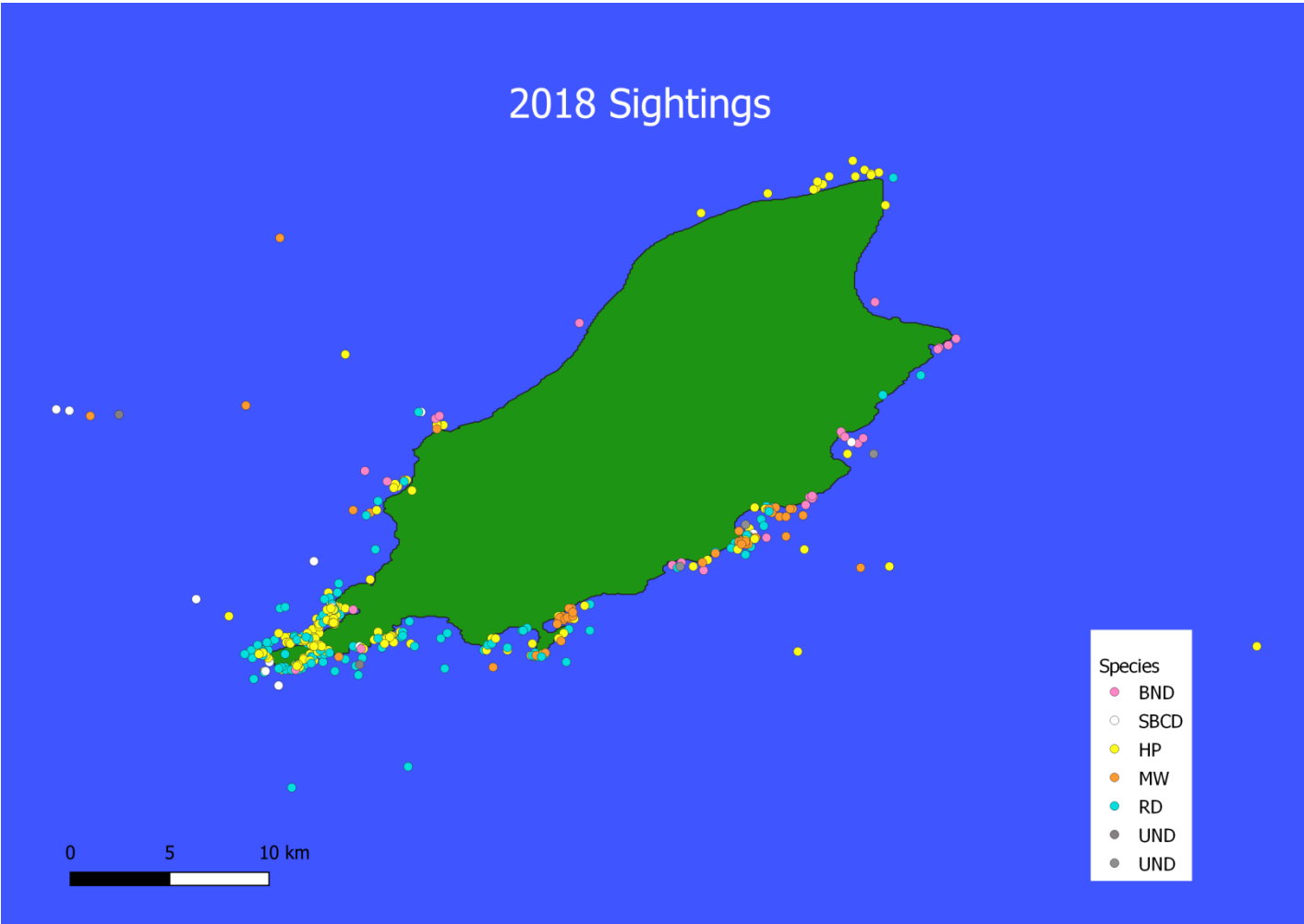


Photo-Identification

In 2018, 17 new Risso's dolphins were identified and added to the catalogue consisting of six well-marked individuals, five recognisable from the right side and six from the left side. Four individuals from our well-marked catalogue and one from our left catalogue were matched from previous years,

There is one encounter of Bottlenose dolphins from 16th July still yet to be processed due to the late arrival of photographs sent in. This pod spent an afternoon inside Port Erin bay before travelling to the Sound. Matching to the Manx catalogue will take place soon and analysed in the 2019 report. Copies of the photos have already been sent to Sea Watch for matching with the Cardigan Bay catalogue.

No new short-beaked common dolphin or minke whale individuals were identified during 2018, though this is due to a lack of good quality photographs.

Purchase of PAM Device

After a period of fund raising and grant applications we were able to purchase a towed-hydrophone array which will be of great benefit to the future of our cetacean surveys in Manx waters. The use of a hydrophone has numerous advantages such as surveying in higher wind speeds and rougher sea conditions. As our current visual based surveying is entirely weather dependent, it is a great advantage to be able to survey in less than optimum conditions. This means we will be able to survey more in the rougher winter months, for which we currently have little data. The towed-hydrophone will be used in conjunction with visual line-transect surveys which will allow us to estimate abundance of species giving us a better indication of population sizes in Manx waters.

Education and Outreach 2018

Whale and Dolphin Show

The Manx Whale and Dolphin Watch Show, held at the Villa Marina, was the biggest event we have put on over our 13 years of running. It took place on the weekend of 10th & 11th February 2018 and showcased information about the local species with the help of a selection of life-size, realistic, inflatable marine creatures, made by Andy Peters from the Whale Workshop. The Steam-Packet Company kindly supported Andy's travel over to the island. We displayed information about our conservation work and its importance, our local species and showed video footage filmed around the Isle of Man. Furthermore we had various marine mammal bones, mapping activities and kids crafts, as well as a sea-watch with our large binoculars looking across Douglas Bay. Over 300 children took part in our quiz and over 2,000 people came through the doors over the course of the weekend. To raise awareness about the growing plastic problem and to teach people how to help, we had a corner with a large recycled bottle minke whale sculpture made by a student at UCM, as well as information about plastic alternatives. The local press covered the event with Mike Wade of IOM Newspapers photographing, and Manx Radio and 3FM both conducting interview pieces. We immediately had people asking about when we would next hold a similar event, and due to its success it is something we would look to repeat in the future, perhaps every few years. Thanks also to our team of wonderful volunteers who helped with greeting people at the entrance and serving tea and coffee, and also to Culture Vannin for funding costs for the event.

Capel Manor College

In May 2018 MWDW were joined by students from Capel Manor College London, for a five day marine mammal science placement lead by Jen and Bryony. The students were studying for a degree in Animal Management and Conservation and were keen develop skills and knowledge of cetaceans, and the techniques used to study these animals in the wild. We developed detailed lesson plans for three days' worth of classroom lectures covering; cetacean biology, identification, hunting, socialisation, conservation, study methods and research techniques. Other sessions looked at the threats to cetaceans on a global and local scale, and the

importance of public engagement and raising awareness. Outdoor field work included a boat-based survey and a land-based survey. The trip was enjoyed by all students, who were lucky enough to spot some of our local Risso's dolphins, and considered so successful by the college staff it is to be added to the course curriculum for the coming years.

Year of Our Island

We are delighted to have received financial backing from the governmental scheme '2018 Year of our Island'. The grant has allowed us to purchase 10 pairs of Nikon 7x50 Binoculars which are perfect for cetacean observation from land. We now take these binoculars with us on land-based surveys, allowing members of the public to borrow them in order to have a good chance of spotting the animals that we are watching, even at a distance. Funding also allowed us to purchase a large weighted flag, which will clearly draw the public to our public watch events and spread awareness of MWDW. We were also adopted as the Café at the Sound's chosen charity, and hosted a number of public sea watches at the Sound during the summer months, which proved successful and will likely be repeated in future years. The Café also hosted a 'Dinner for the Dolphins' event in June which raised some funds towards our work and allowed us to present some of our data collect at the Sound over the years. The Café also kindly contributed to the cost of printing a run of our popular Spotter's Guides. With Year of Our Island funding we also held a public talk 'Watching Whales' and Noa's Bakehouse in June which was well attended and allowed us to pass on some general information and spotting tips to the general public.

European Cetacean Society Conference

In April 2018 Tom, Jen, and Bryony once again travelled to the European Cetacean Society conference, this year held in La Spezia, Italy. Jen presented a poster discussing 'The development of a network of local land-based surveyors on the Isle of Man'. This explored the Manx Lottery Trust funded two year project (2016-17) to train local surveyors in effort-based land surveys to help increase the amount of data we can gather each year. The team looks forward to attending the World Marine Mammal Conference, a collaboration between the European Cetacean Society and the Society for Marine Mammalogy, to be held in Barcelona in December 2019. We will be present at the 2nd Risso's dolphin workshop, discussing our findings about this species in Manx waters with other Gampus researchers around the globe.

Information Stalls and Other

MWDW attended a number of events throughout the summer with our gazebo and information stall to disseminate information to the general public. We attended Peel Day, Tynwald Day, Ramsey Fun Day, Port Erin Festival of the Sea, and the Laxey Glen Pavillion Christmas Market.

From 16th May to 11th June we were given permission to place the plastic whale sculpture, along with a number of informative posters, in the entrance of the Sea Terminal in order to raise awareness of our organization and further spread information about the dangers of plastic pollution.

On 29th August, following a performance of the Snail and the Whale at the Gaiety Theatre, we were able to hold a bucket collection to raise money towards our work.

School Visits and Talks

Education Manager Jen now runs a self-employed business ‘Manx Cetacean Education’ and is contracted out by MWDW to run educational visits. In 2018 she ran a total of 30 sessions consisting of 18 primary school visits, 7 home-school sessions, 3 youth groups (brownies etc), 1 nursery school and 1 visit to Autism Initiatives.

Jen and Bryony also delivered five talks about our work and cetacean-ID to adult groups including the Spring Chicks and Santon WI, the Colby Caravan Club, and the Trefoil Guild.

Visitor’s Centre

Perhaps the biggest achievement to date is the establishment of our new office and Visitor’s Centre on Peel high Street. The lease was signed in June and the centre was worked on throughout the remainder of the year. Doors opened to the public in January 2019 and hence the first annual summary be discussed in the 2019 report. The Manx Lottery Trust funded the information panels, window vinyls, and partial rent for the year.