

Aberystwyth Bottlenose Dolphin Survey (June / July 2008)



Research into the Cardigan Bay dolphins has primarily focussed upon their movements within the Special Areas of Conservation (SAC) found in the south and north of Cardigan Bay. Aberystwyth, in mid-Wales, is sandwiched between these two SAC's and does not possess such a designation. Over the years however, it has provided plenty of anecdotal evidence of bottlenose dolphin activity.

This summer, a team of thirty volunteers are surveying the coast off Aberystwyth harbour in order to find out more about when and how these animals use this area. A joint collaboration between Aberystwyth University and the conservation group, Friends of Cardigan Bay, this survey will place observers on the promenade for six hours a day everyday of the week. The project aims to identify key regions or 'hot spots' where dolphins are sighted the most, as well as feeding or foraging behaviours which are exhibited in these hot spots.

So far, we have recorded and seen more dolphins than anticipated and two hot spots within the study area are already becoming apparent. In particular, these areas are proving to be a frequent site of interest for mothers with calves which suggests that the harbour waters are important as a nursery zone as well as a feeding area. Another aspect of this project will investigate the habitats and species within these hot spots through utilising underwater video and scuba diving surveys. This will provide information regarding the prey that these animals rely upon for survival.

At a time when Cardigan Bay is subject to increasing pressures from oil and gas exploration, fishing and offshore energy production, this work will further contribute an important part to informing debate regarding these issues. In addition, it highlights the need to raise awareness of the Ceredigion Code of Conduct for recreational boat users. Curiosity of these charismatic marine mammals from boat users and even kayaks can unknowingly disturb them and maybe even prevent them from entering areas where they come to feed. It is important that people are aware that bottlenose dolphins are a protected species and need to be treated with caution and respect.

Article by Sarah Lister. see also: Aber News Online

<http://www.aber.ac.uk/en/news/archive/2008/july/title-77725-en.html>

BBC - Mid Wales New Quay - Aber's Bottlenose Dolphins

http://www.bbc.co.uk/wales/mid/sites/newquay/pages/sarah_lister.shtml

A mother and a calf recently photographed near the harbour entrance foraging for food.



This is one of three new born calves that we have photographed in 2008.

The use of Aberystwyth harbour by bottlenose dolphins. December

Overall, this study revealed that Aberystwyth provides an area of considerable interest to bottlenose dolphins and may also provide an important nursery area to mothers with calves.

Within Cardigan Bay, much effort has focussed on researching bottlenose dolphins in the Cardigan Bay Special Area of Conservation (SAC) around New Quay. It is increasingly apparent however, that this species ranges much further than the boundaries of the SAC and that the current protective designations for them and the habitats which they rely upon are limited. As such, recent research efforts aim to investigate how bottlenose dolphins use other parts of Cardigan Bay in the hope that this will inform debate regarding the improvement and potential expansion of the current protective designations.

As part of a collaboration between Friends of Cardigan Bay and Aberystwyth University, a team of students and members of the public volunteered to participate in a shore-based bottlenose dolphin survey examining when and how bottlenose dolphins use the coastal waters of Aberystwyth.

Previous reports from Ceredigion County Council had led to conclusions that in the past, the lack of sightings of dolphins at Aberystwyth highlighted the importance of other areas to this species. These surveys were only run one day a week however, and anecdotal reports from local residents of frequent dolphin activity in the area did not support this conclusion.

Therefore, a more thorough investigation into the use of Aberystwyth waters by bottlenose dolphins was considered to be a priority. The survey was carried out in June and July, for six hours each day from Aberystwyth's South Beach. Each trained volunteer observer completed 2-hr watches where they recorded weather conditions, boat traffic and dolphin sightings and behaviour.



Observers collecting data at the survey site.

RESULTS: Observers achieved a total of 141 complete two hour watches over the two months. Dolphin sightings were recorded more frequently during conditions when the sea was calmer and the visibility good. Dolphins were sighted on 46% of watches completed in June, and 27% in July. Although dolphins were sighted less frequently in July, when they did appear, they tended to stay within the harbour area for as much time as in June (on average between 15-20 mins but sometimes as long as 2 hours).

Mothers with baby dolphins (calves) were reported on 40% of watches in June and 31% in July. Indeed, one mother and calf repeatedly occupied the harbour area close to shore much to the delight of onlookers. Therefore, dolphin sightings were significantly more frequent than previously reported and are consistent with the anecdotal reports.

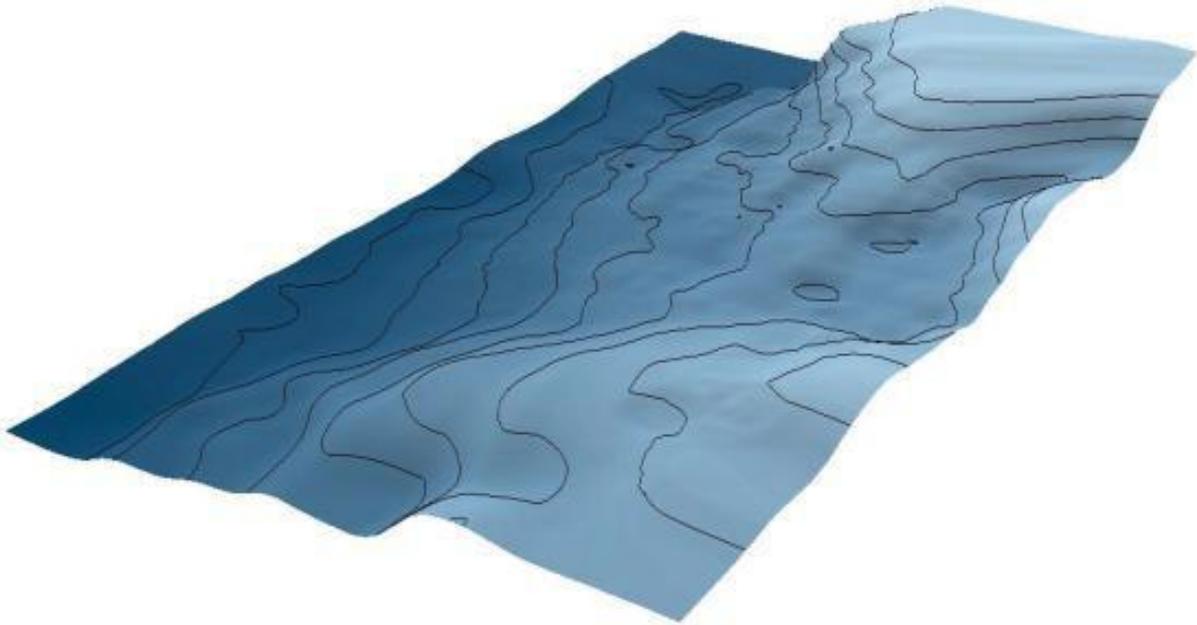
Although direct comparisons between studies are hard to make due to the different methods used, these results are similar to results obtained by other studies for areas within the Cardigan Bay SAC such as Aberporth, New Quay Bird's Rock and Ynys Lochtyn.



Bottlenose dolphin leaping at Tan-Y Bwlch, Aberystwyth.

Other findings from this survey indicated a 'hotspot' within the harbour area where sightings of bottlenose dolphins were more concentrated. Within this hotspot, foraging behaviour was recorded frequently suggesting this is an area that may provide an important habitat for feeding.

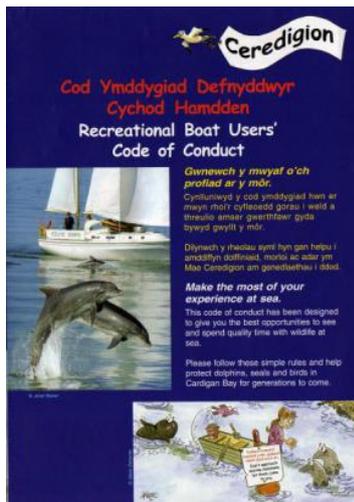
An investigation into the landscape of the seabed here revealed that this hotspot is located in a funnel shaped region which is flanked by shallow Castle Rocks to the north and the Trap to the south, and gently slopes upwards towards the beach.



Topography of the seabed with contours at 1 m interval.

Suggestions of the importance of sandy, gently sloping, shallow habitats for bottlenose dolphins and their offspring are increasingly supported in research literature. One explanation for this may be that these areas offer good conditions for protecting and rearing young as well as for foraging and catching prey. Underwater surveys of the hotspot by trained volunteer divers, revealed a predominantly sandy seabed with patches of boulders to the south.

These habitats provide opportunities to feed off prey such as worms, flatfish and crabs on the sand, as well as sand eels, mullet, salmon, sewin and garfish in the water column. In terms of management strategies for this species, protecting the habitat features of interest to dolphins is equally as significant as protecting the dolphins themselves. Therefore, if bottlenose dolphins are sighted as frequently in Aberystwyth and other regions of Cardigan Bay as they are in areas of the SAC, then surely, a protective and monitoring strategy for this species and the habitats that they utilise should encompass all of Cardigan Bay rather than one small part.



The Ceredigion Code of Conduct leaflet

For example, the Ceredigion Code of Conduct for Boat Users is widely publicised in New Quay and surrounding areas of the SAC. This Code advises boat users on the appropriate behaviour expected of them when in close proximity to marine mammals.

Within Aberystwyth however, no posters or signs advertise this Code and information leaflets were not available from obvious points of contact such as the marina and harbourmaster. Indeed, when asked, visitors to Aberystwyth especially, were unaware of the Code's existence and that marine mammals such as dolphins even visited local waters.

This lack of information leads to disturbance of marine wildlife and possible injury due to speeding vessels. Therefore, raising awareness to the presence of marine wildlife and educating the public in ways to co-exist harmoniously with marine wildlife is paramount. The subsequent issue of effective monitoring and enforcement of non-compliant behaviour to the Code is also a primary concern. However, the public need to be informed of these issues first before they can change their behaviour.