

European Community Directive  
on the Conservation of Natural Habitats  
and of Wild Fauna and Flora  
(92/43/EEC)

**Second Report by the United Kingdom under  
Article 17  
on the implementation of the Directive  
from January 2001 to December 2006**

Conservation status assessment for :  
**S2032: *Lagenorhynchus albirostris* - White  
beaked dolphin**

Please note that this is a section of the report. For the complete report visit <http://www.jncc.gov.uk/article17>

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# **S2032 *Lagenorhynchus albirostris* White-beaked dolphin**

*Audit trail compiled and edited by JNCC and the UK Inter-Agency Marine Mammal Working Group*

This document is an audit of the data and judgements on conservation status in the UK's report on the implementation of the Habitats Directive (January 2001 to December 2006) for this species. Superscript numbers accompanying the headings below, cross-reference to headings in the corresponding Annex B reporting form. This supporting information should be read in conjunction with the UK approach for species (see 'Assessing Conservation Status: UK Approach').

## **1. Range Information<sup>2.3</sup>**

*Lagenorhynchus albirostris* is abundant on the continental shelf around west and north Scotland and in the northern North Sea (Northridge *et al.* 1995; Weir *et al.* 2001; Reid *et al.* 2003). They are much less common in the southern North Sea, the English Channel and Irish Sea, and rarely recorded in deep waters offshore in contrast to its congener, the white-sided dolphin *Lagenorhynchus acutus* (Weir *et al.* 2001). Sightings and distribution data indicate that the population around northern UK may be discrete from other populations in the north Atlantic (Northridge *et al.* 1995).

*L. albirostris* has a more limited range than most of the species present in UK waters, being found only in cool temperate and subarctic waters of the north Atlantic (Reid *et al.* 2003). The population(s) in the eastern Atlantic is thought to be larger than that in the west, with a range extending from northern Norway and Iceland to the British Isles and North Sea. There have also been a few sightings in the Bay of Biscay and as far south as the Straits of Gibraltar (Pollock *et al.* 1997, 2000; Coles *et al.* 2001).

### **1.1 Surface area of range<sup>2.3.1</sup>**

#### **Unknown**

*L. albirostris* has been recorded throughout the UK continental shelf (i.e. within the 200 m contour) (see Map 1.1). However, an area estimate for this is not currently available.

Range is a difficult parameter to define for marine mammals since they are highly mobile and their distribution can vary considerably in time and space across Member States. While understanding the distribution of marine mammal species might be helpful in assessing their conservation status and while range can be subjected to qualitative assessment, the data do not enable a quantitative estimate of surface area at present.

### **1.2 Date of range determination<sup>2.3.2</sup>**

#### **Not applicable**

### **1.3 Quality of range data<sup>2.3.3</sup>**

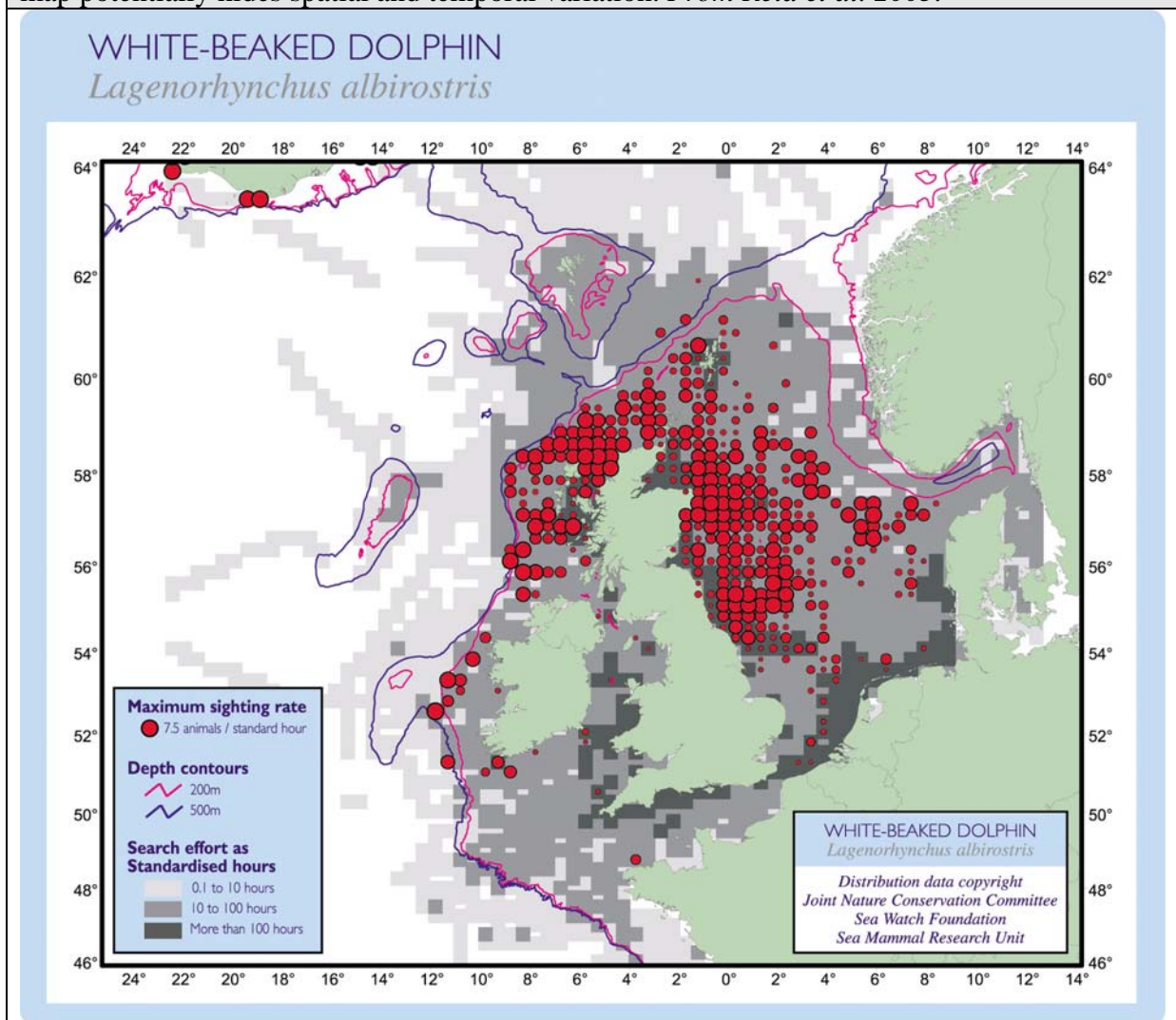
#### **Good**

Comprehensive surveys (SCANS and SCANS II) to estimate the abundance of small cetaceans in the European Atlantic continental shelf waters were undertaken in 1994 and 2005.

A national sightings database is run by the SeaWatch Foundation. This includes opportunistic sightings at sea by a large number of, mainly amateur, observers, together with some effort related data. Although such a large dataset is useful for showing distributional range, coverage varies between areas and time of the year. The effort related sightings data to 1998 was incorporated along with other datasets (SCANS and European Seabirds at Sea (ESAS) records) to produce the *Atlas of cetacean distribution in north-west European waters* (Reid *et al.* 2003; Map 1.1).

An area estimate for this species is not presented here. This could be done by modelling the area of occupancy using the data available, but it is considered that the effort involved in the modelling exercise would not justify the outcome.

**Map 1.1** Known distribution of *L. albirostris* in the north east Atlantic. Please note that this map potentially hides spatial and temporal variation. *From Reid et al. 2003.*



#### 1.4 Range trend<sup>2.3.4</sup> and Range trend magnitude<sup>2.3.5</sup>

Stable

There has been no evidence of decline in range during recent years, or historically.

When comparing similar areas of coverage, there is no evidence of a decline in range between SCANS (1994), the map in the *Atlas of cetacean distribution in north-west European waters* (Map 1.1) and SCANS II (2005).

However, from the 1990s, there has been a general shift northwards in the geographical locations of reported strandings (Jepson 2006). Originally these were most common in the east coast from Norfolk to Scotland. From 2000, all recorded strandings have been in the Highland region of north east Scotland or the Northern Isles. Marine mammals are wide-ranging, with large spatio-temporal variations in distribution and therefore, it is very difficult to detect trends in range, or to know if apparent changes are long-term changes in range or in distribution within their range.

### **1.5 Range trend period<sup>2.3.6</sup>** **1994 – 2005**

The reported trend has been informed by the cetacean Atlas (Reid *et al.* 2003) and the latest SCANS survey.

### **1.6 Reasons for reported trend in range<sup>2.3.7</sup>** **Not applicable**

### **1.7 Favourable reference range<sup>2.7.1</sup>** **Unknown**

Although a quantitative area estimate cannot be provided, based on best expert judgement, current range has all significant ecological variations of the species included for a given biogeographical region, and is sufficiently large to be considered suitable for the survival of the species for the foreseeable future.

### **1.8 Range conclusion<sup>2.8</sup>** **Favourable**

There has been no evidence of decline in range, and the current range (although not quantified in km<sup>2</sup>) is considered equivalent to the favourable reference range based on best available information and expert judgement. Therefore, the conclusion for this parameter is Favourable.

## **2. Population of the species<sup>2.4</sup>**

### **2.1 Population estimate<sup>2.4.1</sup>**

#### **22,400 individuals (UK and adjacent waters, shelf only)**

A transfrontier approach to population size reporting has been adopted. The estimate reported above is a sum of broad regions (as defined by the SCANS II survey) that includes all the countries bordering the North Sea, Ireland and France. These areas included south central North Sea, north central North Sea, northern North Sea, western Scotland and Irish outer shelf, Celtic Sea, southern North Sea and Channel, Scottish Northern Isles, coastal western Scotland, Irish Sea, covering all of UK continental shelf waters

In the SCANS survey in 2005, *L. albirostris* were found in the northern and central North Sea and west of Britain and Ireland, with the estimated numbers in the North Sea and adjacent waters of approximately 10,565 (CV = 0.29) and 11,700 (CV >0.6) in the west of Scotland (Hammond and Macleod 2006).

The total abundance estimate for the European Atlantic continental shelf waters was 22,665 (CV = 0.42) (Hammond and Macleod 2006). The highest densities occurred in the waters of western Scotland.

UK waters may hold a significant proportion of the total population of the north-east Atlantic. It is possible that there is a discrete population in the North Sea and around north-west Britain (Northridge *et al.* 1995).

## **2.2 Date of population estimate<sup>2.4.2</sup>**

**2005**

SCANS II survey.

## **2.3 Method of population estimate<sup>2.4.3</sup>**

**2 = extrapolation from surveys of part of the population, sampling**

The SCANS surveys were carried out in the summer by teams of observers onboard research ships and small aircraft. The ships and aircraft used line transect methods to collect distance sampling data to estimate the number of animals in the European Atlantic continental shelf area.

## **2.4 Quality of population data<sup>2.4.4</sup>**

**Good**

The SCANS II survey used techniques to minimise known biases (missed animals and responsive movement were corrected for) together with extensive survey coverage and so provide the most precise absolute abundance estimates currently available and possible for cetaceans. For cetaceans, it is impossible to get a full census. Improvements to current surveillance would include extending the survey effort outside summer months to all seasons.

## **2.5 Population trend<sup>2.4.5</sup> and Population trend magnitude<sup>2.4.6</sup>**

**Stable**

From the SCANS survey in 1994, estimated numbers in the North Sea and adjacent waters were 7,856 (CV = 0.30). The abundance estimate obtained from a similar area in the SCANS II survey was 10,562 (CV=0.29) (Hammond and Macleod 2006). There is no statistical difference between these estimates. Although it is not possible to detect trends from only two interdecadal surveys, the fact that the numbers estimated from the two surveys are not statistically different suggests that population numbers might have remained stable in the last decade in UK waters.

## **2.6 Population trend period<sup>2.4.7</sup>**

**1994 – 2005**

SCANS-94 and SCANS II surveys.

## **2.7 Reasons for reported trend in population<sup>2.4.8</sup>**

**Not applicable**

## **2.8 Justification of % thresholds for trends<sup>2.4.9</sup>**

**Not applicable**

## **2.9 Main pressures<sup>2.4.10</sup>**

**210 Professional fishing**

**230 Hunting**

**313 Exploration and extraction of oil or gas**

**420 Discharges**

**490 Other urbanisation, industrial and similar activities**

**520 Shipping**

**701 water pollution**

**710 Noise nuisance**

**971 Competition**

**990 Other natural processes**

Very little is known about the pressures to this species. Nevertheless, there is a long history of hunting for *L. albirostris* in adjacent waters (Norway, Faroe Islands).

An analysis of stranding records between 1948 and 2003 in north-west Scotland found a decrease in *L. albirostris* strandings records over the last 15 years, which could be associated with reported local decreased sightings and linked with local increases in water temperature (MacLeod *et al.* 2005). Climate change may influence the range of this species in UK waters, since this is the southern limit of its distribution.

The use made of the seas around the UK has been described (see SEA reports) and assessed against possible future hydrocarbon development opportunities. *Lagenorhynchus* species show the strongest avoidance of seismic activity of any cetacean species, with significant increases in fast swimming activity and declines in sightings rates during periods when airguns were firing (Stone, 2003). All seismic operations in UK waters must be undertaken in accordance with Joint Nature Conservation Committee (JNCC) guidelines which aim to minimise the effect of seismic activity on marine mammals.

From post mortem results, the greatest causes of death in stranded *L. albirostris* were live strandings (43.8%) and infection (25%) (Jepson 2006).

It is unlikely that any one of these pressures could affect this species long-term viability in UK waters, but the combined action of the pressures might possibly affect the species. Often with cetaceans it is difficult to link cause and effect and to distinguish natural from human impacts.

## **2.10 Threats<sup>2.4.11</sup>**

**210 Professional fishing**

**230 Hunting**

**313 Exploration and extraction of oil or gas**

**701 water pollution**

**710 Noise nuisance**

**990 Other natural processes**

Some of the pressures described above may continue to affect this species but if controlled it should not threaten the long term viability of the species in UK waters.

## **2.11 Favourable reference population<sup>2.7.2</sup>**

**22,400 individuals (Equal to current: UK and adjacent waters, shelf only)**

Population is being maintained at a relatively high abundance in the UK. Therefore, based on expert opinion and in line with the UK approach, the current estimate has been set as a

baseline favourable reference value. The population size value provided is a sum of the estimated absolute abundances for each of the SCANS II survey areas that include UK waters. These areas included south-central North Sea, north-central North Sea, northern North Sea, western Scotland and Irish outer shelf, Celtic Sea, southern North Sea and Channel, Scottish Northern Isles, Coastal western Scotland, Irish Sea and covering all of UK continental shelf waters.

### **2.12 Population conclusion<sup>2.8</sup>**

#### **Favourable**

Population is stable and equal to the favourable reference population. The assessment is, therefore, Favourable.

### **3. Habitat for the species in the Biogeographic region or sea<sup>2.5</sup>**

Cetacean habitats (e.g. feeding and breeding areas) vary temporally and spatially and are influenced by natural and anthropogenic factors (e.g. Ingram et al., 2007; MacLeod et al., 2007; Weir et al., 2007). It is often difficult to determine what features characterise cetacean habitats and in quantifying their extent.

This species is found mostly in continental shelf waters with depths between 50 m and 100 m, and rarely out to the 200 m isobath (Northridge *et al.* 1995; Reid *et al.* 2003). Distribution has been linked to sea surface temperature, local primary productivity and prey abundance (MacLeod et al., 2007; Weir et al., 2007)

Often mixed herds of *L. albirostris* have been observed with Atlantic white-sided, bottlenose, common and Risso's dolphins and also with fin, sei, humpback, long-finned pilot and killer whales (Reid *et al.* 2003) suggesting that they feed on similar prey.

#### **3.1 Surface area of habitat<sup>2.5.2</sup>**

##### **Unknown**

As with other cetaceans, the surface area of their habitat is difficult to quantify and may vary significantly seasonally and between years.

#### **3.2 Date of estimation<sup>2.5.3</sup>**

**Not applicable**

#### **3.3 Quality of data on habitat area<sup>2.5.4</sup>**

##### **Poor**

No information is available on habitat area.

#### **3.4 Habitat trend<sup>2.5.5</sup>**

##### **Unknown**

Habitat trend information is not available.

#### **3.5 Habitat trend period<sup>2.5.6</sup>**

**1994 – 2006**

#### **3.6 Reasons for reported trend in habitat<sup>2.5.7</sup>**

**Not applicable**

### **3.7 Suitable habitat for the species (in km<sup>2</sup>)<sup>2.73</sup>**

**Unknown**

### **3.8 Habitat conclusion<sup>2.8</sup>**

**Favourable**

Although there is an acknowledged difficulty associated with defining habitats for cetaceans, the judgement of Favourable was based on the relatively high level of spatial and temporal variability in the behaviour and ecology of all cetaceans. Additionally, where range and/or population is considered to be in a Favourable condition, it has been assumed that habitat must also be considered to be Favourable.

## **4. Future Prospects<sup>2.6</sup>**

**Good prospects**

“Species is expected to survive and prosper”.

Since 1994, conservation measures have been undertaken in the UK and adjacent waters, to protect, survey and monitor marine mammal abundance, health and distribution (see below); stable population trends indicate the effectiveness of such measures. Many human activities that have the potential to affect the assessed species are already regulated. Further, potential threats are not expected to affect long term viability (see Section 2.10), assuming that current conservation measures are maintained and further measures are taken should other pressures emerge. On this basis, prospects over the next 12 years have been identified as good.

#### *Threats, Legislation and Conservation Action*

Many cetaceans occurring in UK waters will also use waters of other Member States and those of non-Members, so coordination of conservation measures through, for instance ASCOBANS (Agreement on the Conservation of Small Cetaceans in the Baltic and North Seas) is essential to avoid activities in other waters affecting the animals occurring in UK waters.

The Habitats Directive is being implemented by identifying and protecting appropriate sites and monitoring bycatch. To further implement the directive, a surveillance strategy for cetaceans is being developed linking to a proposed Joint Cetacean (data handling) Protocol that hopes to get contributors from different countries in Europe in order to enable transboundary approaches to evaluating the conservation status of cetaceans. It is expected that an update of the *Atlas of cetacean distribution in north-west European waters*, published by JNCC in 2003, will result from this project. In 2005, the UK was a major supporter of the EU LIFE Nature project SCANS-II project which completed a survey for cetaceans in the European Atlantic continental shelf and will make recommendations for monitoring cetacean populations. A new project, CODA 2007 (Cetacean Offshore Distribution and Abundance) aims to estimate abundance of cetaceans, and investigate their habitat preferences in European Atlantic waters off the continental shelf to the north of Portugal.

The UK is implementing the European Council Regulation EC 812/2004, which lays down measures concerning incidental catches of cetaceans in fisheries, and more generally the bycatch obligations within the Habitats Directive. The *UK small cetacean bycatch response*

*strategy* was published in 2003 and is being implemented through research and monitoring into the extent of bycatch and mitigation measures.

Legislation has been reviewed in order to provide these species with extra protection from disturbance. In addition, Scottish Natural Heritage (SNH) recently produced the *Scottish Marine Wildlife Watching Code*, designed to protect and promote enjoyment and to raise awareness about how best to watch marine wildlife with minimal disturbance.

JNCC has developed guidelines aimed at minimising the risk of acoustic disturbance to marine mammals from seismic surveys that are being implemented by the Department of Trade and Industry. Further guidance will be developed in 2007-2008 on other activities that disturb cetaceans. 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.

The UK government funds a national strandings scheme which aims to provide a co-ordinated approach to the investigation of cetacean strandings in order to assess the number and trends of stranded cetaceans, and potential causes of death.

As a response to the 1992 Convention on Biological Diversity the UK has developed biodiversity action plans (BAP) for all cetacean species. 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. The UK has been committed to supporting several international agreements and conventions on the conservation of marine mammals and the marine environment in general (e.g. ASCOBANS, The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)).

The UK's position within the International Whaling Commission (IWC) has been, amongst others, to support the moratorium on commercial whaling, to work towards placing the issue of environmental threats to cetaceans permanently on the IWC agenda and to ensure that international trade in whale products is prohibited.

#### **4.1 Future prospects conclusion<sup>2.8</sup>** **Favourable**

### **5. Overall Conclusion<sup>2.8</sup>** **Favourable**

All four parameters have been assessed as Favourable. Hence, the overall conclusion is also Favourable.

**Table 5.1** Summary of conclusions

Parameter	Judgement	Grounds for Judgement (in accordance with Annex C)	Reliability*
Range	Favourable	Range is stable and not smaller than the favourable reference range	2
Population	Favourable	Population is stable and not less than the favourable reference population	2
Habitat	Favourable	Area of habitat is sufficiently large and habitat quality is suitable for the long-term survival of the species	2
Future Prospects	Favourable	Main pressures and threats to the species are not significant; species expected to remain viable over the next 12 years	2
Overall Assessment	Favourable	All Favourable	2

\*1=High, 2=Moderate, 3=Low

High – Expert opinion is that the concluding judgement accurately reflects the current situation based on a professional understanding of the species. For range, population, and habitat, quality of data used to establish the current estimate has been identified as “good”; data used to inform trends is comprehensive and up to date.

Moderate – A greater understanding of the feature, or the factors affecting it, is required before a confident concluding judgement can be made by experts. For range, population, and habitat, the current estimate and/or trend are based on recent, but incomplete or limited survey data; or alternately, a comprehensive, but outdated (pre-1994) review.

Low – Judgements, and comprising estimates, are based predominately on expert opinion.

N/A – Assessment conclusion is “unknown”, on the basis of insufficient reliable information.

## 6. Other relevant information<sup>2.7.4</sup>

Range is a difficult parameter to define for marine mammals since they are highly mobile and their distribution can vary considerably in time and space across Member States. While understanding the distribution of marine mammal species might be helpful in assessing their conservation status and while range can be subjected to qualitative assessment, the data do not enable a quantitative estimate of surface area at present.

A transfrontier approach to population size reporting has been adopted. Estimate given as sum of broad regions (as defined by the SCANS II survey), which include UK waters. These also include all the countries bordering the North Sea, Ireland and France.

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