

FRANCE PROGRESS REPORT ON CETACEAN RESEARCH, APRIL 2002 TO APRIL 2003, WITH STATISTICAL DATA FOR THE CALENDAR YEAR 2002.

Compiled by Vincent RIDOUX ^{1,2} and Olivier VAN CANNEYT ²

1- Université de La Rochelle, Laboratoire de Biologie et Environnement Marins, F-17042 La Rochelle

and

2- Centre de Recherche sur les Mammifères Marins, Port des Minimes, F-17000 La Rochelle.

This report compiles information obtained from: Centre Culturel et Sportif (CCS), Saint Pierre et Miquelon ; Centre de Recherche sur les Mammifères Marins (CRMM), La Rochelle ; Coordination Mammalogique du Nord de la France (CMNF) , Calais ; Ecole Pratique des Hautes Etudes (EPHE), Montpellier ; Evasion Tropicale (ET), Guadeloupe ; Groupe Ornithologiste et Naturaliste (GON), Dunkerque ; Groupe de Recherche sur les Cétacés (GREC), Antibes ; Muséum National d'Histoire Naturelle (MNHN), Paris and Station Marine de Biarritz ; Observatoire des Mammifères Marins (OMM), Mayotte ; Océanopolis, Brest ; Opération Cétacés Nouvelle Calédonie (OCNC), Nouméa ; Université de La Rochelle (LBEM/ULR), La Rochelle.

1. Species and stocks studied

Common name	Scientific name	Area/stock(s)	Items referred to
Cetaceans	<i>Cetacea</i>	French continental coast	4.3, 5, 7.1, 8, 9
Cetaceans	<i>Cetacea</i>	French continental waters	2.1.1, 2.1.2, 3.1.1, 7.1, 9
Cetaceans	<i>Cetacea</i>	Mediterranean Sea	2.1.1, 2.1.2, 3.1.1, 4.3, 7.1
Cetaceans	<i>Cetacea</i>	St-Pierre & Miquelon (NW Atl)	2.1.2, 3.1.1
Cetaceans	<i>Cetacea</i>	Caribbean Sea (Guadeloupe)	2.1.1
Cetaceans	<i>Cetacea</i>	New Caledonia	2.1.2, 4.3
Cetaceans	<i>Cetacea</i>	Mozambique Channel	2.1.1, 2.1.2, 3.1.1, 4.1
Cetaceans	<i>Cetacea</i>	French Polynesia	2.1.2
Humpback whale	<i>Megaptera novaeangliae</i>	French Polynesia	2.1.2, 3.1.1, 9
Humpback whale	<i>Megaptera novaeangliae</i>	St-Pierre & Miquelon (NW Atl)	2.1.2, 3.1.1
Humpback whale	<i>Megaptera novaeangliae</i>	New Caledonia	2.1.1, 3.1.1, 4.1
Fin whale	<i>Balaenoptera physalus</i>	Mediterranean Sea	3.1.1, 3.1.2, 3.2, 4.1
Sperm whale	<i>Physeter macrocephalus</i>	Caribbean Sea (Guadeloupe)	2.1.1, 3.1.1
Sperm whale	<i>Physeter macrocephalus</i>	Mediterranean Sea	2.1.1, 2.2, 3.1.1, 9
Bottlenose dolphin	<i>Tursiops truncatus</i>	French coasts	2.1.1, 2.1.2, 3.1.1, 4.3, 9

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

- All cetaceans, Bay of Biscay (CRMM) : an aerial survey was conducted during the summer throughout the Bay of Biscay, from the coastline to the open sea about 200 km offshore, in order to determine preferential habitats. All cetaceans were reported and relative abundance were estimated. These distributional data will be included in a GIS to examine the role of oceanographic, primary productivity and living resources spatial features in shaping the distribution of cetacean species.
- All cetaceans were surveyed year round by boat in the southern Bay of Biscay as the continuation of a 25 years long follow up (MNHN, Biarritz).
- Systematic summer and winter surveys of coastal bottlenose dolphins along the coast of western Brittany (Océanopolis), along the Atlantic coast (CRMM) and the coast of Corsica (GECM).
- Sperm whale and other cetaceans, Mediterranean Sea (GREC) : dedicated distribution survey from boat.
- Survey of all species of cetaceans across north-western Mediterranean Sea carried out by EPHE by using various platforms of opportunity (oceanographic cruises, ferry routes).
- Humpback whales, New Caledonia (OCNC). Survey held from 4 July to 8 September 2002, on the breeding area of New Caledonia (group V Antarctica).

- Humpback whales, Comoro Islands, Mayotte (OMM). OMM carry out surveys between July and September to collect sightings of humpback whales and other cetaceans in the northern Mozambic Channel.
- Sperm whale and other cetaceans, Caribbean Sea – Guadeloupe (ET). Survey along the leeward coast year round from sailing boats.

2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

- Cetaceans, French waters (CRMM). In 2002 the CRMM recorded 158 sightings of cetaceans : 113 in the Atlantic (mostly in the Bay of Biscay), 27 in the English Channel and 18 in the Western Mediterranean Sea.
- Cetaceans, English Channel and North Sea (GON, CMNF and Océanopolis). In 2002, Océanopolis continue to collect sightings from the general public.
- Cetaceans, Mediterranean Sea (GECM and EPHE). In 2002, GECM and EPHE used opportunistic platforms to collect sightings in the Mediterranean Sea.
- In the NW Atlantic, 110 observations (mainly fin, minke and humpback whales) at sea were recorded from the CCS around the St-Pierre and Miquelon Islands.
- Cetaceans, New Caledonia (OCNC). Sighting data are collected from incidental sighting forms returned by scientists.
- Cetaceans, Mayotte (OMM). Sighting data are collected from incidental sighting forms returned by scientists and the general public.
- Humpback whale, French Polynesia. Opportunistic sightings, collected by GREC.

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

Species	Feature	Area/stock	Calendar year/season/ no. Photographed	Catalogued (Y/N)	Catalogue total	Contact person/institute
Humpback whale	Fluke	NW Atlantic	2002/8	Y	not available	CCS
Humpback whale	Fluke	N. Caledonia	2002/21	Y	261	OCNC
Humpback whale	Fluke	Mozambique chan.	2002	Y	not available	OMM
Fin whale	Dors Fin	NW Med		Y	70	EPHE
Fin whale	Dors Fin	NW Med		Y		GREC
Sperm whales	Fluke	NW Med		Y	Few	EPHE
Sperm whale	Fluke	NW Med		Y		GREC
Sperm whale	Fluke	Caribbean	2002	Y	113	ET
Bottlenose dolph.	Dors Fin	Brittany		Y	42	Océanopolis
Bottlenose dolph.	Dors.Fin	Bay of Biscay	2002/summer/6	Y	6	CRMM
Bottlenose dolph.	Dors fin	NW Med	2002/summer/64	Y	about 264	GECM
Risso's dolphin	Dors Fin	NW Med		Y		GREC
Risso's dolphin	Dors fin	NW Med		Y	200	EPHE
Short-fin. pilot w.	Dors Fin	Caribbean	2002	Y	not available	ET
Long fin. pilot w.	Dors fin	NW Med		Y	Few	EPHE
Long fin. pilot w.	Dors Fin	Bay of Biscay	2002/Few	Y	not available	MNHN Biarritz
Long-fin. pilot w.	Dors Fin	Bay of Biscay	2002/summer/27	Y	67	CRMM

3.1.2 TRACKING DATA

No data collected this year.

4. Tissue/biological samples collected

4.1 Biopsy samples

Species	Area/stock	Calendar year/ season / N. collected	Archived (Y/N)	No. Anal ysed	Total holdings	Contact person/institute
Blue whale	N. Caledonia	January 2002	Y		1	OCNC
Humpback w.	N. Caledonia	July-sept 2002	Y		362	OCNC
Humpback w.	Mozambique chan.	2002	Y		96	OMM

Biopsy samples listed above are collected for genetic analyses.

4.3 Samples from stranded animals

Species	Area/stock	Calendar year/ number total	Archived (Y/N)	Tissue type(s)*	Contact person/institute
Minke whale	Atlantic	2002/1	Y	Various tissues	CRMM
Fin whale	Mediterranean	2002	N	Various tissues	GECEM
Sperm whale	Atlantic	2002/1	Y	Various tissues	CRMM
Pygmy sperm w.	New Caledonia	2002/1	Y	Skin, teeth	OCNC
Northern bot. w.	Atlantic	2002/1	Y	Various tissues	CRMM
Blainville's beaked w.	Atlantic	2002/1	Y	Various tissues	CRMM
Delphinids spp	Atlantic	2002/4	Y	Various tissues	CRMM
Common dolph.	Atlantic	2002/208	Y	Various tissues	CRMM
Striped dolph.	Atlantic	2002/13	Y	Various tissues	CRMM
Striped dolph.	Mediterranean	2002	N	Various tissues	GECEM
Bottlenose dolph.	Atlantic.	2002/10	Y	Various tissues	CRMM
Bottlenose dolph.	Mediterranean	2002	N	Various tissues	GECEM
Long fin. pilot. W	Atlantic	2002/5	Y	Various tissues	CRMM
Harbour porpoise	Atlantic	2002/19	Y	Various tissues	CRMM

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

5. Pollution studies

- Samples are collected from stranded specimens on the coasts of France by CRMM and pollutant analysis (heavy metals) are carried out by the LBEM, University of La Rochelle. In 2002, 105 specimens were sampled for ecotoxicological study, including 10 Bottlenose dolphin, 8 Striped dolphins, 82 Common dolphins, 5 Harbour porpoises. Similarly, samples were transmitted to NIOZ, Texel, the Netherlands, for POPs analyses.

7. Statistics for small cetaceans

7.1 For the calendar year 2002

- In 2002, CRMM recorded 1 by-caught delphinid and 229 stranded cetaceans with marks suggesting incidental catch in fishing gear along the Atlantic coast. For the Mediterranean Sea, GECEM reported 2 by-caught delphinids and 7 stranded delphinids with marks of by-catch.

Species	Area/stock	Directed catch		Incidental mortality			Live-capture
		Reported	Est. Total	Reported	Est. total	Source	Reported
Common dolphin	Atlantic	0	0	202	No data	CRMM	0
Striped dolphin	Atlantic	0	0	13	No data	CRMM	0
Striped dolphin	Mediterranean	0	0	7	No data	GECEM	0
Bottlenose dolphin	Atlantic	0	0	10	No data	CRMM	0
Bottlenose dolphin	Mediterranean	0	0	2	No data	GECEM	0
Long finned pilot w.	Atlantic	0	0	1	No data	CRMM	0
Harbour porpoise	Atlantic	0	0	3	No data	CRMM	0

8. Strandings

In 2002, CRMM (with a participation of all partners of *RNE* : National Stranding Network) recorded 714 stranded cetaceans along the coasts of France, among which there were 92 unidentified species, 471 common dolphins, 58 striped dolphins, 28 bottlenose dolphins, 14 long-finned pilot whales, 3 Risso's dolphins, 37 harbour porpoises, 6 balaenopterid whales, 3 beaked whales, 1 sperm whale and 1 pygmy sperm whale. Stranded cetaceans found in overseas territories are not exhaustively recorded : however partial data are available for New Caledonia (OCNC), St-Pierre and Miquelon (CCS), Guadeloupe (ETr) and Réunion Island (CRMM).

9. Other studies and analyses

- Acoustic recordings are used by GREC (Antibes), to study the stock identity of Sperm whale, in the Mediterranean Sea.
- CRMM and ULR contributed to the EU funded project BIOCET (Bioaccumulation of persistent organic pollutants in small cetaceans of European coastal water : transport pathway and effect on reproduction). The project started in January 2001 and is due to end in December 2003. CRMM is in charge of collecting tissue and organ samples from stranded or by-caught individuals and to carry out biological analyses (necropsies, determinations of age and breeding status, stomach content analyses) for all samples collected along the French Atlantic coasts. ULR is in charge of the heavy metal analyses of samples collected in all contributing countries (Scotland, Ireland, The Netherlands, Spain and France).
- CEBC, MNHN, CRMM and ULR all contributed to a survey of the effect of the Erika oil spill on marine mammals, notably delphinids. The project started in November 2001 and combines aerial surveys, boat surveys, analyses of stranding data and assessment of Vanadium and Nickel burdens (two heavy metals associated to oil) in tissues of small cetaceans.
- ULR takes part in the Bay of Biscay part of *Programme National d'Environnement Côtier*, an IFREMER large scale project of fishery ecology looking at the functioning of the pelagic ecosystems in relation to the abundance of several target species, notably the anchovy and the albacore tuna. In this framework, ULR is in charge of investigating the trophic and competitive relationships of the common and striped dolphins. This approach includes dietary analyses and ecosystem modelling.
- Studies of home range and habitat usage by coastal bottlenose dolphins are conducted in relation with conservation issues by Océanopolis in Brittany (Marine National Park in preparation).

11. Publications

11.1 Published or 'In Press' papers only

Bustamante P., Garrigue C., Breau L., Caurant F., Dabin W., Greaves J. & Dodemont R. (2003). Trace elements in two odontocete species (*Kogia breviceps* and *Globicephala macrorhynchus*) stranded in New Caledonia (South Pacific). *Environmental pollution* (in press).

Dabin W., Cesarini C., Clémenceau I., Dhermain F., Jauniaux T., Van Canneyt O. & Ridoux V. 2003. A double-faced monster of bottlenose dolphin (*Tursiops truncatus*) in the Mediterranean Sea. *Veterinary Record*, (in press).

Garrigue C., Aguayo, A., Amante-Helweg, V., Baker, C.S., Caballero, S., Clapham, P., Constantine, R., Denking, J., Donoghue, M., Florez-Gonzalez, L., Greaves, J., Hauser, N., Olavarria, O., Pairoa, C., Peckham, H. & Poole, M. (2002). Movements of humpback whales in Oceania, South Pacific. *Journal of Cetacean Research and Management* 4 (3) : 255-260.

Kiszka J., Hassani S. & Pezeril S., 2002. A status review of cetaceans off the French Channel coasts. *Organisation Cetacea* (ORCA), n°2 : 93-98.

Kiszka J., 2003. Statut préliminaire du marsouin commun (*Phocoena phocoena*) dans le nord de la France. *Arvicola*, (in press).

Le Berre, I., Gourmelon, F. & Liret, C. 2002. Modélisation bathymétrique de la mer d'Iroise : application à l'étude du grand dauphin côtier. *Revue Internationale de Géomatique*. Vol. 12, n°3 : 337-354.

11.2 Unpublished literature

Caurant F. & Bustamente P. 2002. Cadmium and mercury in four species of marine mammals from the Faroe Islands : factors responsible for the concentrations. *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Cesarini C., Clémenceau I., Buttafoco, M.A., Dhermain F., Van Canneyt O., Dabin W., Ridoux V. & Jauniaux T., 2002. Exceptional record of a doubled-faces monster of bottlenose dolphin (*Tursiops truncatus*) in the Mediterranean sea, France. *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Constant J., 2002. Des cétacés en Méditerranée. *Rapport de législation, BTA GFS*. 18 p.

Cossais F., 2002. Détermination du statut reproducteur du dauphin commun (*Delphinus delphis*) - Etude de l'organisation sociale d'un groupe. *DUT Analyses Biologiques, IUT de La Rochelle* : 34p

Demaret F., 2002. Détermination du statut reproducteur chez le dauphin commun (*Delphinus delphis*) - Caractérisation des états reproducteur lors des échouages multiples. *DUT Analyses Biologiques, IUT de La Rochelle* : 56p.

Dhermain F. & Soulier L., 2002. Natural mortality of cetaceans in the Mediterranean sea. in Notabartolo di Sciara (ed). Cetaceans of the Mediterranean and Black Seas. State of knowledge and Conservation strategies , Monaco : 167-180.

Dhermain F., Ripoll T., & Baril D., 2002. Suivi hivernal du Grand Dauphin en Corse. Rapport intermédiaire novembre 2002. *Rapport GECEM pour la DIREN Corse et l'Office de l'Environnement Corse* , 26 p.

Dhermain F., 2002. Protocole d'exploitation des données d'échouage pour la connaissance scientifique. Les échouages de cétacés en Méditerranée, années 1999 à 2002. *Rapport GECEM pour le Parc National de Port-Cros* , contrat 02*12 : 83 p.

Garrigue C., Baker C.S., Dodemont R. & Steel D. 2002. Estimating the abundance of humpback whales in New Caledonia using DNA genotyping and photo-identification. IWC. SC/54/H9.

Garrigue C., Clua E. & Breitenstein B. 2003. Identification of a juvenile pygmy blue whale (*Balaenoptera musculus brevicauda*) in New Caledonia, South-West Pacific. IWC. SC/55/SH.

Gourmelon F., Liret C. & Le Berre, I. 2002. Approche dynamique de la répartition spatiale du grand dauphin. *Actes du colloque de Géomatique Cassini*. A paraître.

Hassani S., Kiska J. & Pezeril S., 2002. Review of 20 years (1980-2000) of occasional cetaceans sightings off the French Channel coasts. *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Kiszka J. & Jauniaux T. 2002. Suspicion of collision in a Sowerby's beaked whale (*Mesoplodon bidens*) stranded on the northern French coast. *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Kiszka J. 2002. Statut du marsouin commun (*Phocoena phocoena*) dans le nord de la France et perspectives futures pour sa conservation. Rapport GON, Direction Régionale de l'Environnement, région Nord-Pas-de-Calais.

Lahaye V., Van Canneyt O. & Ridoux V., 2002. Seasonal distribution and movements of long-finned pilot whales (*Globicephala melas*) in the bay of Biscay (France). *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Liret C., Le Berre N. et Stephan E. 2002. Statut des groupes de grands dauphins côtiers en mer d'Iroise. Contrat DIREN Bretagne.

Meynier L. Hassani S. & Ridoux V. 2002. Modelling prey competition between dolphins and tuna in the north-east Atlantic. *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Van Canneyt O. 2002. Structure bio-démographique du dauphin commun (*Delphinus delphis*) lors des échouages multiples sur la côte atlantique française : mise en évidence des captures accidentelles et effet démographique potentiel. *DEA EDEL, Université de La Rochelle* : 44p.

Van Canneyt O. 2002. Les échouages de mammifères marins sur le littoral français en 2001. *Annual report, Ministry of the Environment, CRMM, La Rochelle*, 38 pages.

Van Canneyt O., Davoust L., Dabin W. & Ridoux V., 2002. Population characteristics of the common dolphin, *Delphinus delphis*, during multiple stranding events in the north-east Atlantic : evidence for by-catch and potential demographic effects. *16th ECS Conference, Liège, Belgique, 7-11 April 2002*.

Wickel J., Journet M., Nicet J.B., Abdou I., Abellard O., 2003. Observatoire des mammifères marins. Analyse des observations de baleines à bosse 2000-2001-2002 et rapport d'activités 2002.