

IRELAND PROGRESS REPORT ON CETACEAN RESEARCH  
APRIL 1999 TO APRIL 2000

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This report summaries cetacean research involving University College Cork (UCC), Duchas (The Heritage Service), Shannon Development (SD), Irish Whale and Dolphin Group (IWDG), University College, Dublin (UCD), Sea Mammal Research Unit, St. Andrews, Scotland (SMRU), University of Aberdeen, Department of Zoology (UADZ).

## 1 Species and stocks studied

All species that occur in 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	4,5,7
Common dolphin	<i>Delphinus delphis</i>	NE Atlantic	4,5,7
Bottlenose dolphin	<i>Tursiops truncatus</i>	NE Atlantic	3,4
Striped dolphin	<i>Stenella coeruleoalba</i>	NE Atlantic	4,5,7
White-sided dolphin	<i>Lagenorhynchus acutus</i>	NE Atlantic	4,5
Risso's dolphin	<i>Grampus griseus</i>	NE Atlantic	8
Pilot whale	<i>Globicephala melas</i>	NE Atlantic	4,5
Sperm whale	<i>Physeter macrocephalus</i>	NE Atlantic	4
Pygmy sperm whale	<i>Kogia breviceps</i>	NE Atlantic	4,
Northern Bottlenose whale	<i>Hyperoodon ampullatus</i>	NE Atlantic	4,5
Cuviers beaked whale	<i>Ziphius cavirostris</i>	NE Atlantic	4
Minke whale	<i>Balaenoptera acutorostrata</i>	NE Atlantic	4

## 2 Sightings data

### 2.1 Fieldwork

#### 2.1.1 SYSTEMATIC

UCC conducts standardised boat-based photo-id surveys in the Shannon estuary for bottlenose dolphins. They also conduct land-based visual studies of fine-scale behaviour and distribution of *Tursiops* in core areas within the estuary.

The IWDG carry out quantified effort, land-based visual surveys from the Old Head of Kinsale (Whooley, 2000).

#### 2.1.2 OPPORTUNISTIC PLATFORMS OF OPPORTUNITY

UCC conducted visual surveys in the waters to the north and west of Ireland and the Rockall Trough. A sightings scheme co-ordinated by the IWDG continues to operate. Sightings are submitted on standardised forms and entered into a database, in conjunction with Seawatch Foundation, UK.

## 3 Markings data

### 3.1 Field work

#### 3.1.1 NATURAL MARKING DATA

Photo-identification studies of the Shannon estuary bottlenose dolphin group continues (UCC). The catalogue now contains photographs of 287 identified individuals.

## 4 Tissue/biological samples collected

### 4.1 Biopsy - None

### 4.2 Samples from directed catches or bycatches

In conjunction with SMRU, an observer programme was in operation to monitor the efficacy of pingers in reducing by-catch of harbour porpoise in bottom-set nets. Observers monitored pingered and nonpingered nets.

One observer trip was also carried out in a drift-net fishery for albacore tuna.

Species	Area/stock	Calendar year/Season total	Archived (Y/N)	Tissue type(s)	Contact person/institute
Harbour porpoise	NE Atlantic	3	Y	Skin, blubber etc.	UCC
Common dolphin	NE Atlantic	8	Y	Skin, blubber etc.	UCC
Striped 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 the period April 1999 – April 2000 is given in the following table.

Common Name	Area stock(s)	Calendar year/Season total	Archived Y/N	Tissue type(s)	Contact person/institute
Harbour porpoise	NE Atlantic	6	Y	Skin, blubber etc.	UCC
Common dolphin	NE Atlantic	5	Y	Skin, blubber etc.	UCC
Bottlenose dolphin	NE Atlantic	1	Y	Skin, blubber etc.	UCC
Striped dolphin	NE Atlantic	1	Y	Skin, blubber etc.	UCC
White-sided dolphin	NE Atlantic	1	Y	Skin, blubber etc.	UCC
Pilot whale	NE Atlantic	1	Y	Skin	UCC
Sperm whale	NE Atlantic	2	Y	Skin	UCC
Pygmy sperm whale	NE Atlantic	1	Y	Skin, blubber etc.	UCC
Northern Bottlenose whale	NE Atlantic	1	Y	Skin, blubber etc.	UCC
Cuviers beaked whale	NE Atlantic	1	-	Skin	UCC

## 5 Pollution studies

Samples for contaminant analysis are routinely collected and archived. At present, there are no ongoing contaminant studies.

## 6 Statistics for large whales

6.1 *Direct catches for the calendar year 1999* -None

6.2 *Other non-natural mortality* -None

## 7 Statistics for small cetaceans

7.1 *For the calendar year 1999*

During the reporting period, one observer accompanied a trip on a vessel using drift nets, targeting albacore tuna. An observer scheme on bottom set gillnets was in operation for part of the season. In addition, two harbour porpoises, incidentally caught in tangle nets were landed. Furthermore, some stranded animals were diagnosed as bycatch at post-mortem.

Species	Incidental mortality		Bycatch determined from post-mortems
	Reported	Source	
Harbour porpoise	2	Tangle net	-
	2	Set gillnet	
Common dolphin	8	Surface gillnet	1
Striped dolphin	1	Surface gillnet	-

## 8 Strandings

The IWDG, in conjunction with Dúchas co-ordinate the strandings scheme. All strandings are published annually in the Irish Naturalists' Journal. During the reporting period, 37 stranded cetaceans,

comprising 12 species were reported to the IWDG. Post-mortem examination was carried out on 18 of these by UCC. An additional Risso's dolphin, common dolphin, striped dolphin, unidentified dolphin and two bottlenose dolphins live-stranded and were re-floated.

## 9 Other studies and analyses

The population structure of Icelandic harbour porpoises is being studied by UCD using mtDNA sequences from harbour porpoises from different areas of Iceland, using porpoises stranded in Ireland as an outgroup (Duke *et al.*, unpublished data). The population structure of bottlenose dolphins is being studied by UADZ using mtDNA sequences from *Tursiops* from different sites around the UK and Ireland (Parsons *et al.*, unpublished data).

The Shannon estuary has been nominated as a Special Area of Conservation (SAC) under the EU Habitats Directive. As part of the designation procedure, guidelines are being established for dolphin watching boats (Duchas, S.D.) and other activities within the estuary (Rogan *et al.*, 2000).

## 10 Literature cited

- Duke, S., Rogan, E. and Vikingsson, G. A preliminary analysis of the microsatellite-DNA of harbour porpoise (*Phocoena phocoena*) populations in Iceland. Poster presented at the 14th Annual European Cetacean Society, Cork, April 2000.
- Parsons, K.M., Noble, L.R. and Thompson, P.M. Defining the population structure and dispersal patterns of bottlenose dolphins (*Tursiops truncatus*) in British and Irish waters. Paper presented at the 14th Annual European Cetacean Society, Cork, April 2000.
- Rogan, E., Ingram, S., Holmes, B. and O'Flanagan, C. A survey of bottlenose dolphins (*Tursiops truncatus*) in the Shannon estuary. Marine Institute Resource Series, No.9, 46pp.
- Whooley, P. The old head of Kinsale, C. Cork: the best land-based whale-watching site in Europe. Poster presented at the 14th Annual European Cetacean Society, Cork, April 2000. Poster presented at the 14th Annual European Cetacean Society, Cork, April 2000.

## 11 Publications

### 11.1 Published or 'In Press' papers only

- Bennett, P.M., Jepson, Law, R.J., Kuiken, T., Baker, J.R., Rogan, E. & Kirkwood, J.K. Exposure to heavy metals and infectious disease mortality in harbour porpoises from England and Wales. *Environmental Pollution*, in press.
- Berrow, S.D. & Holmes, B. 1999. Tour boats and dolphins. A note on quantifying the activities of whalewatching boats in the Shannon estuary, Ireland. *J. Get. Res. & Mngt.*, 1(2), 199 -204.
- Berrow, S.D. & Rogan, E. 2000. Incidental capture of cetaceans in Irish waters. *Jr. Nat. J.* 26 (1)
- Jepson, P., Bennett, P.M., Allchin, C.R. Law, R.J., Kuiken, T., Baker, J.R., Rogan, E., & Kirkwood, J.K. 1999. Investigating potential associations between chronic exposure to polychlorinated biphenyls and infectious disease mortality in harbour porpoises from England and Wales. *Sci. Total Envir.* , 243/244, 339 -348.
- Mouzier, Y., Berrow, S.D., Tregenza, N.J.C., Couperus, A.S. & Provreau, S. 1999. Incidental captures of marine mammals in pelagic trawl fisheries of the North East Atlantic. *Fish Research* 41: 297 -307.
- Rogan, E., Ingram, S., Holmes, B. & O'Flanagan, C. A survey of bottlenose dolphins (*Tursiops truncatus*) in the Shannon estuary. Marine Institute Resource Series, No.9, 46pp.
- Smyth, M., Berrow, S.D., Nixon, E. & Rogan, E. Organochlorines levels in common dolphins and harbour porpoises from Irish coastal waters. *Biol. and Envir.* (in press).
- Wilson, B., Arnold, H., Bearzi, G., Fortuna, C.M. Ingram, S., Liret, C., Pribanic, S., Read, A., Ridoux, V., Schneider, K., Urian, K.W., Wells, R.S., Wood, C., Thompson, P.M. & Hammond, P.S. 1999. Epidermal diseases in bottlenose dolphins: impacts of natural and anthropogenic factors. *Proc. Roy. Soc., B.* 266: 1077 -1083.