

IRELAND. PROGRESS REPORT ON CETACEAN RESEARCH, MAY 2003 TO MAY 2004, WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2003

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This report summarises information obtained from: University College Cork (UCC), Dúchas (The Heritage Service), Shannon Dolphin and Wildlife Foundation (SDWF), Irish Whale and Dolphin Group (IWDG), University College, Dublin (UCD), Bord Iascaigh Mhara (BIM), University of Aberdeen, Department of Zoology (UADZ), University of La Rochelle, France (ULR), Netherlands Institute for Sea Research (NIOZ), National Museum of Scotland (NMS)..

1. Species and stocks studied

Most species that occur in the waters around Ireland were studied to some extent.

Common name	Scientific name	Area/stock(s)	Items referred to
Harbour porpoise	<i>Phocoena phocoena</i>	NE Atlantic	2.1.1, 2.1.2, 4.3, 5, 7, 8, 9
Common dolphin	<i>Delphinus delphis</i>	NE Atlantic	2.1.2, 4.3, 5, 8, 9
Bottlenose dolphin	<i>Tursiops truncatus</i>	NE Atlantic	2.1.1, 2.1.2, 3.1.1, 4.3, 5, 7, 8
Striped dolphin	<i>Stenella coeruleoalba</i>	NE Atlantic	2.1.2, 4.3, 5, 8
White-sided dolphin	<i>Lagenorhynchus acutus</i>	NE Atlantic	2.1.2, 4.3, 5, 8
White-beaked dolphin	<i>L. albirostris</i>	NE Atlantic	2.1.2, 4.3, 8
Risso's dolphin	<i>Grampus griseus</i>	NE Atlantic	2.1.2, 3.1.1, 4.2, 4.3, 8
Pilot whale	<i>Globicephala melas</i>	NE Atlantic	2.1.2, 4.3, 8
Killer whale	<i>Orcinus orca</i>	NE Atlantic	2.1.2, 8
Sperm whale	<i>Physeter macrocephalus</i>	NE Atlantic	2.1.2, 4.3, 8
Minke whale	<i>Balaenoptera acutorostrata</i>	NE Atlantic	2.1.2, 4.3, 8
Fin whale	<i>Balaenoptera physalus</i>	NE Atlantic	2.1.2, 3.1.1
Humpback whale	<i>Megaptera novaeangliae</i>	NE Atlantic	2.1.2, 3.1.1, 4.1

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

UCC conducts standardised boat-based photo-ID surveys in the Shannon estuary for bottlenose dolphins. Photo-identification surveys for bottlenose dolphins at selected locations along the west coast of Ireland were also carried out in the summer of 2003 (Ingram and Rogan, 2003). Land-watch and acoustic monitoring using t-PODS was carried out to examine fine-scale behaviour and distribution of bottlenose dolphins and porpoises in Connemara (Ingram *et al.*, 2003). UCD carry out quantified effort, land-based visual surveys for harbour porpoises in Dublin Bay and off the coast of Wales. The IWDG also carry out quantified effort, land-based visual surveys from the Galley Head and other sites along the Irish coastline.

2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

A casual sightings scheme co-ordinated by the IWDG continues to operate, along with visual surveys using POPs in the Irish and Celtic Seas. During 2003 - 2004 the IWDG program of surveys on board ships of opportunity was expanded, with routes now covering the north and south Irish Sea. A series of cetacean distribution and relative abundance surveys were also conducted along the Irish Shelf on board the state research vessel. Sightings are submitted on standardised forms and entered into a database, in conjunction with Seawatch Foundation, UK. The database now contains over 5,500 sighting records.

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

A photo-identification study of the Shannon estuary bottlenose dolphin group continues (UCC). The catalogue now contains in excess of 1000 photographs of over 250 identified individuals. A separate catalogue of 125 identified bottlenose dolphins was established for other sites along the west coast of Ireland (UCC). Four boats are also being used as platforms of opportunity for photo-identification purposes in the Shannon estuary (SDWF) with 144 individual dolphins catalogued. Fluke and/or dorsal fin shots were obtained from 12 Risso's dolphins, one humpback whale and six fin whales in Irish waters during 2003

(IWDG).

Species	Feature	Area/stock	Calendar year/season/ no. photographed	Catalogued (Y/N)	Contact person/institute
Humpback whale	Fluke	N.E. Atlantic	1	Y	IWDG
Fin whale	Dorsal	N.E. Atlantic	6	Y	IWDG
Bottlenose	Dorsal fin	N.E. Atlantic	> 250	Y	UCC
Bottlenose	Dorsal fin	N.E. Atlantic	144	Y	SDWF
Risso's dolphin	Dorsal fin	N.E. Atlantic	12	Y	IWDG

3.1.2. ARTIFICIAL MARKING DATA

None

3.1.3 TELEMETRY DATA

None.

4. Tissue/biological samples collected

4.1 Biopsy samples

Species	Area/stock	Calendar year/ season no. collected	Archived (Y/N)	No. analysed	Total holdings	Contact person/institute
Humpback whale	NE Atlantic	1	Y	1	1	IWDG

4.2 Samples from bycatches

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Risso's dolphin	NE Atlantic	1	Y	Skin, blubber etc	UCC
Common dolphin	NE Atlantic	1	Y	Skin, blubber etc	UCC

4.3 Samples from stranded animals

A summary of samples collected from stranded animals throughout Ireland during 2003 is given in the following table.

Species	Area/stock	Calendar year/ season total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Fin whale	NE Atlantic	1	Y	Skin	UCC
Minke whale	NE Atlantic	1	Y	Skin, Blubber etc	UCC
White-sided dolphin	NE Atlantic	1	Y	Skin, blubber etc	UCC
Striped dolphin	NE Atlantic	4	Y	Skin, blubber etc	UCC
Common dolphin	NE Atlantic	17	Y	Skin, blubber etc	UCC
Harbour porpoise	NE Atlantic	10	Y	Skin, blubber	UCC

*e.g. liver, skin, blubber etc.

5. Pollution studies

Samples for contaminant analysis are routinely collected and archived. Samples for heavy metals are sent to the university of La Rochelle and for POPS to NIOZ in the Netherlands. A three – year EU funded project on contaminant levels in cetaceans, co-ordinated by UADZ, has just been completed (BIOCET – Bioaccumulation of persistent organic pollutants in small cetaceans in European waters: transport, pathways and impact on reproduction).

6. Statistics for large cetaceans

6.1 Direct catches (commercial, aboriginal and scientific permits) for the calendar year 2003

None

6.2 Other non-natural mortality for the calendar year 2003

None determined

7. Statistics for small cetaceans

7.1 For the calendar year 2003

During the reporting period an observer scheme operated on modified pelagic trawls targeting albacore tuna. Observer coverage and effort was low and one common dolphin was caught (BIM). In addition to this, a Risso's dolphins was reported bycaught in a pelagic trawler and a common dolphin was caught in drift nets. An additional five common dolphins were diagnosed as bycatch during post-mortem examination (UCC).

8. Strandings

The IWDG, in conjunction with UCC and Dúchas, co-ordinate the strandings scheme. All stranding records are published annually in the Irish Naturalists' Journal. A total of 114 cetaceans were reported stranded along the Irish coastline in 2003, comprising 11 species. Full post mortem examination and sampling was carried out on 25 individuals and minimum sampling (skin and teeth) on an additional ten animals (UCC).

9. Other studies and analyses

Dietary, morphometric and reproductive studies have been completed on the common dolphin (Brophy, 2003, Murphy, 2004). Skulls continue to be archived at the National Museum of Scotland. A genetic study to examine stock and social structure for common, striped and white-sided dolphins continue (UCC), as does a study of helminth parasites in small cetaceans (UCC).

10. Literature cited

- Brophy, J.T., 2003. The diet of the common dolphin, *Delphinus delphis* in Irish waters. MSc thesis, National University of Ireland, Cork. 71pp
- Ingram, S.N., Englund, A., and Rogan, E. 2003. Habitat use, abundance and site fidelity of bottlenose dolphins (*Tursiops truncatus*) in Connemara coastal waters, Co Galway. Report to the Heritage Council of Ireland (# 12314), 25pp.
- Ingram, S.N. and Rogan, E. 2003. Estimating abundance, site fidelity and ranging patterns of bottlenose dolphins (*Tursiops truncatus*) in the Shannon estuary and selected area of the west-coast of Ireland. Report to National Parks and Wildlife Service, December 2003. 28pp.
- Murphy, S. 2004. The biology and ecology of the short-beaked common dolphin *Delphinus delphis* in the North-east Atlantic. PhD thesis, National University of Ireland, Cork. 281pp.

11. Publications

11.1 Published or 'In Press' papers only

- Berrow, S. (2003) An assessment of the framework, legislation and monitoring required to develop genuinely sustainable whalewatching. In *Marine Ecotourism: Issues and Experiences*. Eds. Garrod, B and Wilson. J. Channel View Publications. ISBN 1-853150-42-3. pages 66-78.
- Berrow, S. (2003) Developing sustainable whalewatching in the Shannon estuary. In *Marine Ecotourism: Issues and Experiences*. Eds. Garrod, B and Wilson. J. Channel View Publications. ISBN 1-853150-42-3. pages 198-203.
- Cotton, D. C. F. & Murphy, S. (2004). Cuvier's beaked whale *Ziphius cavirostris* Cuvier, in Co Sligo. *Irish Naturalists' Journal*.
- Murphy, S. & Rogan, E. (2004). Records from the Irish Whale and Dolphin Group 2000-2001. *Irish Naturalists' Journal*.
- Murphy, S. & Rogan, E. (in press). Records from the Irish Whale and Dolphin Group 2002. *Irish Naturalists' Journal*.