

**Expedition Log for IODP Expedition 313
New Jersey Shallow Shelf**

Week 3 – 20th May 2009

Staff scientist Carol Cotterill and the Marine Mammal Observers watch out for whales.

Because one of our logging tools requires the use of airguns, we have onboard trained Marine Mammal Observers (MMO). It is the job of these people to look out for marine mammals and monitor their proximity to the vessel and seismic source, and their behaviour patterns. If they come too close, we stop seismic operations so as not to cause injury or distress in any way. The distance around the source, or exclusion zone, is designated according to the decibel of the source and the depth it is suspended in the water – for us here the exclusion zone is 230m.



Photo 1. Whales off our stern one afternoon (*Dave Wallis©ECORD/IODP*)

So what's it like to be an MMO? Well with the recent schedule we'd be up at 05.00 to begin monitoring the ocean at 05.15. We have to keep an observation record for 30 minutes before the airguns are first fired, continuously through firing, and for 30 minutes after firing has ceased. We've been lucky here in that the days we were observing were warm and sunny – quite a few red noses and cheeks among us in fact!



Photo 2. Eileen Gillespie, one of our four MMO's on watch (*Carol Cotterill©ECORD/IODP*).

If we see anything in the water that indicates there might be a marine mammal about, we look to note specific things on our record sheets – type of blow, style and colour of any fin we might see, how the mammal dives – does it arch its back or lie low in the water? Is the animal appearing regularly or in a deep dive in which case it may be hours before they are seen again. We look for numbers of animals travelling together, and monitor their behaviour – are they travelling past us on their way to somewhere, or are they staying in one location feeding?

Since we've been here we've had many whale sightings. Often they appear in groups of 2 – 5 animals, regularly showing up off our starboard side at about 09.00 - in time for breakfast! Quite often they stay with us all day. A definitive identification is difficult, but we think they may be either Fin or Sei whales.

We tend to do two hour watches – two people working on the day shift and two working on the night shift with night-vision binoculars. Any longer and your concentration can start to stray not to mention exposure to the sun, wind and rain! The forms we fill in, whether when spotting an animal on watch or as an incidental sighting, are sent to the Joint Nature Conservation Committee (JNCC) in the UK. We also provide the information to the US National Marine Fisheries Service. They monitor marine mammal behaviour and travel routes, so not only are we making sure that our actions do no harm, we are contributing to a global database that will help us further understand these animals.