United Kingdom Voluntary National Cetacean Conservation Report, 2010

This report provides an update on cetacean conservation actions undertaken by the United Kingdom since IWC61

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

1.1 The Marine and Coastal Access Bill

The Marine and Coastal Access Bill received Royal Assent on 12 November 2009. The Act introduces new tools for conservation of marine wildlife that together with existing ones can: halt the deterioration in the state of the UK's marine biodiversity and promote recovery where practicable, support healthy functioning and resilient marine ecosystems, ensure environmental considerations are at the heart of decision-making processes, and provide mechanisms that can deliver current and future European and international conservation obligations.

3. Current Government Programs Related to Cetacean Conservation

3.1 UK surveillance and monitoring programme

Development of a UK surveillance and monitoring programme is underway to meet various legal requirements and other obligations such as those under the Habitats Directive, ASCOBANS and OSPAR. As part of this, Paxton & Thomas, 2010 (not yet published), using the Irish Sea dataset, undertook spatial/temporal analysis that combines analysis of detection as well as encounter rates to produce density surface plots for harbour porpoise, minke whale, bottlenose dolphin, common dolphin and Risso's dolphin. For all species investigated, there was an apparent increase in density over time. This is, partially, a consequence of the low levels of effort in the early years. Nevertheless in some species (harbour porpoise, bottlenose dolphins and common dolphins) a significant trend was apparent which suggested that, even if the point estimates were inaccurate, there has been a real increase in abundance. Further development of these techniques is expected in 2010/1.

3.2 Other surveillance and monitoring projects

At the individual country level, surveying and monitoring has been undertaken in Welsh waters for various species including bottlenose dolphin, harbour porpoise, Risso's dolphin and baleen whales.

In Scotland, a variety of projects are ongoing focusing on abundance, stock structure and diet of killer whales, distribution and habitat preferences of white beaked dolphins, and the distribution, abundance and population structure of bottlenose dolphins. In England, assessing distribution and abundance of white beaked dolphins has recently commenced off the Northumberland coast.

The Northern Ireland Environment Agency (NIEA) have implemented a systematic cetacean monitoring programme. Monthly shore-based effort watches are now conducted from 12 key sites using a standard monitoring methodology. This provides data from inshore waters to address local management issues and the potential identification of SACs in future years.

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

4.1 A summary of recent trials using acoustic deterrent devices in the UK

The Small Mammal Research Unit (SMRU) has been experimenting with the use of Dolphin Deterrent Devices (DDD-02) in the UK tangle and gillent sector in waters off the South and West of the British Isles (ICES sub-area VII). So far, four vessels have been involved, one of which is under 12m, and three are over 12m.

Since September 2008, 717 fishing operations on these boats have been monitored by independent observers. Records for a further 198 fishing operations have been provided by the skippers of the participating vessels. A total of 13 porpoises bycatches have been reported, 11 of these were in nets without DDDs (0.02 porpoises per haul or 50 hauls per porpoise). There is a significant difference in bycatch rates between test and control fleets, as detailed in an earlier report. The two animals bycaught in nets with pingers were 1.4km and 3km from the nearest DDD. This is in line with previous experimental results that suggest porpoise avoidance of active DDDs declines with distance from the source to at least 1km.

Two common dolphins have also been recorded in nets without DDDs, a rate of about 0.003 animals per haul, or 1 animal every 275 operations. This is a similar rate to the bycatch estimates from all nets observed without pingers since 2005 of 0.0045 dolphins per haul or one every 219 hauls. Further observation results are available on request.

Additional funding has been awarded to extend the trial to include a further five locally based over 12m boats in 2010. This will provide more data with which to test the efficacy of these devices in minimising common dolphin bycatch. It will also assist in identifying and resolving operational issues.

New versions of the DDD (DDD-03) are now available and the DDD-02s have been discontinued, so it will be necessary to check that the newer devices perform as well as the older model. Operational constraints include logistical problems in recharging devices, which can either be charged individually (each device requiring a separate charger and power connection) or in custom built four-way multi-chargers. Options for other multi- device recharging options are being explored.

A similar device is being trialled in the UK bass pair trawl fishery. Results of trials in the bass pair trawl fishery remain encouraging. 12 dolphin bycatches were recorded in three calendar years 2007-2009 with practically 100% observer coverage. Dolphin bycatches have occurred in four tows. In two of these tows the devices were damaged and not operating properly (8 animals) and in another tow the devices may have been improperly positioned (too close to the surface). Overall, even ignoring DDD failures, the bycatch rates of 12 animals from 71 tows is much lower (0.169) than the rate in 2004-2006, when over 400 animals were taken in just 370 tows (1.14). Current work is focused on determining the circumstances when DDDs appear not to work, which we assume are mainly technical or due to improper deployment.

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

5.1 Research on the effects of pollutants on cetacean health

In 2009, analyses of long-term temporal trends in blubber concentrations of chlorobiphenyls (PCBs) (n=440; 1991-2005) and brominated diphenyl ethers (PBDEs) (n=415; 1992-2008) in UK-stranded harbour porpoises were conducted (Law et al. 2010; Law et al. in review). 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. For PCBs, a standard suite of 25 CB congeners was determined throughout the study period and show a decline that is much slower than for organochlorine pesticides (e.g. DDTs). It also shows regional differences across the UK (e.g. lowest levels in Scotland). The reason for the slow decline in PCBs is likely due to both continuing diffuse inputs from e.g. PCB-containing materials in storage and in landfills where these were disposed of prior to the more stringent requirements for such sites being enacted, 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. Statistically robust case-control studies show strong evidence for PCB-induced infectious disease mortality in UK-stranded harbour porpoises (at mean blubber PCB concentrations around 20-25mg/kg lipid weight) (Jepson et al., 2005; Hall et al 2006). Even greater concerns exist in other species where the mean blubber PCB concentration in UK-stranded bottlenose dolphins is 100mg/kg lipid weight (n=15) (Jepson et al 2008) and 225mg/kg (n=5) in killer whales for the same period 1992-2005 (CEFAS data).

For BDEs, nine congeners were: BDE28, BDE47, BDE66, BDE85, BDE99, BDE100, BDE138, BDE153 and BDE154. The maximum ΣBDE concentration observed was 15.7 mgkg-1 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.

5.3 Reporting on anthropogenic noise

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. The first contract has now been awarded and aims to complete and deliver in late 2012. Other 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. Particularly in light of the upcoming European marine strategy framework requirements on noise.

Defra and the UK Ministry of Defence (MoD) have set up a Military Underwater Sound Stakeholder forum. This gives the opportunity for industry, non-government organizations and other interested stakeholders to engage directly with government to raise their concerns. Most recently, 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.

5.2 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 annual report for 2009 will be published shortly and will be available at
http://ukstrandings.org/csip-reports/

The website was launched in early 2009 for the CSIP stakeholders. This currently includes all details of all the scientific output of the project and CSIP reports to government. It also informs the public of how to report and how to identify a stranding.

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Further details and references to papers available on request