

## United Kingdom Voluntary National Cetacean Conservation Report, 2014

This report provides an update on cetacean conservation since IWC64

**National Governmental Authority Submitting the Report:**

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

The 28 species of cetacean recorded in UK waters are protected within a strong legal regime which encompasses both international commitments and national laws.

The UK is a party to a number of treaties and agreements, both global and regional in scope, that address cetaceans. Their obligations are effected through different mechanisms ranging from specific implementing legislation, to less binding instruments such as codes of practice, recommendations, and guidelines.

Key treaties the UK is party to include:

- United Nations Convention on the Law of the Sea 1982 (UNCLOS)
- International Convention for the Regulation of Whaling 1946 (ICRW)
- The Convention on the Conservation of European Wildlife and Natural Habitats 1979 (Bern Convention)
- Convention on the Conservation of Migratory Species of Wild Animals 1979 (CMS)
- Convention on Biological Diversity 1992 (CBD)
- Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Within the European Union, the most significant provision for the protection of Cetaceans comes from the **Habitats and Species Directive**<sup>1</sup>. Under the Directive, all cetacean species are listed as species of Community interest and Member States are required to maintain these species in, or restore them to, a favourable conservation status in those parts of their territory to which the Treaty applies (in essence in territorial waters and in waters out to 200 nautical miles from baselines). In addition, all cetaceans are listed in Annex IV of the Directive and so are protected from deliberate disturbance, capture or killing within EU waters. The Directive also prohibits the keeping, transport and sale or exchange of specimens taken from the wild.

Further to this strict protection, the Directive requires the UK to establish a network of Special Areas of Conservation (SACs) to protect key habitats and species, known collectively as the "Natura 2000 Network". To date harbour porpoise and bottlenose dolphin are the only species identified for the designation of

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<sup>1</sup> [http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index\\_en.htm](http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm)

SACs (see section 2.2). These requirements have all been transposed into domestic UK legislation, for example under ‘the Conservation of Habitat and Species Regulations 2010’.

The **Marine Strategy Framework Directive**<sup>2</sup> (MSFD), which was adopted in 2008, also provides for the protection of cetaceans through the aim of achieving Good Environmental Status (GES) for the marine environment by 2020. Member States are required to put in place targets and indicators, monitoring, and programmes of measures to help deliver GES.

The **EU Cetacean By-Catch Regulation**<sup>3</sup> (Regulation 812/2004) has also been fully implemented in the UK. This regulation introduces technical measures, such as the use of acoustic deterrent devices (ADDs), for gill nets in specified areas. It also puts in place a monitoring system on board certain categories of fishing vessels to ensure information on by-catches of cetaceans in “at risk” fisheries is collected.

All cetaceans are also fully protected in UK waters under sections 4A and 5 of the UK Wildlife and Countryside Act 1981<sup>4</sup>.

The UK also has in place a licensing framework for regulating certain marine activities, including those related to developments i.e. renewable energy, extraction i.e. aggregates, disposal i.e. dredged material. In issuing licenses for marine activities, consideration is given to impacts on the marine environment, including potential harm to cetaceans. Guidance on disturbance is available and Marine Mammal Mitigation Protocols (MMMPs) adopted to mitigate harm and disturbance to cetaceans from human activities and developments such as piling<sup>5</sup> and the use of explosives<sup>6</sup> are available.

Fisheries enforcement bodies in the UK, such as the Marine Management Organisation (MMO), adopt an intelligence led risk based enforcement model to direct enforcement activities and resources. Any intelligence received by these bodies in relation to offences against cetaceans or anthropogenic impacts is considered and appropriate action taken.

The Exclusive Economic Zone Order 2013 came into force on 31<sup>st</sup> March 2014. This boundary relates to rights under Part V of the United Nations Convention on the Law of the Sea. The new Exclusive Economic Zone (EEZ) replaces the 200nm fishing limit.

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

### **2.1 UK surveillance and monitoring programme**

A dedicated cetacean bycatch monitoring programme is in place and operated by the Sea Mammal Research Unit (SMRU). Fisheries research laboratories operating fisheries observer programmes in the UK also provide data which are included in our assessment of cetacean bycatch i.e. AFBI, Cefas, and Marine Scotland. Whilst the UK observer scheme relies upon good collaborative links with industry, fisheries regulations have been enacted in the UK to ensure that there is also a legal obligation for skippers and owners to allow observers on board when asked to do so.

The SMRU has also used spatial modelling to estimate abundance and explore species-habitat relationships of cetaceans in European Atlantic waters. The analysis combined data from SCANS-II

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<sup>2</sup> [http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index\\_en.htm](http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm)

<sup>3</sup> [http://europa.eu/legislation\\_summaries/maritime\\_affairs\\_and\\_fisheries/fisheries\\_resources\\_and\\_environment/l66024\\_en.htm](http://europa.eu/legislation_summaries/maritime_affairs_and_fisheries/fisheries_resources_and_environment/l66024_en.htm)

<sup>4</sup> <http://jncc.defra.gov.uk/page-1377>

<sup>5</sup> [http://jncc.defra.gov.uk/pdf/JNCC\\_Guidelines\\_Piling%20protocol\\_August%202010.pdf](http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Piling%20protocol_August%202010.pdf)

<sup>6</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/50007/jncc-ex-guide.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/50007/jncc-ex-guide.pdf)

(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 (*Phocoena phocoena*), white-beaked dolphin, white-sided dolphin, bottlenose dolphin, short-beaked common dolphin, striped dolphin, long-finned pilot whale, minke whale, fin whale, sperm whale, and all beaked whale species combined. The final survey results were published in Biological Conservation in 2013. A joint analysis of SCANS-II, CODA and Faroes TNASS data is ongoing but is as yet incomplete.

In 2006, the Joint Cetacean Protocol (JCP) project (see <http://jncc.defra.gov.uk/page-5657>) was initiated. The JCP assembled disparate effort-related cetacean sightings datasets from all major sources covering north-west European Atlantic waters e.g. SCANS I & II; CODA surveys; ESAS; SWF; Atlantic Research Coalition (ARC). It included data from non-governmental and marine renewable industry sources, from opportunistic or platform of opportunity surveys, and dedicated surveys to estimate abundance. The JCP is intended to support the identification of trends in distribution and relative abundance and to guide further data collection and analysis, but will not generate precise abundance estimates. The Phase III analysis was completed in early 2013, resulting in species specific density layers at the UK scale. Power analysis concluded that the annual population change detectable with good power (>0.8), lay between 6% and 40%, depending on the species and location.

Three years of annual monitoring of cetaceans has also been carried out in Cardigan Bay and Pen Llyn a'r Sarnau SACs (completed in 2013). This was contracted to the Sea Watch Foundation by Natural Resources Wales (NRW). The final draft report (Feingold & Evans 2013) is available on request from NRW and will be available online in due course. An interim report can be found at <http://www.seawatchfoundation.org.uk/wp-content/uploads/2013/06/CCW-Monitoring-Report-2012.pdf>. In addition, in 2013 NRW commissioned the Sea Watch Foundation to conduct ad-hoc photo-ID surveys of bottlenose dolphins around the coast of Anglesey and data from these are currently being compiled.

After earlier (2001-07) increases, abundance estimates of the bottlenose dolphin population of Cardigan Bay Special Area of Conservation show a general decline. In 2011, the overall Cardigan Bay abundance estimate for bottlenose dolphin was 296 (CV=28.8) and for harbour porpoise was 990 (CV=27.1), from line transect surveys (Veneruso & Evans, 2012). In 2012, the overall Cardigan Bay abundance estimate for bottlenose dolphin was 330 (CV=0.24) and for harbour porpoise was 565 (CV=0.20), from line transect surveys. Life history parameters measured from photo-ID for bottlenose dolphin indicate an annual birth rate for 2012 of between 4.1% and 7.1% (cf. 8.8-11.3% in 2011), depending upon whether a closed or open population model is adopted; an inter-calf interval ranging from 2-6 years, with 3 years being the most common; and calf mortality rates of 18% (year 1), 18% (year 2), and 8% (year 3) (Feingold & Evans, 2013). Bottlenose dolphins from Cardigan Bay disperse in winter and generally move northwards in November to waters between Anglesey and the Isle of Man (and probably beyond) where they largely remain until the following April (Veneruso & Evans, 2012; Feingold & Evans, 2012, 2013). In summer 2013, however, some Cardigan Bay individuals were photographed by SWF in Liverpool Bay, NW England. Acoustic studies using T-PODs and C-PODs have been undertaken between 2009-12, with experiments conducted to more closely examine how detection rates of PODs relate to actual numbers of animals for both bottlenose dolphin and harbour porpoise (Goulton, 2012; Nuuttila, 2013; Nuuttila *et al.*, 2013a, b).

The results of site condition monitoring of the bottlenose dolphin SAC in the Moray Firth was published in 2012: SNH Commissioned Report 512: Site Condition Monitoring of bottlenose dolphins within the Moray Firth Special Area of Conservation: 2008-2010. <http://www.snh.gov.uk/publications-data-and-research/publications/search-the-catalogue/publication-detail/?id=1893>

WDC also conducted boat based field surveys off the north-east coast of the Isle of Lewis, in the Eye Peninsula to Butt of Lewis MPA Search Location during the summer of 2013. They produced the following reports: *'Making space for porpoises, dolphins and whales in UK seas: Harbour Porpoise Special Areas of Conservation, as part of a coherent network of marine protected areas for cetaceans'*: <http://uk.whales.org/sites/default/files/making-space-for-uk-porpoises-dolphins-and-whales.pdf>

Since 2009, the Irish Whale and Dolphin Group (IWDG) have been contracted by DOE Marine Division to handle all cetacean records from Northern Ireland: including sighting records and watches, where effort is quantified. This includes

- Validation, processing and publication of data generated through the NI Cetacean Monitoring Programme including that generated through visual and photo-identification methodologies
- Carry out monthly quantified effort watches at Ramore Head (within Skerries and Causeway SAC) (Co. Antrim), Portmuck (Co. Antrim) and Bloody Bridge (Co. Down)
- Validate, process and publish all casual sightings and strandings records from Northern Ireland
- Produce analyses, reviews and reports as requested by DOE Marine Division (maximum of 2 within the three year contract)
- Produce a short annual review at the end of each of the three years
- Identify and exploit ships of opportunity operating in Northern Ireland ( Since Nov 2012 includes a monthly survey on the Belfast-Cairnryan route with Stena line, 2007-2012 included a monthly survey on the Larne-Cairnryan route with P&O)

In addition to the three monthly quantified effort watches carried out by IWDG the DOE Marine Division carry out monthly quantified effort watches at 12 sites around NI.

In Jersey, the Marine Biology Section of the Société Jersiaise receives information from the public concerning cetacean sightings. Sighting data is also recorded by the States of Jersey Fisheries Protection Vessel while information on beached animals is gathered by the States of Jersey Marine Resources section. All these data are publically available through the recently established Jersey Biodiversity Centre.

The Société Jersiaise has recently computerised all the available historical cetacean data (1940 valid records) as part of a wider effort to create a marine life database. The oldest records are from the eighteenth century but a bulk of the information was taken from 1984 onwards.

Almost all cetacean modern sightings (87%) concern *Tursiops truncatus* with all other species being rare although there are occasional sightings of *Delphinus delphis* (4%; usually beached), *Globicephala melana* (2%) and *Phocoena phocoena* (1%). In recent years attempts have been made to gather consistent records through organised dolphin watches and via records gathered from the Fisheries Protection Vessel. However, at present it is not considered that these data are robust enough to shed light on the abundance and status of the local cetacean population although anecdotally it would appear that the population is not in decline.

Between 2006 and 2007 a more formal study (using photo identification and other techniques) was undertaken of the cetaceans in the Baie du Mont St Michel and around Les Minquiers, to the south of Jersey (Marie, 2009<sup>7</sup>). This suggests that the resident pod of *Tursiops truncatus* consists of around 238 individuals and that the animals spend much of the winter to the south of Jersey. Recent studies

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<sup>7</sup> Marie, L, 2009. *Abondance et distribution du grand dauphin, Tursiops truncatus, de la Baie du Mont St Michel à l'archipel des Minquiers*. Unpublished MSC Thesis, Université de Poitiers.

undertaken in France as part of a planned marine park for the Golfe Normano-Breton will hopefully lead to a better understanding of the local cetacean population. Recently, some training has been given by Sea Watch to undertake mammal counts from the bridge of local ferries. In addition there has been some development work of an Android app for boat owners to allow for marine mammal sightings (including lat/long) to be submitted directly to the Société Jersiaise.

## 2.2 UK Marine Protected Areas (MPAs)

The following MPAs in place in the UK specifically name cetaceans as either a qualifying or non-qualifying features.

- Cardigan Bay/Bae Ceredigion SAC with bottlenose dolphin considered as a qualifying feature.
- Pen Llyn a`r Sarnau/ Llyn Peninsula and the Sarnau SAC with bottlenose dolphin considered a qualifying feature, but not a primary reason for site selection.
- Moray Firth SAC with bottlenose dolphin considered as a qualifying feature.
- Skerries and Causeway SAC with harbour porpoise considered as a qualifying feature.
- The UK section of Dogger Bank SAC in the North Sea with harbour porpoise, harbour seal and grey seal considered as non-qualifying features (Grade D).
- Croker Carbonate Slabs SAC in the Irish Sea with harbour porpoise and grey seal considered as non-qualifying features.
- Pisces Reef Complex SAC in the Irish Sea with harbour porpoise, grey seal, and harbour seal considered as non-qualifying features.
- Wight-Barfleur Reef SAC in the English Channel with harbour porpoise and bottlenose dolphin considered as non-qualifying features.
- Pobie Bank Reef and Solan Bank Reef in the Scottish offshore region with harbour porpoise, harbour seal and grey seal considered as non-qualifying features.

Other protected areas such as Special Area of Conservation (SACs) and Marine Conservation Zones (MCZs) in place for other features in the UK (and the management measures associated with them) will also indirectly contribute to the conservation of cetaceans in UK waters.

During 2013 work has been on-going by the Joint Nature Conservation Committee (JNCC) to analyse the most up-to-date and extensive dataset on harbour porpoise distribution with the aim of determining whether any further areas suitable for designation as a SAC are present in UK waters. This work will continue throughout 2014.

The Marine (Scotland) Act and Marine and Coastal Access Act includes new powers for Nature Conservation Marine Protected Areas in the seas around Scotland, to recognise features of national importance and meet international commitments for developing a network of MPAs. Scottish Natural Heritage and the Joint Nature Conservation Committee, as part of the Marine Scotland-led Scottish MPA Project, have identified MPA search features (marine habitats and species) to guide the selection of Nature Conservation MPAs. Within Scottish territorial waters three species of cetaceans, Risso's dolphin, white-beaked dolphin and minke whale have been identified as MPA search features. Work is ongoing to review three MPA search locations for these species and SNH intends to provide advice to Scottish Government in 2014 on whether or not they should be considered for designation. Further information on this project can be found at <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/marine-protected-areas-mpa/> and <http://www.scotland.gov.uk/Topics/marine/marine-environment/mpanetwork>

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

#### **3.1 Bycatch**

The two species most commonly acknowledged to be 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<sup>8</sup>, and under Article 12(4) of the Habitats Directive, provide details of the monitoring work undertaken in the UK and estimates of cetacean bycatch. The most recent reports on cetacean bycatch in UK waters submitted to the European Commission under the requirements of EC Regulation 812/2004 and Article 12 of the EU Habitats Directive can be found on the Department for Environment Food and Rural Affairs (Defra) website<sup>9</sup>.

In June 2010, a Scottish Government project ‘Entanglement of minke whales in Scottish waters: an investigation into occurrence, causes and mitigation’ was published. The report can be found on the Sea Mammal Research Unit (SMRU) website<sup>10</sup>.

A dedicated cetacean bycatch monitoring programme is in place in the UK and operated by the Sea Mammal Research Unit (SMRU). Fisheries research laboratories operating fisheries observer programmes in the UK also provide data which are included in our assessment of cetacean bycatch. Whilst the UK observer scheme relies upon good collaborative links with industry, fisheries regulations have been enacted in England and Scotland to ensure that there is also a legal obligation for skippers and owners to allow observers on board when asked to do so.

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

The latest UK cetacean by-catch report for 2013 as required under EU Regulation 812/2004 suggests an increase in estimated porpoise by-catch compared with estimates for previous years. However, this is not primarily due to an increase in direct observations, but rather the result of the inclusion of new data on fishing effort this year. This estimated increase brings with it a number of uncertainties which the authors note have likely led to an over-estimate of porpoise bycatch. This is therefore considered as a precautionary maximum with actual numbers likely to be much lower (full details of estimates of bycatch are given in Annex 1 of the report). However, the UK remains committed to bringing cetacean by-catch down and further work is being done to reduce uncertainties in bycatch estimates.

In 2013, actual observer days covered 22 trips (101 days) on pelagic trawlers and 166 trips (346 days) on static gear vessels. In pelagic gears, over time, monitoring has been reduced in major trawl fisheries for herring and mackerel because observations indicate bycatch is low. Instead, observer effort has switched to smaller pelagic fisheries which have not been routinely sampled in the past. Monitoring continues at a relatively high level in the bass pair trawl fishery which has a known dolphin bycatch issue but where pinger use appears to be effective. In static gear fisheries, roughly 82% of sampling took place in the south and west of the UK (Subarea VII), and around 18% in the North Sea (IV), again where there have been known bycatch issues. Among the static gears sampled, 25 days were categorized as drift nets and 321 as fixed nets in 2013. The DARD Inshore Fisheries Programme

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<sup>8</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:150:0012:0031:EN:PDF>

<sup>9</sup> <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=18535>

<sup>10</sup> <http://www.smru.st-and.ac.uk/documents/347.pdf> (may be necessary to copy and paste into browser)



undertaken by AFBI around the coastal waters of Northern Ireland aims to maintain at least 42 observer days annually which reports cetacean bycatch from the static gear fishery.

In simple terms, bycatch estimates are calculated on the basis of the number of animals observed caught per fishing operation (haul), scaled up to fleet level by estimating actual fishing effort (number of hauls) and applied to the reported number of days at sea by fishery stratum. **The most recent figures for 2013 estimate levels of porpoise by-catch by the UK fleet in UK waters to be between 1600-1900 individuals per year.** This is significantly higher than in previous years where levels had been estimated at c800 individuals per year. However, **bycatch estimates for other species have remained consistent with previous years; c320 common dolphins and c470 seals.**

There are several reasons for this estimated increase in harbour porpoise bycatch. Firstly, all UK gillnet fisheries have now been included in the assessment, whereas in previous years estimates were only included for those fisheries where sufficient sampling had been undertaken. Extrapolation of observed bycatch rates to all peripheral areas and the assumptions made relating to fishing effort introduces a greater degree of uncertainty into the 2013 estimates. It is also likely that bycatch has been overestimated in some areas, notably ICES area VIId where observed bycatch rates remain lower than other Area VII sub-areas.

Secondly, porpoise bycatch rates may have actually increased in some areas over the past decade – although the trend is difficult to quantify at this time.

Thirdly, by-catches have been observed in some fisheries (e.g. drift nets and light gillnets for flatfish such as sole) that were not previously seen due to a lower sampling levels. These métiers had been excluded from previous estimates.

### **3.2 Implementation of methods to reduce bycatch**

The UK continues to fully implement and enforce Council Regulation (EC) 812/2004 through the use of acoustic deterrent devices attached to fishing nets. Implementation of the regulation in the UK has involved close liaison with the industry and ongoing monitoring and support to aid compliance. This has been led primarily by the MMO. Enforcement of the regulation at sea (via pinger detection units) and at the quayside is carried out by MMO officers, the Marine Scotland Compliance and Enforcement Unit, and the Royal Navy, and has included inspections on vessels from other member states. Further information can be found on the MMOs website<sup>11</sup>.

During 2013, investigations on methods to reduce bycatch have focussed on the continued monitoring and testing of acoustic deterrent devices (ADDs), or ‘pingers’. DDD pingers are currently being used voluntarily in the UK component (outside 12nm) of the midwater pair trawl fishery for bass in the Western English Channel. The SMRU continues to monitor the bycatch of common dolphins in this fishery which remain at very low levels compared with historic rates prior to the adoption of pingers.

Pingers have also been adopted by the over 12m gill and tangle net fleet in the Western English Channel and Celtic Sea and the northern part of the North Sea. The SMRU is also monitoring their use in order to provide an understanding of the longer term effects of pingers on cetacean bycatch rates and seal depredation levels in these fisheries. Observations have shown these devices reduce porpoise bycatch by over 90% in nets of up to 4km in length, although the effect on common dolphins is not yet clear.

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<sup>11</sup> [http://www.marinemanagement.org.uk/fisheries/monitoring/regulations\\_cetaceans.htm](http://www.marinemanagement.org.uk/fisheries/monitoring/regulations_cetaceans.htm)

A new pinger model (Fishtek ‘banana pinger’) has also been tested by the Cornwall Wildlife Trust in conjunction with Fishtek and local fishermen from the inshore fleet during 2013. The results of this on-going work can be found on their website<sup>12</sup>.

A number of research projects have been carried out by the Scottish Government, including a recent project that concluded at the end of 2013 entitled ‘Evaluating and assessing the relative effectiveness of non-lethal measures, including Acoustic Deterrent Devices (ADDs), on marine mammals’. The aim of this project was to carry out a comprehensive literature and data review on the capabilities of current and developing non-lethal measures for deterring marine mammals. This should help answer questions on design, effectiveness, best practice and impacts of these devices on marine mammals. The final report will be available later in 2014 however further details on this and other cetacean bycatch avoidance research undertaken by the Scottish Government can be found on their website<sup>13</sup>.

### **3.3 Research proposals**

The UK was pleased to provide a voluntary contribution of £20,000 to the IWC small cetacean fund and £10,000 towards welfare initiatives at the beginning of 2014. In 2013 the UK provided a contribution of £10,000 towards the IWCs work on marine debris and in 2012 £10,000 was provided to the IWC small cetacean fund which mirrored a contribution of the same amount in 2011. The UK was also pleased to provide financial support contributing to the work of the IUCN’s (International Union for Conservation of Nature) Western Gray Whale Advisory Panel in 2011.

### **3.4 Renewables**

The Scottish Government let a contract to the Sea Mammal Research Unit (SMRU) in January 2012 to undertake strands of research in three key marine themes, including marine renewables. The focus of this work programme will include: mapping out the current marine research landscape with respect to marine mammals and marine renewables and identifying any data/research gaps, quantifying potential risks to marine mammals from marine renewable energy and identifying management and mitigation measures where appropriate building on ongoing work in this area. This research programme will complete in 2015. In addition, a review of current knowledge of underwater noise emissions from wave and tidal stream energy devices was commissioned in 2013 by The Crown Estate and is freely available online<sup>14</sup>.

The following projects are currently funded by the UK Natural Environment Research Council, Marine Renewable Energy Research Programme, and are directly concerned with marine renewable energy and its impact.

- FLOWBEC (FLOW, Water column & Benthic Ecology 4D)
- EBAO (Optimising Array Form for Energy Extraction and Environmental Benefit)
- QBEX (Quantifying benefits and impacts of fishing exclusion zones on bioresources around Marine Renewable Energy Installations)
- RESPONSE (Understanding how marine renewable device operations influence fine scale habitat use and behaviour of marine vertebrates).

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<sup>12</sup> [http://www.cornwallwildlifetrust.org.uk/livingseas/dolphin\\_pinger\\_trial](http://www.cornwallwildlifetrust.org.uk/livingseas/dolphin_pinger_trial)

<sup>13</sup> <http://www.scotland.gov.uk/Topics/marine/marine-environment/species/19887/20826>.

<sup>14</sup> <http://www.thecrownestate.co.uk/energy-infrastructure/wave-and-tidal/pentland-firth-and-orkney-waters/enabling-actions/projects-and-publications/>



- Passive acoustic tracking of porpoises by the Scottish Government<sup>15</sup>.

#### 4. Reporting Systems for Cetacean Injuries/Mortality/Strandings

##### 4.1 Research on the effects of pollutants on cetacean health

Work has continued since the initial UK work undertaken during 2011 to analyse 100 retrospective samples from UK-stranded harbour porpoises (2004-2008) for polychlorinated biphenyls (PCBs) at the Centre for Environment, Fisheries and Aquaculture Science (CEFAS). This initial work combined new data with older data from 1990-2008 in order to provide a near 20-year time series of data for polychlorinated biphenyls (PCBs) (n=540), organochlorine pesticides (OC) (n=489) and brominated diphenyl ethers (BDEs) (n=415) in UK-stranded harbour porpoises.

During 2013 CEFAS, in collaboration with the UK Cetacean Strandings Investigation Programme (CSIP), finalised analyses on a further 102 cetaceans for levels of PCB's. Samples were derived from both stranded and biopsied animals across Europe and comprised harbour porpoises (n=43), bottlenose dolphins (n=41) and killer whales (n=18). The funding for these analyses was provided by Defra under a project entitled "Risk assessment of polychlorinated biphenyl (PCB) exposure in marine top predators". The results of this work, and the previous analyses carried out (including those funded under a small ASCOBANS project in 2010, reference SSFA2010-3), are now being compiled by the Institute of Zoology in a paper describing levels of PCB's in over 1000 cetaceans sampled across Europe between 1990 and 2012. This paper will be published during 2014 and will be included in the next UK voluntary report.

The results show that concentrations of organochlorine pesticides, HBCD and BDEs are declining. In contrast, PCB concentrations have reached a plateau since 1997 following earlier reductions due to regulation of commercial use. Further reductions in PCB levels in UK waters are likely to take decades. Blubber PCB concentrations are still at toxicologically significant levels in many stranded harbour porpoises (Jepson et al 2005) and occur at even higher levels in UK-stranded bottlenose dolphins and killer whales (ICES 2010), mainly due to their higher trophic level in marine food chains in these top predator species. Further reductions in PCB inputs into the marine environment are undoubtedly needed to mitigate risk from PCB exposure in these species (ICES 2010, Law et al submitted).

In addition, during 2013, publications were produced on levels of organochlorine pesticides and chlorobiphenyls in bycaught common dolphins (Law *et al.* 2013a) and also on levels of alternative flame retardants in stranded harbour porpoises (Law *et al.* 2013b), as a result of the ongoing collaboration between CEFAS and the UK strandings programme.

- Organochlorine pesticides and chlorobiphenyls in the blubber of bycaught female common dolphins from England and Wales. Law RJ; Bersuder P; Barry J; Barber J; Deaville R; Barnett J; Jepson PD. 2013. *Marine Pollution Bulletin* **69**: 238-242.
- Alternative flame retardants, Dechlorane Plus and BDEs in the blubber of harbour porpoises (*Phocoena phocoena*) stranded or bycaught in the UK during 2008. 2013. Law, R.J., Losada, S., Barber, J.L, Bersuder, P., Deaville, R., Brownlow, A., Penrose, R. and Jepson, P.D. *Envi. Int.* **60** 81-88.

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<sup>15</sup> <http://www.scotland.gov.uk/Topics/marine/marine-environment/species/19887/20826/MMSS>

## 4.2 Reporting on anthropogenic noise

Most marine construction or development activities generating noise (i.e. piling) require the developer to apply for consent and, between them and the Regulator, carry out the necessary assessments e.g. Environmental Impact Assessments (EIA), and Habitats Regulation Assessments (HRA) under the Habitats Directive. In English and Welsh offshore waters the MMO generally considers these licence applications. In Welsh inshore waters, Natural Resources Wales (and Welsh Government for some matters) are the regulator (and adviser), and in Scotland it is Marine Scotland. Mitigation measures may be required where there is a risk that the activity may disturb or harm cetaceans, including the need for Marine Mammal Observers, soft start piling, passive acoustic monitoring, and cessation of piling activity when cetaceans are present. As disturbance of cetaceans cannot be eliminated entirely as part of these projects, this mitigation is designed to reduce it to acceptable levels considered to not be detrimental to maintaining their conservation status. Relevant guidance can be found on the UK government website<sup>16</sup>.

The MMO also has a voluntary notification system for seismic surveys occurring in English waters, so that we have a record of these activities taking place and can make assessment of any disturbance this may cause and suggest implementation of mitigation measures as appropriate<sup>17</sup>.

The UK is also required to meet obligations on impulsive sounds and ambient noise under the Marine Strategy Framework Directive (MSFD). The UK published the first part of its Marine Strategy as required under the Directive in December 2012. This contains the characterisation of Good Environmental Status (GES) and associated targets and indicators in UK waters. Part two of the UK Marine Strategy outlining UK monitoring programmes was published in July 2014. The final part of the UK Marine Strategy, programmes of measures necessary to achieve GES, will be consulted on during early 2015. Further information on implementation of the MSFD in the UK can be found on the UK government website<sup>18</sup>. Further information on the implementation of the MSFD in Europe can be found on the European Commission website<sup>19</sup>.

To meet our obligations under the MSFD for marine noise the UK has been developing a noise registry which will capture and store spatial and temporal records of activities generating impulsive sounds in the UK marine environment. This will aid regulators and industry in providing a clear picture of the distribution in space and time of noise generating activities and help the UK to assess whether it is delivering GES.

The UK also continues to actively engage more widely on noise issues within Europe. The UK is currently Vice Chair of OSPAR (Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic) and within this Convention is the Chair of the Biodiversity Committee (BDC) which considers cetaceans more generally. The UK also plays an active role in the ICG-MSFD which helps improve regional MSFD coordination and in the EIHA (Environmental Impacts of Human Activities) Committee which considers the impacts of marine noise and is currently developing guidance for Contracting Parties on options for noise mitigation

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<sup>16</sup> <https://www.gov.uk/oil-and-gas-offshore-environmental-legislation> and

[http://jncc.defra.gov.uk/pdf/JNCC\\_Guidelines\\_Piling%20protocol\\_August%202010.pdf](http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Piling%20protocol_August%202010.pdf)

<sup>17</sup> [http://jncc.defra.gov.uk/pdf/JNCC\\_Guidelines\\_Seismic%20Guidelines\\_Aug%202010.pdf](http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Seismic%20Guidelines_Aug%202010.pdf) and

<http://www.marinemanagement.org.uk/protecting/wildlife/geophysical.htm>

<sup>18</sup> <https://www.gov.uk/government/policies/protecting-and-sustainably-using-the-marine-environment/supporting-pages/implementing-the-marine-strategy-framework-directive>

<sup>19</sup> [http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports\\_en.htm](http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports_en.htm)

measures.

The UK also co-chairs the EU Technical Sub Group on underwater noise (EU TSG-Noise) with the Netherlands. This group continues to provide advice to Member States on implementing the noise aspects of the MSFD, and recently produced comprehensive guidance in the form of EU reports<sup>20</sup>.

The UK Underwater Sound Stakeholder continue to meet twice per year, providing an opportunity for industry, non-government organizations and other interested stakeholders to engage directly with Defra and Ministry of Defence (MoD) to discuss emerging issues and exchange information on the impacts of noise in the marine environment. These discussions have helped drive the development of a real-time alert procedure for naval training operations, enabling 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.

The National Physical Laboratory, on behalf of the UK, continues to lead in the development of underwater noise standards via the British Standards Institute Committee. Engagement in the International Standards Organisation [ISO] Sub-Committee within ISO TC43 (SC3 title: "Underwater Acoustics") continues to be considered a priority. This ISO TC43 sub group will cover "Standardization in the field of underwater acoustics (including natural, biological, and anthropogenic sound), including methods of measurement and assessment of the generation, propagation and reception of underwater sound and its reflection and scattering in the underwater environment including the seabed, sea surface and biological organisms, and also including all aspects of the effects of underwater sound on the underwater environment, humans and marine aquatic life." Current work items include standardisation of ship noise measurement, terminology and metrics, and measurement of noise from marine pile driving.

Other relevant work carried out during 2013 includes:

- New guidance on marine European Protected Species has been published in Scotland: *The Protection of Marine European Protected Species from Injury and Disturbance. Guidance for Scottish Inshore Waters*. <http://www.scotland.gov.uk/Topics/marine/marine-environment/species/19887/20813/epsguidance?refresh=0.6352101364748239>
- *A Protocol for Implementing the Interim Population Consequences of Disturbance (PCoD) Approach: Quantifying and Assessing the Effects of UK Offshore Renewable Energy Developments on Marine Mammal Populations*. J Harwood, S King, R Schick, C Donovan and C Booth. 2014. Marine and Freshwater Science Vol 5 No 2, Published by Marine Scotland Science. ISSN: 2043-7722. <http://www.scotland.gov.uk/Resource/0044/00443360.pdf>
- *Use of Deterrent Devices and Improvements to Standard Mitigation during Piling*. Research Summary. Offshore Renewables Joint Industry Programme (ORJIP). <http://www.carbontrust.com/media/416650/orjip-project-4-phase-1-summary-report.pdf>
- *Assessing the Potential Impact of Oil and Gas Exploration Operations on Cetaceans in the Moray Firth*. Paul Thompson, Kate Brookes, Line Cordes, Tim Barton, Barbara Cheney & Isla Graham. 2013. University of Aberdeen. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/261936/Moray\\_Firth\\_Final\\_Report\\_-\\_November\\_2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/261936/Moray_Firth_Final_Report_-_November_2013.pdf)

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<sup>20</sup> <http://publications.jrc.ec.europa.eu/repository/handle/111111111/30979>

- *Short-term disturbance by a commercial two-dimensional seismic survey does not lead to long-term displacement of harbour porpoises.* Thompson PM, Brookes KL, Graham IM, Barton TR, Needham K, Bradbury G, Merchant ND. 2013. Proc R Soc B 280: 20132001. <http://dx.doi.org/10.1098/rspb.2013.2001>
- *What caused the UK's largest common dolphin (*Delphinus delphis*) mass stranding event?* Jepson P.D., Deaville R., Acevedo-Whitehouse K., Barnett, J., Brownlow A., Brownell Jr, R.L., Clare F.C., Davison N.C., Law R.J., Loveridge J., Macgregor S.K., Morris S., Murphy S., Penrose R., Perkins M.W., Pinn E., Seibel, H., Siebert, U., Sierra E., Simpson V., Tasker M.L., Tregenza N., Cunningham A.A. and Fernández A. 2013. *PLoS ONE* **8(4)**: e60953. doi:10.1371/journal.pone.0060953. <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0060953>
- *Marine Renewable Energy: A Global Review of the Extent of Marine Renewable Energy Developments, the Developing Technologies and Possible Conservation Implications for Cetaceans.* 2013. Whale and Dolphin Conservation (WDC). <http://uk.whales.org/sites/default/files/wdc-marine-renewable-energy-report.pdf>
- A JNCC contract will report in Autumn 2014 on the potential effects of seismic surveys on cetaceans. The report will analyse data from Marine Mammal Observer reports, submitted as part of the consenting regime for any seismic surveys within the United Kingdom Continental Shelf (UKCS), analysing data from 1994- 2010. The work will build on earlier analysis of Marine Mammal Observer reports (e.g. Stone and Tasker, 2006), but will allow for longer term analysis of potential effects of seismic activities on cetaceans, as well as general trends in the implementation of the JNCC seismic guidelines ([http://jncc.defra.gov.uk/pdf/JNCC\\_Guidelines\\_Seismic%20Guidelines\\_August%202010.pdf](http://jncc.defra.gov.uk/pdf/JNCC_Guidelines_Seismic%20Guidelines_August%202010.pdf)) throughout this time period.
- *Good Practice Guide Document for Underwater Noise Measurement.* 2014 National Measurement Office, Marine Scotland, The Crown Estate, Robinson S.P., Lepper P.A. and Hazelwood R.A., NPL Good Practice Guide No 133, ISSN: 1368-6550. Provided guidance on best practice for *in-situ* measurement of underwater sound, for processing the data, and for reporting the measurements using appropriate metrics (<http://www.npl.co.uk/upload/pdf/gpg133-underwater-noise-measurement.pdf>)
- Monitoring Guidance for Underwater Noise in European Seas - 2nd Report of the Technical Subgroup on Underwater noise (TSG Noise). Part I – Executive Summary. Interim Guidance Report. May, 2013 (<http://publications.jrc.ec.europa.eu/repository/bitstream/11111111/30979/1/lb-na-26557-en-n.pdf>) .
- Monitoring Guidance for Underwater Noise in European Seas - 2nd Report of the Technical Subgroup on Underwater noise (TSG Noise). Part II Monitoring Guidance Specifications. Interim Guidance Report. May, 2013 (<http://publications.jrc.ec.europa.eu/repository/bitstream/11111111/30973/1/lb-na-26555-en-n.pdf> ).
- Monitoring Guidance for Underwater Noise in European Seas - 2nd Report of the Technical Subgroup on Underwater noise (TSG Noise). Part III Background Information and Annexes. Interim Guidance Report. May, 2013 (<http://publications.jrc.ec.europa.eu/repository/bitstream/11111111/30980/1/lb-na-26556-en-n.pdf>).

### 4.3 Reporting of cetacean strandings in the UK

Since 1990, the collaborative UK Cetacean Strandings Investigation Programme<sup>21</sup> (CSIP) has been funded by UK Government (currently through Defra, Welsh Government, Natural Resources Wales, 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 nearly 10500 cetaceans which were reported stranded around the UK between 1990 and 2011. In addition, detailed pathological data is also held on over 3000 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<sup>22</sup>. A proportion of data held on this system is also made available to the public via a Defra funded portal, the NBN gateway<sup>23</sup>.

Annual reports from the programme which provide detailed information on strandings in the UK can be found on the UK government web site and the Welsh strandings website<sup>24</sup>. The report for 2013 will be available for download during the last half of 2014.

Projects are also in place to provide Scottish and Welsh context for cetacean strandings (the Scottish Marine Animal Strandings Scheme<sup>25</sup> and the Welsh Strandings Scheme<sup>26</sup>). This builds on the wider UK Cetacean Strandings Investigation Programme (CSIP) by providing a systematic and coordinated approach to the surveillance of marine animal strandings in Scotland. It aims to collate, analyse and report data for all cetacean, marine turtle, seal and basking shark strandings around the Scottish coast; to determine the causes of death; and to undertake surveillance on the incidence of disease in stranded cetaceans in order to identify any substantial new threats to their conservation status.

The IWDG have coordinated a stranding scheme (supported by the Department of Arts, Heritage and the Gaeltacht in Ireland) and maintained a publically available stranding database for the whole island of Ireland since 1991. Strandings are reported via the online reporting form or via email. Any genetic tissue that is collected is stored in a central storage facility at the National Museum of Ireland-Natural History (NMINH) in Dublin. The DOE Marine Division also record cetacean strandings along the Northern Irish coast. Any stranding records submitted directly to the IWDG are forwarded to the DOE Marine Division and vice versa.

At the ASCOBANS Advisory Committee meeting in Bonn in 2010, the ASCOBANS Secretariat agreed to fund IoZ to co-ordinate a feasibility study into the creation of a centralised point of access for selected data collected by stranding networks within the ASCOBANS region (Project ref: SSFA/ASCOBANS/2010/2). The project report on this feasibility study was presented at the recent Advisory Committee in March 2012 and it is hoped that this work will be the first step towards the eventual creation of a central database on strandings and necropsies, encompassing ASCOBANS Parties

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<sup>21</sup> [www.ukstrandings.org](http://www.ukstrandings.org)

<sup>22</sup> <http://data.ukstrandings.org>

<sup>23</sup> [www.nbn.org.uk/](http://www.nbn.org.uk/)

<sup>24</sup> <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=17835&FromSearch=Y&Publisher=1&SearchText=CSIP&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description> and <http://www.strandings.com/Wales.html>

<sup>25</sup> <http://www.strandings.org/>

<sup>26</sup> <http://www.strandings.com/Wales.html>

and Range states.

The Natural History Museum (NHM) held a one day meeting on 20<sup>th</sup> September 2013 to mark the centenary of strandings data collection in the UK. A range of presentations were given, including some covering the work of the CSIP.

CSIP staff from NHM and Zoological Society of London (ZSL) also helped run a stall on UK strandings/cetaceans at 'Science Uncovered' at the Natural History Museum on 27<sup>th</sup> September. Skeletal material, parasites and fixed material was on display, along with a video of a short-beaked common dolphin stranding necropsy carried out at ZSL. Over 10000 people attended on the evening<sup>27</sup>.

The work of the CSIP in the UK has also been publicised during 2013 through numerous presentations, demonstration necropsies and social media activity by CSIP staff<sup>28</sup>.

#### **4.4 Reporting on the impacts of shipping**

The UK is a Contracting Government to the International Maritime Organisation (IMO) and the Convention on Migratory Species and its Agreements ASCOBANS<sup>29</sup> and ACCOBAMS<sup>30</sup>. Work relating to ship strikes in the UK is undertaken in cooperation with the IMO, ACCOBAMS and ASCOBAMS in addition to the IWC.

The UK has established a coordination process with NGOs, scientists and other relevant bodies to improve cooperation and reporting to the IWC on matters relating to ship strikes. In addition to on-going work in the UK, UK NGOs and scientists have been active in addressing ship strike threats in other parts of the world including the Bay of Biscay, Hellenic Trench Greece and Sri Lanka.

##### IMO Polar Code

The current draft of the IMO Polar Code contains a chapter on Voyage Planning. This requires that 'the master shall consider a route through polar waters taking into account' the 'current information and measures to be taken when marine mammals are encountered relating to known areas with densities of marine mammals including seasonal migration areas'. This measure could require vessels to select routes that minimise ship strike risk in areas where there are particular concerns.

The UK has been a strong supporter of the Polar Code and remains particularly concerned with the preservation of the unique environments at both poles. We continue to support the inclusion of measures to ensure routes are calculated taking account of marine mammals and expect vessels to include such considerations in any application through the UK for a license to enter and operate in the region.

##### IWC guidance documents on reducing ship strike risk

The IMO developed a general guidance document on minimising collision risks with cetaceans in 2009. This guidance covers all vessel types but there are issues specific to certain vessel types where more detailed advice may be useful.

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<sup>27</sup> <http://www.nhm.ac.uk/natureplus/community/general/science>

<sup>28</sup> <http://www.facebook.com/pages/Cetacean-Strandings-Investigation-Programme-UK-strandings/142706582438320>

<sup>29</sup> ASCOBANS: Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas

<sup>30</sup> ACCOBAMS: Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area



At its 2014 meeting the IWC Scientific Committee discussed additional draft guidance documents for organisers of off-shore recreational boating events and for cruise line operators. These documents identify specific, practical measures that can be taken by these shipping sectors to reduce risk. The expectation is that these documents can be finalised by the Conservation Committee and approved for posting on the IWC web site. UK scientists contributed to the guidance for organisers of off-shore recreational boating events.

#### UK Cetacean Strandings Investigation Programme (CSIP)

Information on dead cetaceans found floating at sea is reported to the UK CSIP. During the course of this programme, the CSIP has recorded cases of ship strike in numerous species of both large and small cetaceans.

During 2013, 145 UK stranded cetaceans were examined at post-mortem by the UK Cetacean Strandings Investigation Programme. Of these, six were diagnosed as ship strikes, comprising harbour porpoise (n=3), short-beaked common dolphin (n=1), minke whale (n=1) and Sowerby's beaked whale (n=1). Observed pathology was characterised by large areas of dorsal and/or lateral musculature haemorrhage, consistent with blunt impact and/or parallel linear incisions in the body wall, consistent with strike by outboard propeller blades (e.g. Deaville *et al.* 2013).<sup>31</sup> On 1<sup>st</sup> August 2013 a dead fin whale with an excised tail was brought into Portsmouth harbour on the front of a cargo vessel. CSIP was unfortunately unable to carry out a post mortem examination.

Further details on these cases can be found in the CSIP 2013 annual report which will be published in the last half of 2014<sup>32</sup>.

#### Hellenic Trench Greece

UK scientists have contributed to an analysis of sperm whale distribution in relation to shipping in the Hellenic Trench, Greece. Ship strikes are a recognised problem for the Mediterranean sperm whale population which is classified as endangered by IUCN. The Hellenic Trench was identified as potentially high risk during the IWC/ACCOBAMS workshop in 2010. Given the evidence for a high incidence of ship strikes from stranded sperm whales, the workshop recommended that dialogue be initiated with shipping regulators and interests in the area, potentially in conjunction with ACCOBAMS. UK scientists are continuing to work with the Secretariat to establish relevant contacts.

#### Sri Lanka

Scientists from the UK (Universities of St Andrews and Aberdeen) collaborated with researchers in Sri Lanka studying the distribution patterns of blue whales off southern Sri Lanka. Funding for the work came from the Biosphere Foundation, Raja and the Whales, and International Fund for Animal Welfare (IFAW).

In 2012, the IWC Scientific Committee had drawn attention to the urgent need for long-term monitoring of the blue whale population in Sri Lankan waters and elsewhere in the northern Indian Ocean because of the potential for population impacts from ship strikes. Surveys were carried out in 2014 centred around the current lanes and further offshore.

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<sup>31</sup> Deaville, R., Brownlow, A., Penrose, P., Smith, B., Barnett, J., Perkins M. and Jepson, P. (2013) Turning the screw: ship strike in UK stranded cetaceans *Proceedings of the 27<sup>th</sup> annual conference of the European Cetacean Society, Setubal, Portugal, 8<sup>th</sup>-10<sup>th</sup> April 2013.*

<sup>32</sup><http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=17835&FromSearch=Y&Publisher=1&SearchText=strandings&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>.

The results showed highest densities of blue whales in the current shipping lanes with much lower densities further offshore. Distribution appeared to be related to bathymetry suggesting that observed distribution patterns may be consistent over time. Hence moving the current Traffic Separation Scheme further offshore would likely substantially reduce risk of collisions with blue whales. The 2014 IWC Scientific Committee recommended that the IWC should begin to discuss possible mitigation measures with the relevant authorities and stakeholders in the area.

It is hoped to repeat similar surveys to those carried out in 2014 in 2015. In addition surveys are planned for different seasons including the SW monsoon period. UK scientists (British Antarctic Survey/Aberdeen) also collaborated on a pilot study with funding from IFAW to investigate the use of satellite imagery to detect blue whales in the shipping lanes. Results will be presented to IWC Scientific Committee in 2015.

#### *The NGO ORCA's Ship Strike Programme and the Bay of Biscay*

The Bay of Biscay is an area of high density maritime traffic combined with high densities of large whales, particularly in summer. A workshop held in April 2012, funded by World Animal Protection, focused on reducing ship strike risk in the Bay of Biscay, with key stakeholders participating. The objective was to build collaboration between scientists, industry, policy makers and NGOs to find ways to reduce the risk of ship strikes on large cetaceans. The workshop focused on pragmatic and realistic solutions that industry could adopt.

The workshop identified that bridge crews were largely unaware of where high risk areas of ship strike were, when they were travelling through the Bay of Biscay. Progress since the workshop includes the production of an information pack<sup>33</sup> which has been distributed to shipping companies. In addition, the UK Chamber of Shipping established an industry based ship strike working group to help raise awareness. ORCA is working with the shipping companies to improve the uptake.

Another key objective identified from the workshop was the need for the development of an early warning system to be used by industry. This would be based on near real time ship to ship reporting of whale sightings to highlight risk zones. Working in collaboration with Souffleurs d'Ecume the early warning system REPCET was reviewed for application in the Bay Biscay. However, for such a system to be effective in the Bay there needs to be a better understanding of how the large whales (particularly Fin Whales) are utilising the Bay and how the number of sightings on a transit compares to what would be expected for the conditions and time of year.

For six months of each year, ORCA's wildlife officers and survey teams transit the inner Bay of Biscay on board ferries, monitoring sightings of large whales. This information along with a re-activated European Cetacean Monitoring Coalition (consisting of eight European NGOs, including the Bay of Biscay Range States) and an agreed European cetacean data dictionary is providing a better understanding of cetacean abundance in the Inner Bay of Biscay.

To help increase knowledge of the density of large whale populations in the outer bay, ORCA is liaising with shipping companies whose vessels frequent the outer shipping lanes with the objective of placing trained surveyor teams on vessels.

In the meantime with continued collaboration with the French NGO Souffleurs d'Ecume, modifications to the REPCET software have been made to ensure that reports of ship strikes are automatically uploaded to the International Whaling Commission's global ship strike database, to assist with more accurate estimates of mortality and injuries and enable better modelling of risk factors and avoidance

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<sup>33</sup> [http://www.orcaweb.org.uk/uploads/Our\\_Work/ORCA\\_STRIKE-TOOLKIT-ONLINE.pdf](http://www.orcaweb.org.uk/uploads/Our_Work/ORCA_STRIKE-TOOLKIT-ONLINE.pdf)

measures.

## 5. Whale Watching

Whale and dolphin watching around the UK coast has increased dramatically in the past 20 years, as both commercial ventures are set up and the public has started to take an interest in watching the animals in their natural habitat. In the UK, several codes of conduct and accreditation schemes are in place aimed both at the public in general and at commercial wildlife watching operators. Wildlife Trusts across the UK often have in place guidance for wildlife watching. Adherence to these codes of practice should, in principle, reduce the risk of injury and disturbance however their effectiveness in terms of compliance and protection requires further monitoring.

### England

The Marine Management Organisation (MMO) is the enforcing body in English waters for wildlife legislation, and their remit includes disturbance offences. Educational training, focussing on legislation and offences, has been carried out by the MMO around the coast in areas where disturbance activities are an issue. Enforcement action for disturbance offences can be taken by police or MMO where evidence allows.

The MMO is part of the Cornwall Marine Wildlife Group which has established a disturbance register so incidents in the South West of England can be reported and recorded as well as being forwarded to the relevant enforcement authorities as necessary (the Police and MMO). A coastal code of conduct to reduce disturbance of coastal and marine species has also been created<sup>34</sup> alongside specific guidance for avoiding disturbance of cetaceans<sup>35</sup>.

### Scotland

In November 2006, The Scottish Marine Wildlife Watching Code (SMMWC) was launched as a result of the Nature Conservation (Scotland) Act 2004. This code was developed by Scottish Natural Heritage (SNH) for those who watch marine wildlife in Scotland - whether from the shore or at sea. The code comprises recommendations, advice and information. The Scottish Code and its guidance have been incorporated into the WiSe<sup>36</sup> (**Wildlife Safe**) courses, a UK wide training and accreditation scheme aimed at operators of passenger pleasure craft, wildlife cruise operators, dive boats and charter yachts who may come into contact with large marine wildlife such as whales, dolphins, basking sharks or seals. The countries' nature conservation agencies (NE, CCW (now NRW), SNH and NIEA) advise compliance with this scheme.

A further set of guidelines, specific to the Moray Firth area, are in place as part of the Dolphin Space Programme (DSP), an accreditation scheme for wildlife tour boat operators in that area. The aim of the DSP is to encourage people observe dolphins and other marine wildlife to "watch how they watch" and to respect the animals' need for space. The mission of the DSP is to be a model of excellence in responsible wildlife tourism and is intended to support the sustainable, positive development of marine wildlife watching in the area.

### Wales

Ceredigion County Council's dolphin and boat monitoring includes the monitoring of wildlife watching

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<sup>34</sup> [http://www.cornwallwildlifetrust.org.uk/livingseas/cornwall\\_marine\\_and\\_coastal\\_code](http://www.cornwallwildlifetrust.org.uk/livingseas/cornwall_marine_and_coastal_code)

<sup>35</sup> [http://www.cornwallwildlifetrust.org.uk/livingseas/cornwall\\_marine\\_and\\_coastal\\_code/dolphins\\_porpoises\\_and\\_whales](http://www.cornwallwildlifetrust.org.uk/livingseas/cornwall_marine_and_coastal_code/dolphins_porpoises_and_whales)

<sup>36</sup> [www.wisescheme.org](http://www.wisescheme.org)

trips. The Council are very proactive and have a meeting with the boat operators at the beginning of each season to agree the code of conduct. This is a voluntary scheme that results in almost 100% compliance from the wildlife watching boats and about 98% compliance from other boat users. NRW [formerly CCW] advises widely on wildlife watching endeavours and advocates (and collaborated on the development of) the WiSe scheme or similar, promotes a variety of codes of conduct including the Sea Wise code (NRW's standard code) and strictly licenses certain activities such as Photo ID licences for cetacean research.

#### Northern Ireland

The Northern Ireland Environment Agency actively supports the WiSe Scheme and has facilitated three separate workshops for commercial and leisure operators since 2005. Recent funding enabled the training of two local WiSe Instructors in Northern Ireland, one for Co Antrim and Derry (north coast) and another for Co Down (east coast). The scheme focuses on cetaceans, in addition to seals, basking sharks, and seabirds.

### **6. Other relevant information**

#### IWC 'Euthanasia' workshop

The Institute of Zoology organised and chaired an international workshop on "Euthanasia protocols to optimize welfare concerns for stranded cetaceans" at the Zoological Society of London over 11-13<sup>th</sup> September. The workshop was convened under the auspices of the IWC, through funding from the UK and Norwegian governments. 30 people from 13 countries attended the workshop. A number of appropriate techniques (both chemical and physical) were discussed and a range of presentations were given. A report of the workshop was submitted to the IWC Scientific Committee for consideration, and has now been widely disseminated via the IWC website. It is hoped that the outputs will provide resource/s for stranding networks internationally to help practically tackle strandings and associated welfare concerns. Papers from the meeting<sup>37</sup> and the final report of the workshop<sup>38</sup> can be found on the IWC web site.

#### Outreach

The WDC has continued to reach out to more than 80,000 people through its Wildlife Centre's and Shorewatch volunteer programme in Scotland. They have also continued to provide advice, ideas and assistance with facts, proofing and language to the development of the ASCOBANS website Kids Zone section.

The IWDG has continued to raise awareness and increase knowledge on cetaceans in Northern Irish waters through its casual and dedicated land based monitoring scheme, annual Whale Watch Ireland event and attendance at local maritime festivals. Additionally, IWDG held a Wildlife-Watching training weekend on Rathlin Island in July 2014 to educate participants on cetaceans around the North coast and visual monitoring techniques.

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<sup>37</sup> <http://iwc.int/eptowcfsc2013>

<sup>38</sup> <http://iwc.int/iwc-report-published-on-stranded-cetaceans-euthana>