

# Unusual sightings in Cardigan Bay (2005-2015)

By Laura Palmer, Laura Bampton and Sarah Perry

Researchers from the Cardigan Bay Marine Wildlife Centre (CBMWC) have been carrying out scientific surveys of the marine wildlife in Cardigan Bay for over two decades. Previous analysis has focused on the bottlenose dolphin (*Tursiops truncatus*), Atlantic Grey Seal (*Halichoerus grypus*) and the harbour porpoise (*Phocoena phocoena*), however a decade of boat-based surveys conducted by volunteers at the centre in collaboration with Dolphin Survey Boat Trips (DSBT) provides an opportunity to explore the marine wildlife beyond the Cardigan Bay 'Big Three'. As parts of Cardigan Bay are designated as a Special Area of Conservation (SAC), it may be valuable to identify other marine wildlife that may be benefitting from the protection of the Bay.

This analysis looked at the sightings, recorded during boat surveys, deemed as unusual in the area between 2005-2015; this includes unusual marine birds, jellyfish species or frequencies of jellyfish, sunfish and other marine mammals or large vertebrates. These sightings were obtained from the original survey forms and entered into a separate database. QGIS was used to produce maps for analysis.

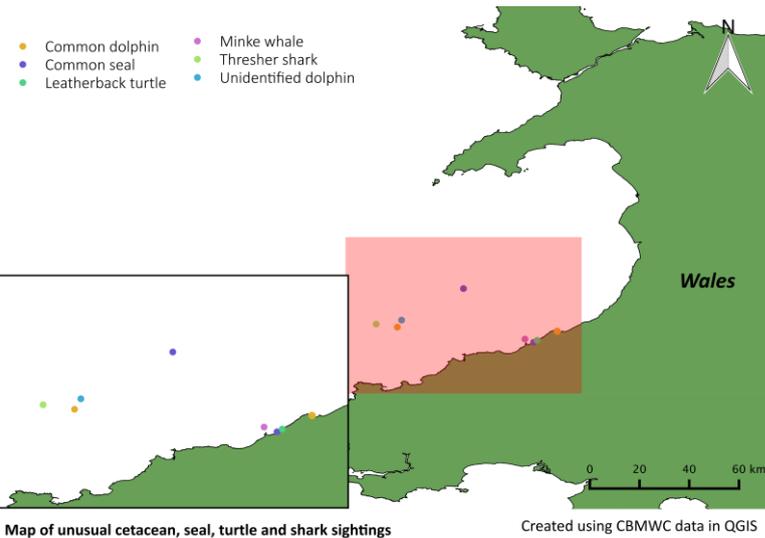


Figure 1. Map of unusual cetacean, seal, turtle and shark sightings 2005 - 2015.

All figures in this document were created using CBMWC data in QGIS.

Figures 1 and 2 show other cetacean species have been observed during this period, these include Common dolphin and Minke whale. The Common dolphin sightings constituted of a pod of over 100 individuals offshore in August 2012 and then recurrent sightings of the same individual in New Quay harbour in April 2015. A lone Minke whale was spotted in June 2006 relatively close to shore. A Thresher shark was sighted in August 2012, another very rare sighting for the area.

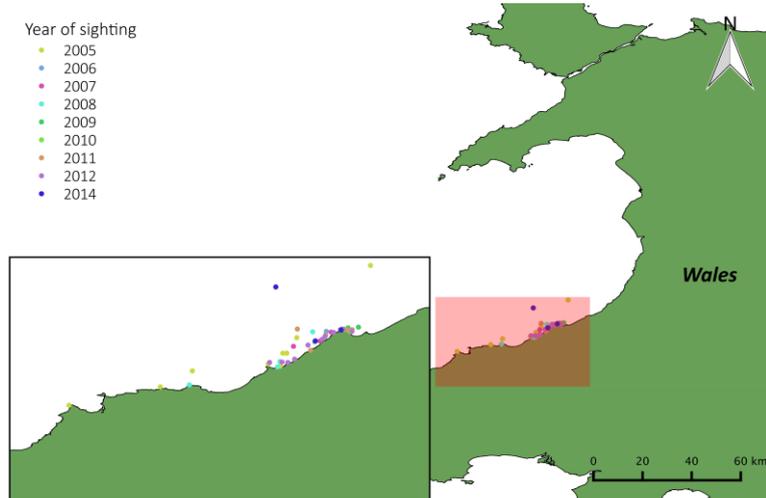


Figure 2. Map of sunfish sightings 2005 - 2015.

Figure 2 shows sunfish sightings by year throughout the period. Sunfish have been recorded every year with the exception of 2013 and 2015, but with varying frequencies. Most of these sightings occur relatively close to shore, with several exceptions. The highest numbers of sunfish were seen in 2012, with a total of 11 sightings and 12 individuals.



Image taken from <http://us.whales.org/species-guide/minke-whale>



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Cardigan Bay also frequently plays host to many species of jellyfish, an important prey species for many larger predators such as turtles and sunfish.

- Barrel jellyfish
- Blue jellyfish
- Compass jellyfish
- Jellyfish sp
- Lions mane jellyfish
- Moon (common) jellyfish
- Portugese man'o'war

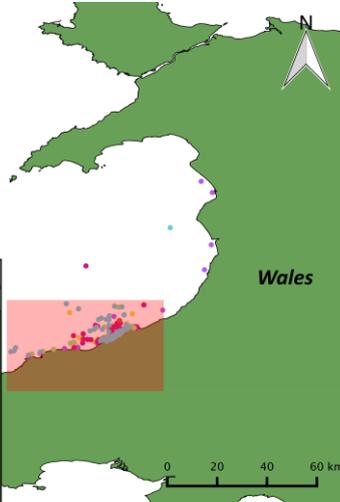


Figure 3. Map of jellyfish sightings 2005 - 2015.

Figure 3 shows high densities of jellyfish sightings in the area throughout the period. There is also a large diversity of jellyfish species present. Sightings were most frequent in 2013 and throughout the decade of data there has been several recordings of jellyfish blooms of over 100 individuals. In June 2006 a swarm of thousands of Moon (common) jellyfish was seen and days later a swarm of 200 jellyfish (not identified to species level) were recorded. Interestingly, 2005 and 2007 saw only 3 and 2 sightings of jellyfish species respectively. The reasons for this are unclear, although could be in part due to inconsistencies in recording and whether volunteers recorded jellyfish at all. Further large blooms of over 100 individuals were seen in May 2010, April 2011 and July 2013.



Atlantic Puffin  
(*Fratercula arctica*)  
© Sarah Perry



Compass jellyfish (*Chrysaora hysoscella*) © Sarah Perry



Storm petrel (Source: discoverlife.org)

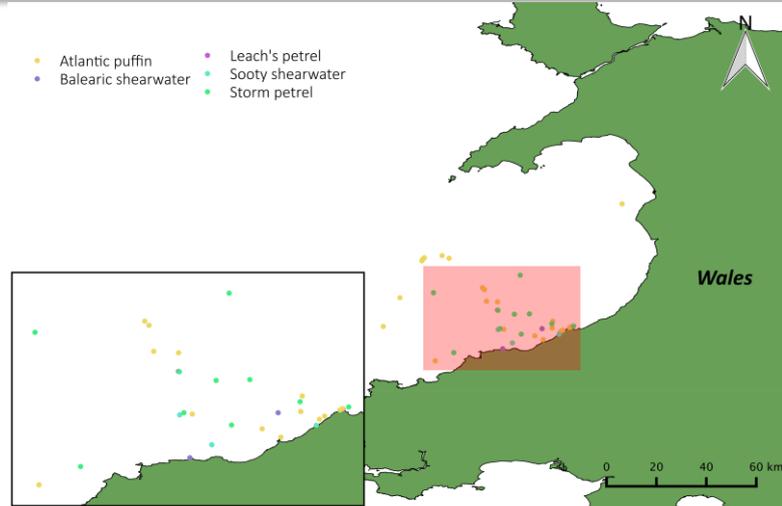


Figure 4. Map of unusual bird sightings 2005 - 2015. Due to high numbers of unusual bird sightings occurring throughout the period, for clarity a few of the most unusual have been selected for creating this image.

Figure 4 depicts some of the most unusual bird sightings in the study period. Whilst relatives of the Atlantic puffin frequent Cardigan Bay (namely razorbills and guillemots), sightings of puffins in groups of up to three individuals that occurred in 2005, 2008, 2009, 2011-13 and most frequently in 2015 are always very exciting for the observers. Recorded sightings of Petrel and Shearwater species were most frequent in the latter half of the study period between 2011 and 2015, otherwise only observed and recorded in 2006.

This study has further highlighted the diversity of marine wildlife in Cardigan Bay. Future records will help reinforce the importance of parts of Cardigan Bay, in particular the Special Areas of Conservation (SACs) designations. Continued development of this study will include the formalisation of the recording procedure for sightings beyond the Big Three and investigations into how other physical or environmental variables may effect occurrence of these unusual species. In addition, future studies may look at how frequencies of these currently deemed 'unusual' sightings change to become more or less common, potentially providing an indicator of population or ecosystem health.

