

**United Kingdom
Voluntary National Cetacean Conservation Report, 2009**

**This report provides an update on cetacean conservation actions undertaken
by the United Kingdom since IWC60**

National Governmental Authority Submitting the Report:
Marine Biodiversity Division, Department for Environment, Food and Rural Affairs
Area 2D, 17 Smith Square, London, United Kingdom, SW1P 3JR
Tel: +00 44 (0)20 7 238 4392 Fax: +00 44 (0)20 7 238 4699

Update to Voluntary National Cetacean Conservation Report of 2006 (IWC/58/CC9), 2007 (IWC/59/CC17) and 2008 (IWC/60/CC8) – available on request.

1. Legal Developments (laws, regulations and other regulatory measures related to cetaceans)

1.4b Implementation of guidelines, new legislation to reduce disturbance

The Joint Nature Conservation Committee (JNCC) has produced statutory guidance relating to the deliberate disturbance and injury offences contained in the Conservation (Natural Habitats, &c.) Regulations 1994 and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 in the marine area. The primary focus of the guidance is on the deliberate disturbance and injury of cetaceans, as these are the most prevalent Annex II species found in UK waters. The guidance will be published on the JNCC website shortly.

The UK Government has introduced the Marine and Coastal Access Bill in Parliament. Subject to parliamentary approval we anticipate the Bill receiving royal assent later this year. The Bill includes proposals for a new system of marine planning and licensing, modernized inshore fisheries management, and new tools to designate and protect areas as Marine Conservation Zones (MCZs) for nature conservation purposes.

3. Current Government Programs Related to Cetacean Conservation

3.1d Scottish Government funded project – An investigation into entanglement of minke whales

The Scottish Government is currently funding a project to investigate the occurrence and causes of minke whale entanglement in Scottish waters. Using photo-identification techniques and strandings data, the project aims to discover how widespread such events are and whether there are any simple measures that might be taken to lessen the risk. The results of this project will be available in autumn 2009.

3.4b Distribution, of small cetaceans in Welsh waters

As required under the Habitats Directive, the UK continues developing its surveillance strategy. In conjunction with this the Ceredigion County Council Study of cetacean site use and boat traffic along the Marine Heritage Coast and Cardigan Bay SAC, funded by the Joint Nature Conservation Committee (JNCC), is in its 16th year with over 8000 hours of volunteer effort.

3.5 Other programs undertaken by academic institutions and NGOs

The University of Aberdeen Lusseau Lab has initiated research to understand the behavioural mechanisms linking repeated exposure to disturbances with habitat use and distribution using the northeast Scotland bottlenose dolphin population as a study system (see SC/61/For Information 42).

4. Current threats to Cetacean Conservation and Management Measures Taken/Proposed

4.5c Investigations of methods to reduce by-catch

The UK Department for the Environment Food and Rural Affairs (Defra) continue to fund research scientific investigations alongside the voluntary deployment of acoustic deterrents or 'pingers', designed to prevent cetacean entanglement with fishing gear.

Acoustic deterrent devices (model DDD-02F) were tested in the bass pair trawl fishery following on from earlier work in 2006-2007. No cetacean bycatches were observed (though sample sizes are still relatively small) and these results lend further support to the notion that these devices represent an effective way of minimising or eliminating bycatch in this fishery.

Gillnet pingers (model DDD-02) that are somewhat louder than the pingers mandated in Annex II of Council regulation 812/2004 have been tested in conjunction with T-Pods on a standard tangle net in Cornwall in order to determine how far porpoises and dolphins might be displaced by such devices. This study followed a similar one in 2007. The 2007 experiment suggested that the degree of exclusion was inversely related to distance from the devices out to about 1.5-2km from source. The 2008 experiments suggested a slightly greater degree of exclusion, again inversely related to distance (i.e. not complete exclusion) out to around 2.5-3km. Following these results DDD-02 devices have been deployed with three UK registered gill and tangle net boats in order to test the effectiveness in reducing bycatch of porpoises and dolphins.

An interim report received in May 2009, indicated that they are indeed an effective means of minimising porpoise bycatch at a spacing of 2km. Use of this model would mean using far fewer devices while maintaining an appropriate level of bycatch mitigation, which in turn would mean that devices can be attached and detached from nets before and after hauling, thereby minimising breakages. These devices are also rechargeable on board and this should help ensure that battery replacement is not an issue. The trials funded by Defra are being carried out by the Sea Mammal Research Unit at the University of St. Andrews.

5. Reporting Systems for Cetacean Injuries/Mortality/Strandings.

5.1d Research on the effects of pollutants on cetacean health

PCB contamination has been linked to reduced pregnancy rates in harbour porpoises (Pierce et al., 2008). 17mg/kg lipid has been identified as the critical level at which the concentration of PCBs begins to affect harbour porpoise health (Jepson et al., 2008). This level has recently been proposed as one of the criteria used to assess the health status of harbour porpoises under monitoring plans being developed for the species by OSPAR.

Levels of hexabromocyclododecane (HBCD) have been found in harbour porpoises has decreased since 2003, possibly linked with the closure of a manufacturing plant at that time (Law et al., 2008a). Attention has also focused on perfluorooctane sulphonate (PFOS), a synthetic chemical with a wide range of uses including provision of resistance to water and oil, use as a flame retardant and as an active ingredient in pesticides and cleaning products. This has been found in significant concentrations in harbour porpoises stranded or bycaught in UK waters (Law et al., 2008b). This data is contributing to the OSPAR assessment of efficacy of regulatory controls and voluntary limitations on PFOS use. Currently the European Commission are considering measures to restrict the production, marketing and use of PFOS.

SMRU, in collaboration with the Institute of Zoology London and the Centre for Environment, Fisheries & Aquaculture Science, is undertaking a study to assess the effects of contaminants on reproductive activity in female small cetaceans. The project is supported by the Agreement on the Conservation of small cetaceans of the Baltic and North Seas (ASCOBANS), and the research project will report in August 2010. Focal species are common dolphins and harbour porpoises, and work includes analysis of gonadal and teeth samples obtained by the UK Cetacean Strandings Investigation Programme.

In order to improve our understanding of the scale and impacts of human derived noise occurring in the marine environment, the UK called for research proposals in early 2009. Successful proposals will be announced later this year. This call has been to identify and take forward research on assessing the current status of marine noise occurring in the marine environment, including shipping, and assessing what the impacts is on marine life.

5.3 Implementation of schemes to use and gain information from stranded cetaceans

In 2008, 583 cetaceans were reported to the UK Cetacean Strandings Investigation Programme (CSIP), 6.2% higher than the number reported in 2007. Of these, 485 were found stranded and dead, 81 were seen to have stranded alive and 17 were dead cetaceans found at sea. Consistent with previous years, the most common UK-stranded cetacean species in 2008 were the harbour porpoise (*Phocoena phocoena*, n=270) and the short-beaked common dolphin (*Delphinus delphis*, n=113). In addition, reports of 27 stranded marine turtles and six basking sharks (*Cetorhinus maximus*) were also received in 2008.

In 2008, 136 cetacean strandings (comprising 13 species), 10 loggerhead turtle (*Caretta caretta*) strandings and one Kemp's ridley (*Lepidochelys kempii*) turtle stranding were examined at post mortem using standardised protocols. No basking sharks were examined at post-mortem during 2008. The most common causes of mortality of the 69 stranded harbour porpoises examined at post-mortem in 2008 were starvation (n=28), pneumonias due to combinations of parasitic, bacterial and/or mycotic infections (n=14), bottlenose dolphin attack (n=12) and by-catch (n=8). Cases of fatal attack from bottlenose dolphins occurred in west Wales (n=5), north-east Scotland (n=4) and Cornwall (n=3) where porpoises have sympatric distributions with resident or semi-resident bottlenose dolphin groups.

Stranding alive (in otherwise healthy animals) was the most common cause of death in 29 of the 41 (71%) UK-stranded short-beaked common dolphins examined in 2008, including the mass stranding event (MSE) in Cornwall in June 2008. In contrast, only two UK-stranded common dolphin carcasses were diagnosed as by-catch in 2008, a marked reduction compared to the previous 18 year period where by-catch was the most common cause of death in the large number of common dolphins that predominantly stranded in south-west England (Cornwall and Devon) between January and April. The reason for the reduction in numbers of stranded harbour porpoises and common dolphins that were diagnosed as by-catch in 2007 and 2008 (mainly in south-west England) is not known.

There were two unusual stranding events in the UK during 2008. The first involved 12 Cuvier's beaked whales (*Ziphius cavirostris*) (mainly in western Scotland), 11 long-finned pilot whales (*Globicephala melas*) (ten in Scotland, one in west Wales), three Sowerby's beaked whales (*Mesoplodon bidens*) (mainly in Western Scotland) and one unidentified beaked whale (in Wales) that stranded between 21 January and 10 April 2008. Most carcasses were found dead and in a degree of decomposition that was largely unsuitable for detailed post-mortem examination. The degree of decomposition appeared to deteriorate further as strandings progressed over time, consistent with death occurring at a similar point in time. This mortality event was investigated as part of larger cluster of strandings that occurred between 13 January and 14 April 2008 and included another 13 long-finned pilot whales and three unidentified beaked whales that stranded in Ireland (Dolman *et al* 2008). The cause(s) of the unusual mortality event was not established, predominantly due to the degree of carcass decomposition (Dolman *et al* 2008).

The second unusual mortality event was the MSE of common dolphins first discovered in the Fal estuary, Falmouth Bay, Cornwall on the morning of 9 June 2008. At least 26 dolphins stranded alive and died and more were refloated back to open water by rescue groups and bystanders. A full investigation of the MSE was funded by UK Government (Defra) through a variation to the existing contract. Detailed post-mortem examinations were conducted along with a comprehensive range of additional diagnostic tests for bacteria (including *Brucella* sp.), viruses (including morbilliviruses) and histopathological examinations in all 26 animals, together with the quantification of algal and chemical toxin levels in tissue samples from the adults only (n=7), making this one of the most intensively investigated cetacean MSEs ever undertaken. On post-mortem examination, all 26 dolphins were found to have empty stomachs and to be in good nutritive condition and all were suspected to have stranded alive. A number of potential causes of this MSE can be either excluded or considered highly unlikely. These include distemper (morbillivirus), brucellosis, other infectious diseases, gas embolism, fat embolism, boat strike, by-catch, attack from killer whales or bottlenose dolphins, feeding unusually close to shore, ingestion of harmful chemical or algal toxins, abnormal weather/climatic conditions and high-intensity acoustic inputs from seismic airgun arrays, recreational craft and natural sources (e.g. earthquakes). An international naval exercise was conducted in the South Coast Exercise Area prior to the MSE but information provided freely by the *UK Ministry of Defence*, under strict legally binding *Freedom of Information* legislation, indicates a period of approximately 60 hours between the cessation of mid-frequency antisubmarine sonar deployment and the discovery of the MSE. The naval exercise is therefore considered unlikely to have directly triggered the MSE. Ultimately, a definitive cause for the MSE could not be determined. The findings were most consistent with an adverse group behavioural response to an unknown trigger, or an intrinsic "error of navigation", or a confluence of additional unknown factors within an otherwise healthy social group of dolphins. Greater insight into the causes of any future MSEs may require either a direct observation of the onset, or the emergence of an unusual level of coincidence of MSEs or violent reactions with one or more causal factors. A report on this MSE will become available shortly.

Data and tissue samples generated from the systematic examination of UK-stranded cetacean carcasses since 1990 continues to support a broad range of multidisciplinary scientific research activity and has resulted in over 150 publications within the peer-reviewed scientific literature in that period.

6. International Cooperation Activities

The University of Aberdeen Lusseau Lab is involved in the steering of the IWC Large scale Whalewatching Experiment (LaWE) project initiative. In collaboration with the University of Iceland they have also initiated a project to provide scientific guidance on whaling-whale watching conflict resolution (2009-2013).

Further details and references to papers available on request