

IRELAND. PROGRESS REPORT ON CETACEAN RESEARCH, MAY 2004 TO MAY 2005, WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2004

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This report summarises information obtained from: Bord Iascaigh Mhara (BIM), [Environment & Heritage Service, Northern Ireland \(EHS\)](#), Irish Whale and Dolphin Group (IWDG), National Museum of Scotland (NMS), National Parks & [Wildlife Service \(NPWS\)](#), Netherlands Institute for Sea Research (NIOZ), Shannon Dolphin and Wildlife Foundation (SDWF), University of Aberdeen, Department of Zoology (UADZ), University College, Cork (UCC), [University College, Dublin \(UCD\)](#).

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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, 4.2, 4.3, 5, 7, 8, 9
Bottlenose dolphin	<i>Tursiops truncatus</i>	NE Atlantic	2.1.1, 2.1.2, 3.1.1, 4.3, 5, 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, 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
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	NE Atlantic	2.1.2, 4.3
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	NE Atlantic	2.1.2
Sowerby's whale	<i>Mesoplodon bidens</i>	NE Atlantic	2.1.2, 4.3, 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, 8
Fin whale	<i>Balaenoptera physalus</i>	NE Atlantic	2.1.2,
Humpback whale	<i>Megaptera novaeangliae</i>	NE Atlantic	2.1.2, 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 and Kenmare [River](#) 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 2004 (Ingram *et al.*, 2005a, b). SDWF continued carrying out winter transects (including previously unsurveyed areas upriver). Land-watch and acoustic monitoring using t-PODS was carried out to examine fine-scale behaviour and distribution of bottlenose dolphins and porpoises in selected locations along the south and west coast of Ireland (Ingram *et al.*, 2005c). Acoustic monitoring of the approaches to the Shannon estuary and land-based visual surveys were also carried out in the Shannon estuary in 2004 (Ingram *et al.*, 2004, 2005d). 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 eight sites in eight counties along the Irish coastline. A study of large whales (fin and humpback) off County Cork was carried out by the IWDG and attempted to describe the physical and biological environment associated with changes in whale abundance (Berrow *et al.*, 2003).

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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. Effort related surveys using POPs in Irish waters continued to expand in 2004. Monthly ferry routes covering the central and south Irish Sea continue. A series of cetacean distribution and relative abundance surveys were conducted over six months, from May to September, along the Irish Shelf and Rockall Bank on board the state research vessel. Sightings are submitted on standardised forms and entered into a database. A total of 820 sightings were submitted during this period and the database now contains over 5,500 sighting records and data are available to search via the IWDG website: www.iwdg.ie/iscope/. UCC continue to expand upon their offshore cetacean distribution database. Six surveys were conducted during a total of 16 weeks between July 2004 and May 2005. The surveys were conducted in the Celtic Sea, the Porcupine Bank, the Malin Shelf, the Irish Shelf,

the Hebrides Shelf, the Rockall Trough, the Rockall Bank and the Hatton Bank. All data generated from UCC surveys contributes to the European Seabirds at Sea (ESAS) database.

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). Tour 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 six humpback and 10 fin whales in Irish waters during 2004 (IWDG/UCC). Between year matches of individual whales were made.

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

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
Humpback whale	NE Atlantic	1	Y	Skin, blubber etc	IWDG
Common dolphin	NE Atlantic	2	Y	Skin, blubber etc	UCC

4.3 Samples from stranded animals

A summary of samples collected from stranded animals throughout Ireland during 2004 is given in the following table.

Species	Area/stock	Calendar year/	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Sperm whale	NE Atlantic	1	Y	Skin, blubber	IWDG
Pilot whale	NE Atlantic	1	Y	Skin	UCC
Sowerby's beaked whale	NE Atlantic	1	1	Skin	UCC
White-sided dolphin	NE Atlantic	1	Y	Skin, blubber etc	UCC
White-beaked dolphin	NE Atlantic	1	Y	Skin, blubber etc	UCC
Bottlenose dolphin	NE Atlantic	1	Y	Skin	UCC
Striped dolphin	NE Atlantic	1	Y	Skin, blubber etc	UCC
Common dolphin	NE Atlantic	10	Y	Skin, blubber etc	UCC
Harbour porpoise	NE Atlantic	1	Y	Skin, blubber etc	UCC

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

5. Pollution studies

Samples for contaminant analysis are routinely collected and archived (UCC). Results on levels of hexabromocyclodecane (HBCD), a commercial flame-retardant showed that harbour porpoises stranded on the Irish and Scottish coasts of the Irish sea and the northwest of Scotland were significantly higher than those in all other areas, except the south coast of Ireland (NIOZ/UADZ). Common dolphins found on the west coast of Ireland also had the highest levels of the chemical (Zegers *et al.*, 2005).

6. Statistics for large cetaceans

6.1 Direct catches (commercial, aboriginal and scientific permits) for the calendar year 2004

None

6.2 Other non-natural mortality for the calendar year 2004

Species	Area/stock	Males	Females	Total	Cause	Methodology
Humpback whale	NE Atlantic	ND	ND	1	Entanglement	Observed entangled

A humpback whale died as a result of entanglement in lobster pot ropes off the northwest coast of Ireland (55°12' 11"N, 06°56'40"W) in September (NPWS/EHS). The animal was observed (dead) entangled, cut free and subsequently stranded in Northern Ireland (see below).

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6.2.1 STRANDINGS OR DEAD WHALES ENCOUNTERED AT SEA

Whale species	Sex	Location	Cause of death	Det.	Source or contact institution, contact name and telephone number and/or email
Sperm whale	M		U	U	UCC/IWDG - E. Rogan, E.Rogan@ucc.ie
Sperm whale	M	Irish grid ref. (F 635 215)	U	U	UCC/IWDG - E. Rogan, E.Rogan@ucc.ie
Sperm whale	M	Irish grid ref. (F 018 754)	Live stranding	N	IWDG - S.Berrow
Minke whale	U	54°22'55"N, 5°28' 01"W	U	U	UCC/IWDG - E. Rogan, E.Rogan@ucc.ie
Minke whale	M	52°12'48"N 6°43' 34"W	U	U	UCC/IWDG - E. Rogan, E.Rogan@ucc.ie
Humpback whale	U	55°14'51"N 6°29' 44"W	Entanglement	V	NPWS/EHS - E. Rogan, E.Rogan@ucc.ie

6.2.2 OBSERVED OR REPORTED SHIP STRIKES

None

6.2.3 FISHERY BYCATCH

Whale species	Sex	Date	Location	Fate	Targeted fish species	Gear	How observed	Source/contact
Humpback whale	U	September 2004	55°14'51"N 6°29' 44"W	D	Lobster	FPO	DA	As above

6.3 Earlier years' statistics

7. Statistics for small cetaceans

7.1 For the calendar year 2004

During the reporting period an observer scheme operated on modified paired pelagic trawls targeting albacore tuna. Observers monitored 35 hauls and two common dolphins were caught in a single haul (BIM). In addition to this, one common dolphin was recovered from a drift gillnet targeting salmon (UCC) and a modified pelagic trawl during an

acoustic survey for herring (UCC). One additional common dolphin, harbour porpoise and Atlantic white-sided dolphin were diagnosed as bycatch during post-mortem examination (UCC)*.

Species	Area/stock	Directed catch		Incidental mortality		Live-capture	
		Reported	Est. total	Reported	Est. total	Source	Reported
Common dolphin	NE Atlantic	0	0	2	U	Pair trawl	0
	NE Atlantic	0	0	1	U	Drift net	0
	NE Atlantic	0	0	1	U	Pelagic trawl	0
Harbour porpoise	NE Atlantic	0	0	1	U	Stranded*	0
Common dolphin	NE Atlantic	0	0	1	U	Stranded*	0
White-sided dolphin	NE Atlantic	0	0	1	U	Stranded*	0

8. Strandings

The IWDG, in conjunction with UCC and NPWS, co-ordinate the strandings scheme. All stranding records are published annually in the Irish Naturalists' Journal. A total of 137 cetaceans were reported stranded along the Irish coastline in 2004, comprising a minimum of 13 species. Full post mortem examination and sampling was carried out on 13 individuals and minimum sampling (skin and teeth) on an additional five animals (UCC).

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9. Other studies and analyses

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). An EU funded project (NECESSITY) investigating ways of mitigating bycatch of dolphins in pelagic trawls has commenced (BIM, UCC).

10. Literature cited

- Berrow, S.D., Oliver, G., Roden, C. & Whooley, P. 2003. Large whale survey off the south coast of Ireland. Report to the Heritage Council of Ireland (#12290), 30pp.
- Ingram, S.N. & Englund, A. & Rogan, E. 2004. Methods of best practice for the use of T-PoD passive acoustic detectors for marine mammal research in Irish waters. Report to the Irish Heritage Council, 23pp.
- Ingram, S.N., O'Donovan, M., Englund, A., Walshe, L. & Rogan, E. (2005a). A review of marine nature tourism in Ireland and an assessment of the potential for boat-based marine eco-tourism in Tralee Bay and adjacent waters. Report to Tuatha Chiarraí Teo. University College Cork, 26pp.
- Ingram, S.N., Englund, A., O'Donovan, M., Walshe, L. & Rogan, E. (2005b). A survey of marine wildlife in Tralee Bay and adjacent waters. Report to Tuatha Chiarraí Teo. University College Cork, 20pp.
- Ingram, S.N., Englund, A., O'Donovan, M., Walshe, L. & Rogan, E. (2005c). An assessment of the potential for dolphin-listening ecotourism at sites on the Kerry shore of the outer Shannon estuary. Report to Tuatha Chiarraí Teo. University College Cork, 15pp.
- Ingram, S.N., O'Donovan, M., Englund, A., Walshe, L. & Rogan, E. (2005d). An assessment of the potential for shore-based marine nature tourism on the Kerry shore of the outer Shannon estuary. Report to Tuatha Chiarraí Teo. University College Cork, 23pp.
- Zegers, B.T., Mets, A., Van Bommel, R., Minkenberg, C., Hamers, T., Kamstra, J., Pierce, G., & Boon, J. 2005. Levels of hexabromocyclodecane in harbor porpoises and common dolphins from western European Seas, with evidence of stereoisomer-specific biotransformation by cytochrome P450. *Environ. Sci. Technol.* 39, 2095 – 2100.

11. Publications

11.1 Published or 'In Press' papers only

- Berrow, S. & O'Brien, J (2005). Sperm whale *Physeter macrocephalus* L. calf, live stranded in Co Clare. *Irish Naturalists' Journal* 28 (1) 40 – 41.
- Brophy, J., Murphy, S. & Rogan, E. (in press). Records from the Irish Whale and Dolphin Group for 2003. *Irish Naturalists' Journal*
- Hurley, J. & Murphy, S. 2005. Sowerby's beaked whale *Mesoplodon bidens* Sowerby, in Co Wexford. *Irish Naturalists' Journal* 28 (1) p41.
- Murphy, S., Mirimin, L., Englund, A. & Mackey, M. 2005. Evidence of a violent interaction between *Delphinus delphis* L. and *Tursiops truncatus* (Montagu). *Irish Naturalists' Journal* 28 (1) 42 – 43.
- Murphy, S. & Rogan, E. (2005). Records from the Irish Whale and Dolphin Group for 2002. *Irish Naturalists' Journal* 28 (1) 37 – 40
- Murphy, S., Collet, A. & Rogan, E. (in press). Mating strategy in the male common dolphin *Delphinus delphis*: what gonadal analysis tells us. *Journal of Mammalogy*.
- Wall, D. (2004). Risso's dolphin *Grampus griseus* (Cuvier) in Co Wicklow. *Irish Naturalists' Journal*, 27(9), 366.

