

Agenda Item 5.1

Implementation of the Triennium Work Plan
(2010-2012)
Review of New Information on Population
Size, Distribution, Structure and Causes of
Any Changes

Document 5-09

**UK Cetacean Strandings
Investigation Programme**

Action Requested

- Take note of the report

Submitted by

United Kingdom



NOTE:
IN THE INTERESTS OF ECONOMY, DELEGATES ARE KINDLY REMINDED TO BRING THEIR
OWN COPIES OF DOCUMENTS TO THE MEETING



UK CETACEAN STRANDINGS INVESTIGATION PROGRAMME

For centuries, cetaceans have regularly stranded around the coasts of the UK. The underlying causes of these stranding events are not always clear and in particular, the role that human activity may play in either directly or indirectly causing single or mass strandings remains controversial. Information generated through the study of stranded animals can provide a picture of what species are found in UK waters and in many cases an assessment can also be made on the likely cause of death through standardised necropsies.

The collaborative UK Cetacean Strandings Investigation Programme (CSIP, www.ukstrandings.org) has been funded by UK government since 1990, to provide a systematic and coordinated approach to the surveillance of cetacean strandings around the UK coast and to the investigation of causes of death. The project aims to;

- collate, analyse and report data for all cetacean, marine turtle and basking shark strandings around the coast of the UK
- determine the causes of death in 100 stranded cetaceans each year
- undertake surveillance on the incidence of disease in stranded cetaceans in order to identify any substantial new threats to their conservation status.

Strandings that undergo necropsy can also provide a unique insight into causes of mortality and morbidity, environmental contaminant levels, reproductive patterns, diet and other aspects of the general health of cetacean populations. This provides important baseline data to help detect any future outbreaks of disease, unusual mortality events or responses to environmental change (e.g. climate change). The information from this project helps to ensure that the UK complies with a number of national and international agreements/obligations, including the Agreement on the Conservation of Small Cetaceans in the Baltic and North Sea (ASCOBANS) and the Habitats Directive. The data generated also facilitates informed management decisions, to improve or maintain favourable conservation status in threatened species, through the investigation of important causes of death such as accidental entrapment in commercial fishing gear (by-catch).



Figure 1 Stranded sperm whale at the Wash, Norfolk, England, 2003



Figure 2 Mass stranding of common dolphins in Cornwall, England, 2008

The CSIP is funded by Defra and the Devolved Administrations. The Institute of Zoology leads the consortium of partner organisations (Scottish Agricultural College- Inverness, Natural History

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Museum and Marine Environmental Monitoring) making up the CSIP and the Joint Nature Conservation Committee provides day-to-day project management oversight. The current period of funding commenced in April 2007 and runs until March 2011.

What are the results from the project and how will they be used?

The research conducted under this programme continues to provide long-term and systematic monitoring of UK-stranded cetaceans and now also collects data on UK-stranded marine turtles and basking sharks. The data generated by this programme facilitates the investigation of spatial and temporal trends in new and existing diseases, causes of mortality and exposure to environmental pollutants largely inaccessible by other methods. For example, Figure 3 shows temporal trends in the proportion of UK-stranded harbour porpoises (*Phocoena phocoena*) and common dolphins (*Delphinus delphis*) diagnosed to have died as a result of accidental entrapment in commercial fishing gear (by-catch) in the UK over the last ten year period (2000-2009). A number of causes of death other than by-catch have also been identified in UK-stranded cetaceans since 1990. These include attack by bottlenose dolphins (*Tursiops truncatus*), live stranding, starvation and a range of mainly parasitic and bacterial infectious diseases including cetacean brucellosis. Research has also demonstrated a strong link between immunosuppressive pollutants such as polychlorinated biphenyl (PCB) exposure and death due to infectious disease in UK-stranded harbour porpoises, suggesting that current levels of pollutant exposure can indirectly cause mortality. Levels of PCBs in whale and dolphin species listed for priority conservation actions, such as bottlenose dolphins, are even greater (Figure 4), suggesting that these pollutants continue to pose a serious threat.

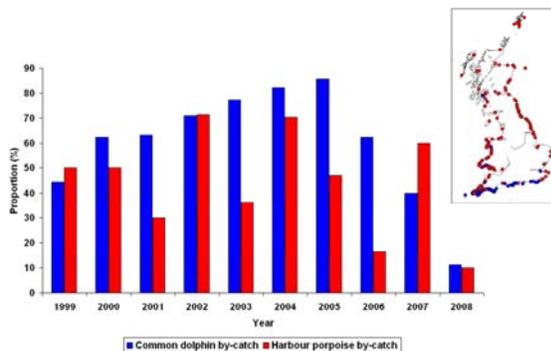


Figure 3 Temporal variation in the proportion of by-catch diagnosed in UK stranded common dolphins and harbour porpoises 2000-2009. Inset map shows UK distribution of by-catch in these two species over the same period¹

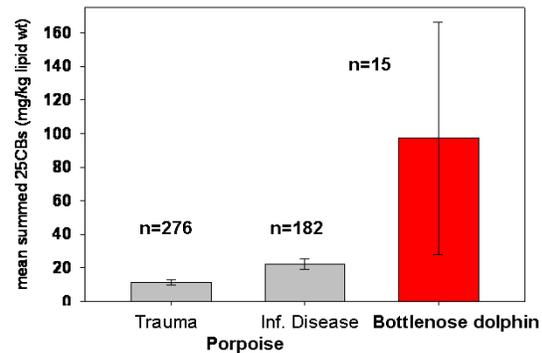


Figure 4 Mean summed PCB levels in UK stranded harbour porpoise (physical trauma and infectious disease cohorts) and bottlenose dolphins (1990-2005)²

¹ UK CSIP database (data available through <http://data.nbn.org.uk/organisation/organisation.jsp?orgKey=10682>)

² ICES. 2010. Report of the Working Group on Marine Mammal Ecology (WGMME), 12-15 April 2010, Horta, The Azores. ICES CM 2010/ACOM:24. 212 pp.

A national cetacean tissue archive is also maintained by the CSIP and provides a useful resource for a range of institutions. The CSIP tissue archive contains over 80 000 samples systematically collected from over 2700 stranded cetaceans, which have been necropsied since the project began. Together with data generated during the last 20 years, this valuable resource continues to support a broad range of high quality scientific research publications that help to advance our knowledge about cetaceans, educate the public and inform Government policy.

CSIP Database and export to the public

During the current period of funding, the CSIP was also tasked with the development and population of an integrated web-accessed database. The database, funded by Defra, incorporates data from several previously separate databases, bringing together for the first time detailed strandings and pathology data collected by the CSIP since 1990. As well as facilitating more efficient and accurate capture of data by the CSIP consortium, the database also allows stakeholders to access data as required. In addition, periodic export of relevant data to the UK National Biodiversity Network (NBN) gateway (www.nbn.org.uk/) has recently begun, enabling access to information on strandings and necropsy data by the UK public and the wider scientific community. The number of UK stranded cetaceans reported to the CSIP between 1990 and 2009 are shown in Table 1, together with the number of necropsies carried out by the CSIP during this period. Data on all these individuals is now freely accessible on the NBN gateway and it is hoped that wider availability of data on UK strandings will improve collaborative research, as well as helping to educate the UK public about strandings and the need for cetacean conservation. CSIP data released through the NBN gateway is also available for incorporation into any European wide strandings database which may be constructed in the future. The NBN CSIP page can be found at <http://data.nbn.org.uk/organisation/organisation.jsp?orgKey=10682>.

Table 1 Cetaceans reported to the CSIP 1990-2009

Species	No. reported to CSIP*	No. necropsies
Harbour porpoise	4663	1650
Short-beaked common dolphin	1587	539
Long-finned pilot whale	303	33
Minke whale	256	37
White-beaked dolphin	224	79
Atlantic white-sided dolphin	211	83
Striped dolphin	190	106
Risso's dolphin	158	31
Bottlenose dolphin	135	59
Sperm whale	123	16
Sowerby's beaked whale	44	22
Northern bottlenose whale	37	15
Cuvier's beaked whale	35	2
Fin whale	28	5
Killer whale	23	5
Humpback whale	13	3
Pygmy sperm whale	7	4
Sei whale	2	0
Blainville's beaked whale	1	1
Frasers dolphin	1	0
Unknown cetacean species	1369	0
Total	9410	2690

* (England, Scotland, Wales and Northern Ireland- all strandings and dead cetaceans found at sea)

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