

## United Kingdom Voluntary National Cetacean Conservation Report, 2006

**National Governmental Authority Submitting the Report:**  
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### 1. Legal Developments (laws, regulations and other regulatory measures related to cetaceans)

**1.1** In the UK cetaceans are listed under Schedule V of the Wildlife & Countryside Act 1981 (WCA). Thus, under Part I WCA it is illegal to:

- (a) intentionally kill, take or injure cetaceans;
- (b) intentionally damage, destroy or obstruct access to, any structure or place which cetaceans use for shelter and protection;
- (c) intentionally disturb a cetacean whilst it is occupying such a structure or place;
- (d) sell, possess, deal, transport and advertise for the purpose of sale any live, dead, part of or anything derived from a cetacean.

This applies to cetaceans in UK territorial water (out to 12 nautical miles from the coastline).

In 2000, this was amended in England and Wales as a result of the Countryside and Rights of Way Act (CROW) to make it illegal to intentionally “*or recklessly*” disturb a cetacean (Schedule 12, Section 5). The CROW Act also removed the limitation of disturbance to particular places: i.e. disturbance anywhere in UK waters became a prohibited act, not just structure or place which cetaceans use for shelter and protection. In Scotland, the Nature Conservation (Scotland) Act 2004 amended the WCA to make it an offence to either intentionally or “recklessly” kill, injure or takes a cetacean (Schedule 6. Section 8 (5), or to intentionally “*or recklessly*” disturb or harass a cetacean (Schedule 6. Section 8 (6)). In addition the Act required Scottish Natural Heritage (the statutory nature conservation advisors to Government in Scotland) to produce a “*Scottish Marine Wildlife Watching Code*” (Part 3. Section 51<sup>1</sup>), designed to protect and promote enjoyment and to raise awareness about how best to watch marine wildlife with minimal disturbance.

Moreover, as the UK’s response to the 1994 Convention on Biological Diversity the UK government has developed biodiversity conservation action plans which include plans for baleen whales, toothed whales and small dolphins, and the harbour porpoise. The long term goal of these plans is to increase the range and number of cetaceans in UK waters, ultimately via reducing anthropogenic mortalities and impacts.

**1.2** As a Member State of the European Union, the UK is also bound by the 1992 Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (the Habitats Directive), which came into force in the UK in 1994 via The Conservation (Natural Habitats, &c.) Regulations 1994. As most species of cetacean are listed under Annex IV of the directive, they are protected from:

- (a) all forms of deliberate capture or killing;
- (b) deliberate disturbance, particularly during the period of breeding, rearing and migration; and
- (c) deterioration and destruction of [“*breeding sites*” and “*resting places*” *c.f.* habitat] ( Article 12, Para 1).

Moreover, under the Habitats Directive, the UK government has an obligation to designate protected areas for species listed on Annex II which for cetaceans are the harbour porpoise (*Phocoena phocoena*) and common bottlenose dolphin (*Tursiops truncatus*). Two Special Areas of Conservation (SACs) have been designated specifically for the bottlenose dolphin: the Moray Firth in north-east Scotland and Cardigan Bay in western Wales. In addition, bottlenose dolphins are considered also considered in the Pen Llŷn a’r Sarnu marine SAC in North Wales.

**1.3** European Council Regulation (EC) No 812/2004 which lays down measures concerning incidental catches of cetaceans in fisheries came into force on 1 July 2004. The Regulation sets out timescales for taking measures in specific fisheries to deter cetaceans away from fishing nets and requires monitoring of by-catch in certain fisheries.

The requirements of the Regulation which specifically apply to UK adjacent waters are:

- the mandatory use of acoustic devices ("pingers") for vessels 12m or over involved in specified fixed gear fisheries (bottom-set gillnet or entangling net) in the North Sea from 2005.
- the mandatory use of acoustic devices for vessels 12m or over involved in fixed gear fisheries (bottom-set gillnet or entangling net) in the Celtic Sea Channel and Western Waters from 1 January 2006.
- the monitoring of by-catch, by on board observers, of vessels 15m or over in specified fisheries.

The Sea Mammal Research Unit (SMRU) conduct the monitoring programme required by the Regulation on behalf of Defra. Member States are required to send a report to the Commission on the observer monitoring schemes for the fisheries specified in the Regulation by 1 June.

In 2005 the UK secured a commitment from the Commission for an early review of bycatch data emerging from observer schemes set up under the Regulation.

## **2. Information on Whalewatching Operations (scale, species/populations and relevant management issues)**

**2.1 Scotland:** The two main regions for whale-watching in Scotland are the Moray Firth on the east coast, and the western coast. For the latter, whalewatching is particularly concentrated on the islands of Mull, Skye, Islay, Lewis, Barra and around the Small Isles (Rum, Eigg, Muck and Canna) and Arisaig, Mallaig, Ullapool and Gairloch on the mainland. The primary species sighted on the east coasts are common bottlenose dolphins although northern minke whales and harbour porpoises are increasingly becoming a focus in some areas. On the west coast northern minke whales are the most sighted species, although depending on the area bottlenose dolphins, harbour porpoises or Risso's dolphins can also be key species sighted. In whale watching activities in northern areas of mainland Scotland and the Orkney Islands, white-beaked dolphins may feature as a focus species, and in the Shetland Islands, harbour porpoises and killer whales are sometimes key species.

Tourism is the single largest industry in rural Scotland. The entire Scottish tourism trade grosses £2.5 billion (US\$4 billion) annually. Whale-watching is an important component of this industry, with whales and dolphins being the country's number one wildlife attraction. It has been noted that whales and dolphins are very effective at bringing tourists into an area: a survey determined that 23% of whale-watchers visited rural West Scotland specifically to go on whale-watching trips (Parsons *et al.*, 2003a).

A conservative estimate of the total income from Scottish cetacean-related tourism (direct plus indirect expenditure) would be a total of £10.7 million (~ 18 US\$ million; Parsons *et al.*, 2003a). It should be noted that numerous new whalewatching businesses have opened in Scotland in the 6 years since these estimates, particularly in the northern regions, thus these figures would be an underestimate of the current value.

In some rural areas it provides as much as 12% of local tourist income (Parsons *et al.*, 2003a), which as mentioned above is the major industry and employer in rural areas. Woods-Ballard *et al.* (2003) investigated the nature of whalewatching operators in Scotland and the perceived sustainability of the industry. Most operators were found to be local people, supporting up to five full-time equivalent jobs (Woods Ballard *et al.*, 2003). Many were ex-fishermen or farmers, and few had any formal training in wildlife tourism or business management (Woods Ballard *et al.*, 2003). Most operators considered that their whalewatching businesses were economically sustainable in the long-term (Woods Ballard *et al.*, 2003).

It has also been discovered that tourists who went on marine wildlife-watching tours in western Scotland, particularly whalewatching, were very environmentally motivated and displayed great interest in animal welfare issues, e.g. over ninety percent of marine wildlife-watching tourists on the Isle of Mull were involved in environmental/wildlife-related activities; nearly sixty percent were members of environmental charities and eighteen percent stated that they actually engaged in voluntary work for environmental charities (Warburton *et al.*, 2000). This high level of animal welfare and environmental concern amongst whale-watchers has several implications for whale-watching management in the area, including the possibility that environmental groups may be able to play an important role in educating whale-watching tourists about management issues, and also, through their awareness of animal welfare

issues, tourists themselves may actually help to police whale-watching activities and ensure their sustainability (Rawles & Parsons, 2004).

The high levels of environmental motivation in whalewatching tourists are also apparent in other ways, for example when Scottish whalewatchers were questioned as to whether they would visit, or go whale-watching in a country that conducted whaling operations: 79% of whale-watchers stated they would boycott visiting a country that conducted hunts for cetaceans, and a further 12.4% of whale-watchers, stated that although they might visit a country conducting whaling operations, they would not take a whalewatching trip in that country (i.e. 91.4% of whale-watchers would not go whale-watching in a country that hunted whales; Parsons & Rawles, 2003). This data suggests that whaling activities may very severely decrease whalewatching tourism and industry in countries that adopt whaling.

There have been few studies on the actual impacts of whalewatching activities on cetaceans in Scotland. Studies on the impact of boat traffic, including whalewatching vessels, on bottlenose dolphins in the Moray Firth found that in 17 of the 22 cases where whalewatching boats approached dolphin groups, significantly fewer surfacings were recorded (Janik and Thompson, 1996). Moreover, another study noted increased synchronicity in dolphin surfacings in response to boat traffic (Hastie *et al.*, 2003), but the biological significance of these behavioural changes has not been assessed.

In summary, whalewatching in Scotland, although already having a notably positive impact on the economy of coastal and rural areas, is considered to have potential for further growth, if managed appropriately.

**2.2 England and Wales:** Although there are whalewatching activities in various locations around the English coast, such as the Isle of Man, the Farne Islands in Northumberland, and even the coastal waters of Newcastle, the majority of whalewatching is concentrated along the coast of southwest England (Cornwall, Devon and Dorset). The primary sighted species are bottlenose dolphins, but harbour porpoises also feature and other marine megafauna such as harbour seals and basking sharks in south-western waters. Whalewatching activities in Wales are dominated by Cardigan Bay, where bottlenose dolphins, and also harbour porpoises and Risso's dolphins, are the primary species to be seen.

In 1998, Hoyt (2001) estimated whalewatching in England was worth £1.88 million (~US\$3.1 million) directly or £8.2 million (~US\$13.5 million) when one include indirect expenditure (associated accommodation costs etc). For Wales, the value was £192,000 (~US\$317,000) directly or £722,000 (~US\$1.19 million) in total. It should be noted however, that there has been considerable expansion in the whalewatching industry in both countries and this figure is likely a major underestimate of the current value.

Kelly *et al.* (2004) investigated marine mammal disturbance in Southwest England. Although cetaceans are theoretically protected from disturbance in the UK, Kelly *et al.* (2004) reported 44 incidents of dolphin disturbance/harassment that had been reported over a 10-year period. Local officials responsible for wildlife protection noted that a “*lack of awareness of the legislation had led to confusion amongst agencies and individuals as to who to report potential instances [of disturbance/harassment] to*” and that “*there is a lack of evidential data and diversity of opinions as to what constitutes harassment*” (p. 10, Kelly *et al.*, 2004). To improve the situation better communication and co-ordination was suggested between statutory agencies and those involved in on site management.

### **3. Current Government Programs Related to Cetacean Conservation**

**3.1** The UK Government is a major supporter of the EU LIFE Nature project SCANS-II project which;

- (a) Completed a survey for cetaceans in the European Atlantic continental shelf in July 2005 (preliminary abundance estimates will be presented at the Scientific Committee this year),
- (b) Will make recommendations for good practice for monitoring cetacean populations, and
- (c) Is developing a management framework (procedure) for setting safe bycatch limits for small cetaceans (progress also to be presented at the Scientific Committee this year).

**3.2 Research into bycatch mitigation:** Work on bycatch mitigation in the UK includes work carried out under the EU NECESSITY project, which aims to develop methods of minimising dolphin bycatch in pelagic trawls. This project is still underway, and is due to report to the European Commission in May 2007. Measures that are being tested

include exclusion devices and acoustic deterrent devices. This work follows on from preliminary seasonal studies conducted in the UK annually since 2001, funded by Defra.

The following mitigation measures have been trialled:

- (a) A 20cm mesh net panel inserted into the mid section of the trawl (intended to keep dolphins out of the small meshed part of the net where they are vulnerable to getting caught) was unsatisfactory because the extra netting increased drag on the net considerably and fish catches were very low.
- (b) A stainless steel tubular grid with small-meshed sandeel netting as a cover for the escape hatch was trialled with variations in the position of the escape hatch.
- (c) A flexible grid using the same sandeel netting as a cover hatch with variations in the position of the escape hatch.

The present measures are enabling a minimum escape rate of 22% (9 out of 41) of dolphins. It is likely, though not provable at this stage, that a proportion of animals that would have swam farther back into the net and drowned, are now turning around and swimming back out through the trawl mouth or through the large meshes in the front part of the trawl. Further research is being undertaken on escape hatches to improve their effectiveness. There are plans to trial a specially made large mesh net barrier in place of the steel grid and escape hatches that are more transparent and easier to open over the next year.

In addition acoustic alarms have been investigated and tested for practicality in fisheries with relatively high bycatch rates.

Trials involving gillnets have also been conducted to determine which factors influence porpoise entanglement in such nets; trials of barium sulphate impregnated gillnets in a tangle net fishery in Yorkshire resulted in higher bycatch rates of porpoises in the experimental nets, suggesting that increasing acoustic reflectivity of netting material is not a sufficient way of minimising porpoise bycatch.

Reports of these studies have been and will continue to be presented to the Scientific Committee.

**3.3 *Distribution, abundance and population structure of bottlenose dolphins in Scottish waters:*** The Scottish Executive, in partnership with Scottish Natural Heritage (SNH) is funding a project to “Investigate the distribution, abundance and population structure of bottlenose dolphins in Scottish waters”. Using established photo-identification techniques, the project will provide new data on the key areas used by bottlenose dolphins in coastal waters and the extent of their movements between these areas. In addition, molecular analysis of DNA from stranded dolphins will aim to assess the relationship between bottlenose dolphins within and between different coastal regions of Scotland to determine if they are part of an interlinked populations or a series of smaller distinct sub-populations. Focus will also be placed on the seasonal movements of bottlenose dolphins associated with the Moray Firth Special Area of Conservation (SAC) to allow for the identification of key feeding areas and to assess potential risks from human activities.

**3.4 *Distribution of small cetaceans in Welsh waters:*** Extended survey of Risso’s dolphins, harbour porpoises and other cetaceans in Cardigan Bay, 2002-2005. Both land-based and boat-based survey techniques were used including acoustic porpoise detectors (or PODs) and photographic identification. In 2005 three cetacean species were sighted and useful photographs of Risso’s and bottlenose dolphins were captured for analysis that may shed light on life histories of individuals and how animals relate to others in different parts of the UK, Whale and Dolphin Conservation Society, 2006.

Cetacean boat-based surveys in west Wales, 2004 (Friends of Cardigan Bay). Boat-based surveys were undertaken off two Sarns and offshore Cardigan Bay. Sarn Cynfelin was identified as a possible hotspot for bottlenose dolphin activity, mainly foraging (Hughes & Pownall, 2006).

Short-beaked common dolphin surveys in the Celtic Deep and St Georges Channel have been initiated in 2005 in order to estimate absolute abundance. Line transect sampling techniques and photo-identification techniques are being used by Sea Watch Foundation.

Marine mammals in the Cardigan Bay SAC were counted throughout 2003-2005 using distance sampling. Preliminary estimates indicate that there were 0.32 bottlenose dolphins/k<sup>2</sup>m and 0.49 porpoises/km<sup>2</sup> in the inshore waters (Ugarte & Evans, 2006). Photo-identification techniques were also used in 2005-6 in the same area. Based on the number of dolphins photo-identified, the minimum population size is 119. An estimate based on the number of well-marked animals identified, and their percentage in the population, suggest a number of 140 bottlenose dolphins in the Cardigan Bay SAC.

Ceredigion County Council are engaged in an 11 year study of cetacean site use and boat traffic along the Marine Heritage Coast and Cardigan Bay SAC. Average separation distances during encounters with dolphins and the rate at which Visitor Passenger boats stopped when close to dolphins has increased since the introduction of the trip boat operators code of conduct (Pierpoint and Allen, 2005).

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

**4.1 Seismic activity:** The Joint Nature Conservation Committee (JNCC) developed some guidelines aimed at minimising the risk of acoustic disturbance to marine mammals from seismic surveys. Details may be found at; [http://www.jncc.gov.uk/pdf/Seismic\\_survey\\_guidelines\\_200404.pdf](http://www.jncc.gov.uk/pdf/Seismic_survey_guidelines_200404.pdf).

**4.2 Military Sonar:** The UK Ministry of Defence (MOD) has undertaken a number of measures during 2005 to address the potential impact of military sonar and noise in the marine environment. Environmental Impact Assessments (EIAs) are undertaken for a wide range of their activities including sonar. Such EIAs cover the marine habitat of the operating area concerned and the species likely to be encountered. The EIAs are used to better tailor the activity and ensure that potentially damaging effects are identified during the planning stage of the exercise and their impact is reduced to an absolute minimum.

The MOD is also undertaking research into the issue of active sonar and its potential impact on the marine environment. The UK approach to addressing the issue of active sonar and the environment is to combine research exploiting environmental protection technology expertise with more fundamental research undertaken by internationally recognised experts and Centres of Excellence. The research programme can be broadly divided into two areas – applied research and research to further fundamental understanding. The applied research has been undertaken by QinetiQ and mainly focuses on developing and applying technologies to help mitigate the risk to the environment by active sonar transmissions. One of these studies is ongoing, while another was completed in early 2005. Brief details of these studies are as follows:

- i. Passive acoustic marine mammal detection, classification and localisation (DCL). QinetiQ have been developing the Marine Mammal Acoustic Detection System (MMADS) under MoD funding. The overall aim is to develop MMADS to be fully integrated with in-service sonar. This has already been demonstrated with a version integrated with the S2031E towed array, and a version integrated with the RN S2050 hull mounted array will be tested shortly. The current version of MMADS has excellent detection capability and can classify down to “class” level (i.e. it can differentiate between baleen whales and odontocetes for example). The next phase of the work is to develop the classification down to species level, and fully develop the localisation capability prior to entering initial service with the RN in 2006/ 07. MMADS has been successfully tested at sea on many occasions, including National Undersea Research Centre (NURC) trial SIRENA 03, and also in support of S2087 trials.
- ii. Integrating sensors to form a marine mammal Detection Classification and Localisation (DCL) suite. This study, which was completed in early 2005, looked at how best to integrate the sensors found on a T23 frigate to provide an integrated 24-hour all weather marine mammal DCL capability. There had been two papers previously investigating how effective the individual sensors on the T23 would be at marine mammal DCL and the results of these had been incorporated into the study.

In addition during 2005, MOD has continued to develop an Environmental Risk Management Capability (Sonar) (ERMC(S)) system, which is designed to be used in support of the in-service tactical active sonar capability; it will not be used for echo-sounders or other navigational sonar equipment.

ERMC(S) will provide a robust, repeatable and transparent method of assessing the environmental risk to, and impact on, marine life caused by sonar activity, and to manage this impact by providing advice on mitigation measures. ERMC(S) will complete a full and compliant EIA in a matter of hours. The system (essentially an intelligent database of hydrographic, climatological, legislative and biological data) will calculate the risk of potential adverse effects on marine fauna within an area where sonar is being operated by the Royal Navy. ERMC(S) will provide a number of options for mitigation of the calculated risk, and will recommend the most effective. This assessment will be made in conjunction with sonar operating parameters, operational limitations and other real-time inputs to calculate the level and type of environmental risk involved in using active sonar at any given time and location. ERMC(S) will be used to inform decisions on the use of active sonar in the planning and operational stages of sea trials, exercises and operations for single and multiple platforms. It will cover (up to the limits of available data) all deployable locations world-wide and is intended as a mobile capability, available 24 hours a day and for eventual use on all platforms with an active sonar capability. This facility will enhance the robust EIA methods, which currently inform the decision-making process both during operations and training as well as in the planning process. It will also ensure that MOD continues to be compliant with relevant environmental legislation and policy, and best practice.

**4.3 Whalewatching:** Under the Nature Conservation (Scotland) Act 2004 (section 51) Scottish Natural Heritage was given the responsibility for producing a “*Scottish Marine Wildlife Watching Code*” to set out “*recommendations, advice and information relating to commercial and leisure activities involving the watching of marine wildlife*”. The code may, in particular, contain information on activities that might disturb marine wildlife, circumstances under in marine wildlife may be approached and the manner in which marine wildlife may best be viewed “*with minimum disturbance*” (Section 51 (2) (a)- (c)). Moreover, there was a requirement for Scottish Natural Heritage to consult with persons “*appearing to them to have an interest in marine wildlife watching and other persons as it thinks fit*” (Section 51 (5)), which was achieved through extensive consultation with stakeholders via a series of workshops, meetings and subsequent consultation on drafts of the code.

Nearly 90% of whalewatching operators in Scotland follow a whale watching code of conduct or guidelines (Parsons & Woods-Ballard, 2003; Woods-Ballard *et al.*, 2003). The most frequently used whale-watching code or set of guidelines was one produced by a tour operators’ association, and three codes of conduct produced by environmental non-governmental organisations were also used frequently (Parsons & Woods-Ballard, 2003).

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

**5.1** The reporting of dead cetaceans and retrieval of carcasses for necropsy has been conducted under contract to the UK Government (Defra, formerly DETR and DoE) since 1990. The main organizations involved are the Institute of Zoology (Zoological Society of London), Scottish Agricultural College (Veterinary Science Division) and The Natural History Museum (London). Necropsies are conducted using standardised protocols and tissues and data are archived in a UK central database (Poseidon). Toxicological investigations are conducted at the Centre for Fisheries and Aquaculture Science (CEFAS) Laboratory, Burnham-on-Crouch, Essex. Tissues and data generated by the UK Cetacean Strandings Programme support a broad range of national and international collaborative research activity. Over 100 peer-reviewed scientific publications and reports to Defra have been published since 1990.

In addition to the strandings co-ordination funded by Defra, the Welsh Assembly Government is funding the Welsh Strandings Co-ordinator, Marine Environmental Monitoring, in conjunction with the Countryside Council for Wales (CCW), who collaborates with the IoZ/SACVSD/NHM scheme, (Penrose, 2006).

**5.2** The management of cetacean live stranding events in the UK has been increasingly undertaken by non-Governmental organizations in recent years, most notably British Divers Marine Life Rescue (BDMLR). BDMLR has now trained of over 2,500 Marine Mammal Medics. The BDMLR Marine Mammal Medic training course, and associated *Marine Mammal Medic Handbook*, has been approved by the Royal College of Veterinary Surgeons and over 2,500 fully-trained and insured Marine Mammal Medics have now been generated nationwide. The BDMLR also organise special marine mammal rescue workshops for veterinary surgeons. Further details of the organisation can be found on the BDMLR website at: <http://www.bdmlr.org.uk/>.

A particularly high-profile example of a cetacean rescue attempt, the “Thames whale”, was reported on television and radio news programmes around the world. Whilst this was, unfortunately, unsuccessful it can be considered a

model example on how operations can be managed in such an incident. A detailed breakdown of this incident is attached at Annex A.

## **6. International Cooperation Activities**

**6.1** The Sea Mammal Research Unit (SMRU), based in Scotland, undertakes a number of research projects on cetaceans (including distribution of larger whales, other than SCANS II) both in the UK and overseas. The SMRU also collaborates actively with other European scientists and fishing gear technologists on bycatch mitigation through European funded research activities.

**6.2** The Institute of Zoology (IoZ) continues a Defra funded project to examine the feasibility of using formalin-fixed auditory tissue (ears) collected from UK stranded cetaceans to investigate potential auditory impacts of anthropogenic noise exposure. The research is in collaboration with the Forschungs und Technologiezentrum Westkueste, Buesum (Germany).

**6.3** In addition, UK universities undertake many collaborative international projects with non-UK universities/governments. For example, the University (of London) Marine Biological Station Millport, is carrying out research in the Dominican republic (on bottlenose and spotted dolphins and humpback whales and dolphin watching), and in Oman and in Pakistan (on coastal humpback dolphins and finless porpoises).

Further details and references to papers available on request