



Manx Whale and Dolphin Watch land-based surveyor network report 2016

26th January 2017 by Jen Adams

Introduction

In 2016, Manx Whale and Dolphin Watch (MWDW) embarked on an exciting new project entitled 'The development of a network of local marine mammal surveyors'. We would like to say a huge thank-you to the Manx Lottery Trust for granting us financial support to make the project possible. This is a 2 year project which we look forward to continuing throughout 2017.

Project summary

The aim of the project is to develop a network of dedicated local observers to conduct land-based surveys of whales, dolphins, porpoises (cetaceans) and basking sharks along the Manx coastline. The information is collected during these surveys contributes to our on-going data-set which began in 2007. This is a citizen science program offering our local community the opportunity to gain new skills in a specialist field they otherwise may not have the chance to access.

Overview of workshops and attendees

In May 2016, we ran 3 training workshops with a total of 55 attendees. The first half of the workshop was run by our Education and Outreach Officer, Jen Adams, and focused on species identification. We looked at the physical and behavioural differences between our 5 most commonly seen species as well as the rare species occasionally seen in Manx waters. A video examination on species identification was then given at the end of the session. The second half of the workshop was given by our Head of Research, Tom Felce, and focused on how to conduct a land-based survey, filling out effort and sightings forms and using a compass to record distance and bearing.

At the end of the workshop we looked at current survey sites on the island as well as creating feasible new ones.



Photograph with a representative of the Manx Lottery Trust



Training workshop in Onchan

Why are land-based surveys important?

Surveying cetaceans from land is a vital aspect of our research into the relative abundance and distribution of our 5 key species of cetacean. It allows us to gain an overview of the distribution patterns, in time and space of each species at dedicated sites along the coast, the majority of which have been continually surveyed by MWDW since 2007. Surveying from land is also a superb way to observe these animals behaving naturally in their environment without causing them any disturbance. This allows us to observe their social interactions and feeding behaviour as well as being able to observe the effects, if any, of interactions with boats.

How are land-based surveys conducted?

Surveys are best conducted by at least 2 people and 2 types of data are collected; effort and sightings. Effort data records the environmental conditions throughout a survey. We record sea-state (using the Beaufort scale), wind direction, swell, visibility and boat presence. Effort data is recorded every 15 minutes, with each 15 minute period being known as an interval. The survey area is observed with the naked eye and scanned with binoculars every 5 minutes. Upon having a sighting, one person continues to observe the animal whilst the other fills out the sightings form. The following data about the sighting is collected; species, number of adults/juveniles/calves, distance, bearing, behaviour and direction of travel. Distance is recorded in mm using the edge of a compass and then converted into metres at the office using a formula. Bearing is taken using the compass itself. Sightings information is recorded every 15 minutes at the start of a new effort interval, allowing us to record any changes in behaviour/direction. Each sighting is linked to the corresponding effort interval.

How are volunteer surveyors supported and encouraged to conduct surveys?

A private Facebook group was created which all attendees were invited to join. Individuals who do not use Facebook were identified at the workshops and an e-mail list was created. Regular updates are posted up on the Facebook group and e-mail list, notifying surveyors of good spells of weather and details of when the MWDW team are going surveying, should they wish to join.

How is data sent back to MWDW?

The preferred method has been for surveyors to photograph their completed forms and send them to us via email or Facebook. Some have also posted forms or returned them by hand.



Conducting a survey with our new team in June 2016 at The Sound. We saw 3 groups of Harbour porpoise over 2 hours.

Results

The data used in this report was collected between 14/05/2016 and 31/12/2016. Please note that these results are from the network of local land-based surveyors only and do not include data collected by the primary MWDW team.

Table 1- Total length of time surveyed at each site

Location	Time surveyed	No. of intervals
Marine drive	43hr 15 mins	173
Calf east	25hr 30 mins	102
Calf west	8hr 30mins	34
Niarbyl	24hr 30 mins	98
Langness	6hr	24
Port St Mary	6hr	24
Peel Castle	5hr	20
Point of Ayre	5hr 45 mins	23
Port Erin	4hr 15 mins	17
Total effort	128hr 45 mins	515

Table 2- Number of intervals surveyed in each sea state.

Sea state	No. of intervals	% of total intervals
0- flat calm	20	3.9%
1- Slight ripples	288	55.9%
2- Wavelets	163	31.7%
3- White caps	44	8.5%

Sea state is recorded using the Beaufort scale relating wind speed to observed conditions at sea. It is recommended that surveys only take place in a sea state 2 or less. As displayed in Table 2, the majority of surveys were conducted in a sea state 1 or 2. However it is worth noting that Harbour porpoise can be very difficult to see even in a sea state 2.

Table 3- Total number of cetacean positive intervals

Species	No of intervals	% of cetacean positive intervals
Harbour porpoise	16	35.6%
Risso's dolphin	14	31.1%
Bottlenose dolphin	3	6.6%
Short-beaked common dolphin	0	N/A
Minke whale	10	22.2%
Basking shark	0	N/A
Unidentified cetacean	2	4.4%

In total there were 47 cetacean positive intervals (interval containing at least one sighting of a cetacean), giving us a sightings rate of 8.7%.

Table 4- Total number of species seen

Species	No. of groups or solitary animals seen
Harbour porpoise	11
Risso's dolphin	5
Bottlenose dolphin	1
Short-beaked common dolphin	0
Minke whale	9
Basking shark	0
Unidentified	2
Total	28

Please note that table 4 does not reflect the number of individual animals seen in a group. Results are based on total groups or number of solitary animals seen.

As displayed in table 4, Harbour porpoise was the most commonly seen species, whereas Bottlenose dolphin was the least seen species. This reflects the time of year surveys were carried out, with the majority of surveys taking place during the summer months when Bottlenose dolphins are absent from Manx waters. All Minke whale sightings took place during the autumn and were seen from Marine drive. As expected, Risso's dolphins were the most abundant delphinid species. No sightings of Short-beaked common dolphin or Basking shark were made.

Other interesting sightings by the land-based observer team

On the 1st October 2016, a few of our trained surveyors were doing a casual watch on Marine drive and had an amazing and rare sighting of 2 Fin whales. They phoned to inform us, describing the distinctive 2 metre tall blow and the sheer size of the animals. The whales were still in the area the following day so we went over to Marine drive and confirmed the identification of the species.

Issues that need addressing

- A few issues have come to light surrounding the filling out of the effort and sightings forms, with some surveyors a little unsure of how to correctly fill out the forms or how to use the compass.
- We have also become aware that the compasses purchased last year can be difficult to read for those with not-so-good eyesight as the mm guide on the side of the compass is fairly small.
- Another problem with compasses is that in order to get an accurate recording of distance, the compass needs to be held at arm's length. Although this was stressed in the workshops, many surveyors have forgotten this principle resulting in inaccurate distance data.

How to resolve these issues

- We will offer re-training throughout 2017 for active surveyors to get further support and become fully aware of the survey protocol.
- We will endeavour to bulk purchase slightly larger compasses for the 2017 season. Failing that, a different strategy will be put into place whereby we use simpler compasses which can only be used to record bearing and not distance. We will then bulk purchase 150mm long rulers which can be used to measure distance and will be easier to read.
- To resolve the arm/distance issue, compasses or rulers will be fitted with strings of an exact length which the surveyor holds with one hand, allowing the compass to be held with the other hand at arm's length.

Conclusion

Out of the 55 people trained, 17 went on to actively conduct surveys making up 9 groups of observers. It was expected that not everyone has the time or motivation to commit to voluntary work like this and we are so grateful to those who did make the effort to get out there and were ultimately rewarded for their work. The surveyor network has greatly contributed to our research data and it is reassuring to know that we always have people out there looking on a calm day. The network came in particularly useful during the end of October into November when the MWDW team were off island and missed a calm spell of weather. Thankfully we had observers out almost daily on Marine drive recording information on a number of Minke whales that stayed in the area for a couple of weeks.

The workshops have had a huge positive impact on the overall awareness of cetaceans in Manx waters and many of the people we trained, who did not conduct surveys, began seeing cetaceans whilst out walking and were able to identify what they had seen. These sightings are logged into our database of opportunistic (by chance) sightings recorded on our website.

Plans for the coming year

2017 marks the second year of this 2 year project and we will again be offering Manx residents the chance to attend a workshop free of charge. A further 3 training workshops will be organised to take place in the spring and will be advertised on our website (www.mwdw.net), Facebook page and through local media.

Finally we would like to say a huge THANKYOU to the Manx Lottery Trust and to all of our current land-based surveyors. Keep up the good work!