

United Kingdom Voluntary National Cetacean Conservation Report, 2011

This report provides an update on cetacean conservation since IWC62

National Governmental Authority Submitting the Report:

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

1.1 Marine Management Organisation

As of 1st April 2010, the Marine Management Organisation (MMO) became responsible for certain marine nature conservation enforcement and management in the UK. This includes the issuing of Marine Mammal Mitigation Protocols (MMMPS), put in place to prevent harm to marine mammals. Compliance inspections take place to ensure required projects adhere to their MMMPS.

The MMO also has responsibility for implementing and enforcing bylaws (under section 129 of the Marine and Coastal Access Act 2009) and other management measures in current and new Marine Protected Areas when considered necessary, including those that will include small cetaceans as a designated feature.

Training in these new enforcement responsibilities has been given to coastal officers and the Royal Navy Fisheries Protection Squadron, who carry out enforcement duties on the MMO's behalf.

1.2 Marine (Scotland) Act 2010

Scotland's Marine Bill received Royal Assent on 10 March 2010. The Marine (Scotland) Act provides a framework which will help balance competing demands on Scotland's seas. It introduces a duty to protect and enhance the marine environment and includes measures to help boost economic investment and growth in areas such as marine renewables. The main measures of the Act include:

- **Marine Planning:** a new statutory marine planning system to sustainably manage the increasing, and often conflicting, demands on our seas
- **Marine licensing:** a simpler licensing system, minimising the number of licences required for development in the marine environment to cut bureaucracy and encourage economic investment
- **Marine conservation:** improved marine nature and historic conservation with new powers to protect and manage areas of importance for marine wildlife, habitats and historic monuments
- **Seal conservation:** much improved protection for seals and a new comprehensive licence system to ensure appropriate management when necessary
- **Enforcement:** a range of enhanced powers for marine conservation and licensing

2. Current Government Programs Related to Cetacean Conservation

2.1 UK surveillance and monitoring programme

The Sea Mammal Research Unit has used spatial modelling to estimate abundance and explore species-habitat relationships of cetaceans in European Atlantic waters. The analysis combined data from SCANS-II (surveyed in 2005), CODA (surveyed in 2007) and the Faroes block of TNASS (surveyed in 2007). Species for which abundance could be estimated were: harbour porpoise, white-beaked dolphin, white-sided dolphin (*Lagenorhynchus acutus*), bottlenose dolphin (*Tursiops truncatus*), short-beaked common dolphin, striped dolphin (*Stenella coeruleoalba*), long-finned pilot whale, minke whale, fin whale, sperm whale, and all beaked whale species combined. Results of these analyses will become available in the coming year.

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

3.1 Bycatch

The two main species affected by fishing in UK waters are the harbour porpoise and the short-beaked common dolphin. All Reports to the European Commission on activities conducted by the UK under Regulation 812/2004, and under Article 12(4) of the Habitats Directive, provide details of the monitoring work undertaken and estimates of bycatch.

A dedicated monitoring scheme is operated by the Sea Mammal Research Unit (SMRU), while collaborative links with the three fishery research laboratories in the UK also allow selected observations from the Discard Sampling Programmes to be included in our assessment of cetacean bycatch. The observer scheme relies upon good collaborative links with industry. Nevertheless fisheries regulations were enacted in England and Scotland to ensure that there is also a legal obligation for skippers and owners to take observers when asked to do so.

The principle area of concern for cetacean bycatch remains the south-western waters of the Western Channel and Celtic Sea. The situation in the North Sea remains unclear as only limited monitoring has been done since the late 1990s. Monitoring is now being focused on these two areas and as sufficient data is compiled, more robust estimates of current bycatch rates will become available.

The UK is now undertaking more limited monitoring in its pelagic trawl fleets, except where cetacean bycatch is known to be a concern, or where there is insufficient information to form an assessment of likely bycatch rates. Most sampling effort is now directed at under 15m vessels using static gears in subareas VII and IV, while the over 12m vessels that are involved in ongoing trials of acoustic mitigation devices are also subject to ongoing collaborative study.

Reports can be found at:

<http://ww2.defra.gov.uk/environment/marine/protect/species/cetaceans/>

Implementation of methods to reduce bycatch

Work on mitigation continues to focus on the use of one specific type of acoustic deterrent device (DDD). These devices (DDD03F) are being used in the UK component (outside 12NM) of the midwater pair trawl fishery for bass in the Western English Channel with continued success. A variant of the same device (DDD03H) is being adopted by the over 12m gill and tangle net fleet in the Western Channel and Celtic Sea. Observations on this fleet segment continue to demonstrate the effectiveness of these devices in minimising porpoise bycatch, but the effects on common dolphins is not yet clear.

We have expanded this work by purchasing further devices, which have been deployed in static net fisheries in the Southwest and the North Sea. We hope the extra information this provides will allow us to make firm conclusions on the devices effectiveness and safety by spring 2011.

Work has also been undertaken on determining how tangle net design influences porpoise and seal bycatch rates, and how such features might be adapted to minimise bycatch rates. Paired sets of nets fished in the same general area were tested and passive acoustic monitoring used to determine how porpoises interact with nets.

The initial acoustic monitoring showed little difference in porpoise activity around three nets rigged in different ways, which does not suggest any obvious way of modifying such nets to make them less attractive or more detectable to porpoises. Additionally, the influence of net design on the probability of a bycatch event occurring is being investigated. The existing data does not provide a clear picture of the main factors involved in determining bycatch rates, but mesh size, twine diameter and net height all appear to be implicated.

3.2 Research proposals

Through membership of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) the UK helped secure funding for four projects in 2010/11:

- Inventories of Harbour porpoise presence in Russian territorial waters of the Baltic Sea;
- Feasibility study on the creation of a web-accessed strandings database covering Agreement Parties and Range States;
- Pollutant exposure in coastal top predators: assessing current levels of exposure and toxic effects; and
- Understanding Harbour porpoise and fishery interactions in the North-West Iberian peninsula

Results of these projects will be presented next year.

4. Reporting Systems for Cetacean Injuries/Mortality/Strandings

4.1 Research on the effects of pollutants on cetacean health

During 2010, Defra funded the analysis of retrospective samples from 100 harbour porpoises (2004-2008) for chlorinated biphenyls (PCBs), organochlorine pesticides (OCs) and brominated diphenyl ethers (flame retardants, PBDEs). Analyses are ongoing at the Centre for Environment, Fisheries and Aquaculture Science (CEFAS, <http://www.cefass.co.uk/>) and results are expected to be available later in 2011, progressing work towards a 20 year time series of marine contaminant analysis in UK stranded harbour porpoises.

In 2010, analyses of long-term temporal trends in blubber concentrations of PCBs (n=440; 1991-2005) (Law et al. 2010a) and PBDEs (n=415; 1992-2008) (Law et al. 2010b) in UK-stranded harbour porpoises were published. A non-parametric statistical method was used and potential confounding factors (area, season, by-caught or stranded, age class, sex, blubber thickness and lipid content) were investigated and found not to confound any of the trends identified. Summed PCB concentrations in UK harbour porpoises are declining only slowly from 1991-1997 and then leveled off up to 2005 as a result of a ban on the use of PCBs which began more than two decades ago (Law et al 2010a). This decline is much slower than that observed for organochlorine pesticides (such as DDTs and dieldrin). There are also regional differences in PCBs and OC pesticide levels within UK waters (lower levels in Scotland), possibly reflecting differences in diffuse inputs and transfer between regions, e.g. via the atmosphere. The reason for the slow PCB decline is not known but likely to involve continuing diffuse inputs from e.g. PCB-containing materials in storage, construction and in landfills, and to the substantial reservoir of PCBs already in the marine environment. Further efforts to limit or eliminate PCB discharges to the marine environment are still needed.

PCB exposure data has also been generated for UK-stranded bottlenose dolphins (n=15) (Jepson et al 2008) and killer whales (n=5) for the same period (1991-2005) (ICES 2010). The mean level for PCBs in UK-stranded bottlenose dolphins was almost 100,000ng/g lipid weight (Jepson et al 2008) and 225,000ng/g lipid weight for the killer whales (ICES 2010). Although these data are from stranded animals, they show that PCB exposures are similar or greater than levels in biopsied bottlenose dolphins in the SW Atlantic such as Indian River Lagoon (Florida, US), Sarasota Bay (Florida, US) and Charleston (North Carolina, US) (ICES 2010). PCB blubber levels in UK-stranded killer whales are also similar to the very highest PCB levels recorded in adult transient male killer whales blubber in British Columbia, Canada (ICES 2010). Given the concerns about high PCB levels, ASCOBANS funded IoZ to co-ordinate a project to assess PCB exposure in stranded bottlenose dolphins in European waters.

For BDEs, nine congeners were: BDE28, BDE47, BDE66, BDE85, BDE99, BDE100, BDE138, BDE153 and BDE154. The maximum Σ BDE concentration observed was 15.7 mg/kg-lipid wt in an animal which died in 1993. The median concentrations peaked around 1998, and have reduced by between 55% and 76% to 2008. The BDE congeners found in UK marine mammals arise primarily from the penta-mix PBDE product, which was banned in the EU in 2004 (Law et al 2010b).

Reporting on anthropogenic noise

Following ASCOBANS request for Parties to introduce mitigation measures with respect to seismic surveys, the UK has presented data on 2D and 3D seismic survey activity in the UK maritime area for periods since 1997 at a number of ASCOBANS Advisory Committees and Meetings of the Parties over the past five years. The most recent update from the Department of Energy and Climate Change (DECC) is in the 'Information on Seismic Survey Activities by the United Kingdom 2010' report to be found on the ASCOBANS website. This report also covers 4D surveys undertaken, and is available on request.

The Defra and Ministry of Defence (MoD) Military Underwater Sound Stakeholder forum met twice in 2010. Giving the opportunity for industry, non-government organizations and other interested stakeholders to engage directly with government to raise their concerns. These discussions have helped lead to the development of a real-time alert procedure for naval training operations. This enables local information on unusual cetacean sightings, e.g. the presence of a species group closer to shore than is usual, to be incorporated into the training schedule and for operations to be relocated if necessary.

4.2 Reporting of cetacean strandings in the UK

Since 1990, the collaborative UK Cetacean Strandings Investigation Programme (CSIP) has been funded by UK Government (currently through Defra, Welsh Assembly Government and Scottish Government) to collate analyse and report data for all cetacean strandings around the coast of the UK. CSIP determines the causes of death in stranded cetaceans, including bycatch and physical trauma and undertakes surveillance on the incidence of disease in stranded cetaceans in order to identify any substantial new threats to their conservation status.

The CSIP holds data on over 10,000 cetaceans which were reported stranded around the UK between 1990 and 2010. In addition, detailed pathological data is also held on nearly 2900 UK stranded cetaceans which were necropsied by the CSIP during the same period. Data collected on strandings and during necropsies are routinely recorded in a web-accessed relational database (<http://data.ukstrandings.org>). A proportion of data held on this system is also made available to the public via a Defra funded portal, the NBN gateway (<http://www.nbn.org.uk/>).

Further information on the CSIP is available at www.ukstrandings.org. Intellectual property rights to the data directly generated as a result of CSIP research belong to Defra.

A workshop partly organised by Defra funded CSIP staff was held at the European Cetacean Society Conference in Cadiz on 19th March 2010 to discuss the ASCOBANS database proposal (mentioned in 3.2). Fifty three attendees from 11 different countries came to the workshop; presentations were delivered by representatives of stranding/necropsy networks in nine different countries. Outline fields for a putative database were agreed and three working groups were suggested to take forward further discussion on strandings data, necropsy data along with technical/database development. The IoZ authored report to the ASCOBANS Secretariat is due to be submitted in November 2011.

In addition to the strandings co-coordinators funded by Defra, the Welsh Assembly Government continues its funding of the Welsh Strandings Co-ordinator in conjunction with CCW. The cetacean most commonly found stranded on the Welsh coast is the harbour porpoise and the most common cause of death for this species is from attack by bottlenose dolphins.

4.3 Reporting on the impacts of shipping

A paper presented at ASCOBANS in October 2010 on 'Potential Conflicts between Shipping and Cetaceans in the ASCOBANS Region' gives an overview on the extent of shipping in the Agreement area and how this correlates with cetaceans abundance. It highlights a number of 'hotspots' of busy activities and higher cetacean densities where the risk of collision with cetaceans could be greater.

Further details and references to papers available on request