

**FRANCE PROGRESS REPORT ON CETACEAN RESEARCH, APRIL 2004 TO APRIL 2005, WITH
STATISTICAL DATA FOR THE CALENDAR YEAR 2004.**

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1. Species and stocks studied

Common name	Scientific name	Area/stock(s)	Items referred to
Cetaceans	<i>Cetacea</i>	French coastal waters, NE Atlantic, NW Mediterranean sea, Caribbean, New Caledonia, Southern Indian Ocean	2.1; 2.2 ; 8; 9
Humpback whale	<i>Megaptera novaeangliae</i>	French Polynesia, La Réunion, Mayotte, New Caledonia, Caribbean (Martinique)	2.1; 3.1; 4.1; 9
Minke whale	<i>Balaenoptera acutorostrata</i>	Atlantic; New Caledonia	4.1; 7.1; 8
Fin whale	<i>Balaenoptera physalus</i>	NW Mediterranean Sea	4.3; 8; 9
Sperm whale	<i>Physeter macrocephalus</i>	NW Mediterranean Sea, Caribbean (Martinique)	2.1; 3.1; 3.2; 4.3; 8; 9
Pygmy sperm whale	<i>Kogia breviceps</i>	Atlantic, Mediterranean	8
Dwarf sperm whale	<i>Kogia simus</i>	New Caledonia	4.3
Beaked whale	<i>Mesoplodon spp.</i>	Mayotte	3.1
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Mediterranean, Atlantic	8
Delphinids		Mediterranean, Atlantic	2.1; 2.2; 4.1; 5; 7.1; 8; 9
Killer whale	<i>Orcinus orca</i>	Southern Indian Ocean, Mediterranean	2.1; 8
Long-finned pilot whale	<i>Globicephala melas</i>	Atlantic, Mediterranean	4.3; 7.1; 8
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	French Polynesia	3.2; 4.1; 9

Melon-headed whale	<i>Peponocephala electra</i>	Mayotte, Atlantic	3.1; 8
Risso's dolphin	<i>Grampus griseus</i>	NW Mediterranean Sea	2.1; 3.1; 4.3; 8
Common bottlenose dolphin	<i>Tursiops truncatus</i>	French coasts, NE Atlantic, NW Mediterranean, New Caledonia	2.1, 3.1, 4.3; 7.1; 8
Indian Ocean bottlenose dolphin	<i>Tursiops aduncus</i>	Mayotte	3.1; 9
Short-beaked common dolphin	<i>Delphinus delphis</i>	NE Atlantic	4.3; 5; 7.1; 8; 9
Pan-tropical spotted dolphin	<i>Stenella attenuata</i>	Mayotte	2.1; 9
Striped dolphin	<i>Stenella coeruleoalba</i>	NW Mediterranean, NE Atlantic	2.1; 3.1; 4.3; 7.1; 8
Spinner dolphin	<i>Stenella longirostris</i>	Mayotte, French Polynesia	2.1; 3.1; 3.2; 4.1; 9
Tucuxi	<i>Sotalia fluviatilis</i>	French Guyana	7.1
Rough-toothed dolphin	<i>Steno bredanensis</i>	Mayotte, French Polynesia	3.1; 3.2; 4.1; 9
Harbour porpoise	<i>Phocoena phocoena</i>	NE Atlantic and Channel	4.3; 5; 8

2. Sightings data

2.1 Field work

2.1.1 SYSTEMATIC

- All cetaceans, Bay of Biscay (CRMM), surveyed for identification of preferential habitats and relationship with small pelagic fish examined during anchovy and sardine acoustic survey carried out by *Ifremer* research vessel *Thalassa* in May.
- All cetaceans were surveyed year round by boat in the southern Bay of Biscay as the continuation of a 26-year-long follow-up; effects of oil spills and oceanographic and climatic changes on population levels (MNHN, Biarritz).
- All cetaceans were surveyed in the summer along the routes of the supply vessel *Marion-Dufresne* between La Réunion Island and the French research stations of the Southern Indian Ocean: Crozet, Kerguelen and Amsterdam (CEBC).
- Humpback whales and other cetaceans, French Polynesia (GREC), surveyed from sailing boats in October 2004.
- Humpback whales, New Caledonia (OCNC), surveyed from 31 July to 12 September 2004, on the breeding area of northern New Caledonia lagoon (group V Antarctica).
- Humpback whales and other cetaceans surveyed around La Réunion Island (GLOBICE).
- Humpback whales, Mayotte (OMM), surveyed from July-November; relative abundance and diversity of other cetaceans are monitored year round in and outside the lagoon.
- Humpback whales and sperm whales were surveyed around Martinique (French Caribbean) in March and Novembre 2004 by GREC and SEPANMAR.
- Sperm whale, striped dolphins and other cetaceans (GREC) and Risso's dolphin (GECM) in the northwest Mediterranean Sea were subjects of dedicated distribution survey from boat with the aim of investigating their relationships with environmental structure.
- Sperm whale and other cetaceans, Caribbean Sea, Guadeloupe (ET), were surveyed along the leeward coast, year-round from sailing boats.
- Killer whale population survey continuing at the Crozet Islands (CEBC).
- Spinner dolphin, French Polynesia (CRIOBE), surveyed from August-November.
- Systematic summer and winter surveys of coastal bottlenose dolphins along the coast of western Brittany (Océanopolis), along the Normandy coast (GECC) and the coast of Corsica (GECM).

2.1.2 OPPORTUNISTIC, PLATFORMS OF OPPORTUNITY

- All Cetaceans, Atlantic, Mediterranean and Channel. CRMM, Océanopolis, GEFMA, GECEM and GECC compile opportunistic sightings in various areas of the Atlantic and Channel, collected by members of the public, custom officers and scientists.
- All Cetaceans, New Caledonia (OCNC). Sighting data are collected from incidental sighting forms returned by scientists.
- All Cetaceans, Mayotte (OMM). Sighting data are collected from incidental sighting forms returned by scientists, whale and dolphin watching operators and the general public.
- Odontocetes, French Polynesia (CRIOBE). Opportunistic data are collected by scientists.
- Cetaceans, La Réunion (GLOBICE). Sighting data are collected from sighting forms returned by scientists and the general public.
- Some opportunistic observations of humpback whales were collected by GREC in the Antarctic Peninsula area.

2.2 Analyses

Aerial survey data, collected during previous years, were used in a preliminary minimal abundance estimate of common dolphins and other small delphinids in the Bay of Biscay, by using distance sampling methodology (CRMM and LBEM).

3. Marking data

3.1 Field work

3.1.1 NATURAL MARKING DATA

Species	Feature	Area/stock	Calendar year / no. Photographed	Catalogued (Y/N)	Catalogue total	Contact person/institute
Humpback whale	Fluke	N. Caledonia	2004/37	Y	313	OCNC
Humpback whale	Fluke	Mozambique chan.	2004/39	Y	223	OMM
Sperm whale	Fluke	NW Med	2004/15	Y	120	GREC
Sperm whale	Fluke	Caribbean (Martinique)	2003-2004/7	Y	7	SEPANMAR/GREC
Beaked whale	Sides	Mozambique Channel	2004/7	Y	7	OMM
Spinner dolphin	Dors fin	French Polynesia	2004	Y(103)	170	CRIOBE
Steno	Dors fin	French Polynesia	2004	Y(50)	Not available	CRIOBE
Bottlenose dolph.	Dors Fin	Brittany	2004	Y	48	Océanopolis
Bottlenose dolph.	Dors fin	New Caledonia	2004/*	Y	*	OCNC
Striped dolphin	Dors fin	Mediterranean	2004/66	Y	111	CRC
Ind. Bottlenose d.	Dors fin	Mozambique Channel	2004/41	Y	41	OMM
Risso's dolphin	Dors Fin	NW Med	2004	Y(30)	250	GREC
Melon headed w.	Dors fin	Mozambique Channel	2004/64	Y	64	OMM

*details not available: newly established catalogue

3.1.2 TRACKING DATA

None in 2004.

3.2 Analyses

Demographic investigations based on photo-identification have been conducted by CRIOBE on the spinner dolphin communities of the Society Archipelago, French Polynesia. The analyses include: estimate of community size based on capture-mark-recapture methodologies, home range and migration events, analysis of the pattern of associations. Residency patterns of rough-toothed dolphins and short finned pilot whales around the island of Moorea are under investigation by matching dorsal fin photographs collected across the last 15 years.

Long-term photographic follow-up of common bottlenose dolphin, with investigation of long-term changes in group size and structure, is continuing in Western Brittany (Océanopolis).

GREC participates to the EU project EUROPHLUKES, in particular to compare pictures of tail flukes in sperm

whales.

Cetacean abundance estimates are being carried out, by using capture-mark-recapture methodologies, by OMM around Mayotte, as well as studies of site fidelity and inter-individual associations.

4. Tissue/biological samples collected

4.1 Biopsy samples

Species	Area/stock	Calendar year/ season / N. collected	Archived (Y/N)	No. Analysed	Total holdings	Contact person/institute
Minke whale	N. Caledonia	Winter 2003/1	Y	*	1	OCNC
Humpback w.	N. Caledonia	July-Sept 2004/47	Y	*	506	OCNC
Humpback w.	Mozambique chan.	July-Nov 2004/5	Y	*	101	OMM
Delphinids	Mozambique chan.	2004/60	Y	*	60	OMM
Spinner dolphin	French Polynesia	2004/85	Y	*	209	CRIOBE
Steno	French Polynesia	2004/46	Y	*	73	CRIOBE
Short-finned pilot w.	French Polynesia	2004/8	Y	*	37	CRIOBE

* complete information not available to date

Biopsy samples listed above are collected for genetic analyses and/or fatty acid analyses.

4.3 Samples from stranded animals

Species	Area/stock	Calendar year/ number	Archived (Y/N)	Tissue type (s) **	Contact person/institute
Fin whale	Atlantic	2004/*	Y	Various tissues	CRMM
Sperm whale	New Caledonia	2004/1	Y	Skin, teeth	OCNC
Dwarf Sperm whale	New Caledonia	2004/1	Y	Skin, teeth, stomach	OCNC
Spinner dolphin	French Polynesia	2004/1	Y	Skin, teeth	CRIOBE
Common dolphin	Atlantic	2004/*	Y	Various tissues	CRMM/GEFMA/GECC
Striped dolphin	Atlantic	2004/*	Y	Various tissues	CRMM
Striped dolphin	Mediterranean	2004/*	Y	Various tissues	GECEM
Bottlenose dolphin	Atlantic.	2004/*	Y	Various tissues	CRMM/GEFMA
Bottlenose dolphin	Mediterranean	2004/*	Y	Various tissues	GECEM
Long finned pilot whale	Atlantic	2004/*	Y	Various tissues	CRMM
Risso's dolphin	Atlantic	2004/*	Y	Various tissues	CRMM
Harbour porpoise	Atlantic	2004/*	Y	Various tissues	CRMM/GECC
Common dolphin	Brittany	2004/3	Y	Various tissues	Océanopolis
Harbour porpoise	Brittany	2004/2	Y	Various tissues	Océanopolis
Long finned pilot whale	Brittany	2004/1	Y	Various tissues	Océanopolis
Fin whale	Brittany	2004/1	Y	Various tissues	Océanopolis
Sperm whale	Brittany	2004/1	Y	Various tissues	Océanopolis

* data not compiled to date

** typically, "various tissues" means: teeth, skin, blubber, reproductive organs, stomach contents, kidney, liver, muscle

5. Pollution studies

The post-*Erika*-oil-spill survey revealed no particular effect on small delphinids either in terms of direct mortality, of morbidity, or of accumulation of vanadium and nickel, two heavy metals associated with oil (LBEM and CRMM).

The EU-funded project BIOCET (Transfer and accumulation of contaminants in small cetaceans of European waters and their effect on reproduction) was completed in early 2004. Although toxic element burdens were

generally not high, it should be noted that, in all four cetacean species, the calculated exposure to mercury in animals from the Bay of Biscay was higher than the Provisional Tolerable Weekly Intake determined by the World Health Organisation at 4.6 µg/kg/week since results for the Bay of Biscay were from 14 to 17.6 µg/kg/week. The analysis of POP burden showed that the diet was the main explanatory variable. Higher level of PCBs (in the southern North Sea) corresponds to lower fecundity rates in the harbour porpoise (LBEM, CRMM in collaboration other EU research institutes: University of Aberdeen – coordination- , University of Cork, Leiden Natural History Museum, NIOZ- Texel, University of Liège, IIM-Vigo).

Mercury and cadmium burdens in dolphins and their prey showed that exposure to cadmium differs widely with habitats and diets. It was estimated that oceanic common dolphins are more than 10 times more exposed to cadmium than their neritic conspecifics, and, quite accordingly, show much higher rates of cadmium accumulation in the kidney (LBEM).

7. Statistics for small cetaceans

7.1 For the calendar year 2004

In 2004, 149 stranded cetaceans were reported to show marks suggesting incidental catch in fishing gear along the Atlantic coast.

Species	Area/stock	Directed catch		Incidental mortality			Live-capture
		Reported	Est. Total	Reported	Est. total	Source	Reported
Common dolphin	Atlantic	0	0	94	No data	CRMM	0
Striped dolphin	Atlantic	0	0	9	No data	CRMM	0
Bottlenose dolphin	Atlantic	0	0	8	No data	CRMM	0
Long finned pilot w.	Atlantic	0	0	1	No data	CRMM	0
Harbour porpoise	Atlantic	0	0	32	No data	CRMM	0
Tucuxi	French Guyana	0	0	1	No data	CRMM	0
Unid. dolphin	Atlantic	0	0	3	No data	CRMM	0
Minke whale	Atlantic	0	0	1	No data	CRMM	0

PETRACET and PROCET are two observer projects funded by the EU and the French government respectively, which both aim at estimating by-catch of small cetaceans in the pair-trawl fisheries by observing 8% of fishing effort for sea bass, albacore and anchovy in the Bay of Biscay and Western Channel. The data acquisition phase of these two projects started in August 2004 and is due to be completed in July 2005. Partial data from these projects have not been included here; final results and extrapolations to the whole fisheries will be included in 2006 report (Ifremer and CRMM; PETRACET in collaboration with institutes in the EU: SMRU-University of Saint-Andrews, University of Cork, RIVO, DIFRES, BIM, under general coordination by MEP).

8. Strandings

At the date of preparing this report, stranding data for the year 2004 were not fully compiled (CRMM with a participation of all the National Stranding Scheme field correspondents).

Details for the year 2003 are available. A total of 493 stranded cetaceans were reported along the coasts of France, 141 for the Mediterranean Coast, 73 along the English Cannel and 279 on the Atlantic coast. Of those, 414 were identified and can be broken down as follows: 4 fin whales, 1 minke whale, 4 sperm whales, 3 pygmy sperm whales, 2 Cuvier's beaked whales, 1 killer whale, 16 long-finned pilot whales, 2 melon-headed whales, 5 Risso's dolphins, 48 bottlenose dolphins, 1 white-beaked dolphin, 151 common dolphins and 111 striped dolphins. Two noticeable events were: another multiple stranding event involving 172 common and unidentified dolphins along the coast of the Bay of Biscay from late January-early March, and an unusually high level of stranding along the Mediterranean coasts with 140 individuals instead of the usual 45-75 annual records (CRMM and all field correspondents, notably GECM, GEFMA, Océanopolis, GECC, MNHN-Biarritz).

Stranded cetaceans found in overseas territories are not exhaustively recorded: however partial data are available for French Polynesia (CRIOBE), New Caledonia (OCNC), Réunion Island (GLOBICE), Martinique

(SEPANMAR) and Guadeloupe (ET).

9. Other studies and analyses

CRIOBE carries out genetic studies under supervision by University of Auckland (NZ). Those include: genetic diversity (mitochondrial and nuclear markers), relatedness within and between communities (genotyping of 12 microsatellite loci) and population structure in spinner dolphins, rough-toothed dolphins and short-finned pilot whales from French Polynesia.

OCNC carries out genetic studies on the humpback whales under supervision by University of Auckland (NZ) which include analyses of mtDNA (N=101), microsatellites (11 loci, N=118), determination of the gender (N=101).

GREC is looking at the acoustic aspects related with the issue of large whales, notably fin whales, being struck by ships and also at acoustic recognition of small delphinids by using a statistical approach.

CRC investigates seasonal changes in the distribution of northwest Mediterranean cetaceans by using a modelling approach. In particular, the relationship between sperm whale distribution and thermal front is studied. A similar study is being carried by CEBC, CRMM and LBEM in the Bay of Biscay.

In the course of the EU-funded BIO CET project, CRMM examined age structure and ovarian scars in the common dolphin in an attempt to establish past reproductive history. It appeared that ovarian scars in the common dolphin are not permanent structures and therefore cannot reflect full individual reproductive history.

Ifremer and CRMM, in collaboration with numerous other European institutions, contribute to the EU-funded projects NECESSITY and PETRACET related to the issue of common dolphin by-catch in pelagic trawl fisheries. Objectives include, on the one hand, the characterization of the segments of common dolphin population that are mostly exposed to by-catch and the development of various mitigation strategies based on modifications of the trawls (NECESSITY) and, in the other hand, the assessment of by-catch rates from the observation of about 5% of the fishing effort (PETRACET). An additional project, PROCET funded by France, allows this observation effort to be increased to 8% of the fishing effort.

Preferential habitat of mother-calf pairs have been investigated at Mayotte by OMM, under collaboration with New York Natural History Museum, USA, by using focal follow-up and activity budget methodologies. Similarly, habitat and resource use by small delphinids as well as social organisation are being studied by OMM at Mayotte, with a particular focus on *Tursiops aduncus*, *Stenella longirostris* and *S. attenuata*.

10. Other actions

OCNC performs educational and information programme for whale watching operators and environmental administrations in New Caledonia. OMM has similar actions in Mayotte.

11. Publications

11.1 Published or 'In Press' papers only

Ersts, P., Kiszka, J., Rosenbaum, H.C. in press. Movements of humpback whales between north-eastern Madagascar and the Mozambique Channel. *Journal of Cetacean Research and Management*.

Ersts, P., Kiszka, J., Vely, M., Rosenbaum, H.C. in press. Density, group composition and encounter rates of humpback whales (*Megaptera novaeangliae*) and other cetaceans from three banks in the Mozambique Channel. *Journal of Cetacean Research and Management*.

Drouot, V., Bérubé, M., Gannier, A., Goold, J.C., Palsbøll, P.J. 2004. A note on genetic isolation of Mediterranean sperm whales suggested by mitochondrial DNA. *J. Cetacean Res. Manage.* 6(1): 29-32.

Drouot, V., Gannier, A., Goold, J.C. 2004. Diving and feeding behaviour of sperm whales (*Physeter macrocephalus*) in the western Mediterranean Sea. *Aquatic Mammals* 30(3): 419-426.

Drouot, V., Goold, J.C., Gannier, A. 2004. Regional diversity in the social vocalisations of sperm whale in the Mediterranean Sea. *Rev. Ecol. (Terre Vie)* 59: 545-558.

- Drouot, V., Gannier, A., Goold, J.C. 2004. Social distribution and behaviour of sperm whales (*Physeter macrocephalus*) in the Mediterranean Sea. *Journal of Marine Biological Association of UK* 84: 675-680.
- Gannier, A., Bourreau, S., Drouot, V., Gannier, O., Laran, S. 2004. Summer distribution of fin whales (*Balaenoptera physalus*) in the Mediterranean Sea. *Mésogée* 60: 17-25.
- Gannier, A., West, K.L. 2005. Distribution of the rough-toothed dolphin (*Steno bredanensis*) around the Windwards Islands (French Polynesia). *Pacific Science* 59(1): 17-24.
- Garrigue, C., Dodemont, R., Steel, D., Baker, C.S. 2004. Organismal and 'genetic' capture-recapture using microsatellites genotyping confirm low abundance and reproductive autonomy of humpback whales on the wintering grounds of New Caledonia. *Marine Ecology Progress Series*, 274: 251-262.
- Kiszka, J., Hassani, S., Pezeril, S. 2004. Distribution and status of small cetaceans along the French Channel coasts: using opportunistic records for a preliminary assessment. *Lutra*, 47: 33-46.
- Kiszka, J., Vely, M., Bertrand, N., Breyse, O., Wickel, J., Maleck-Bertrand, N. 2004. Mayotte and Réunion. In: C. Muir, A. Ngusuru & L. Mwakanema (eds.). *The Status of Dugongs in the Western Indian Ocean & Priority Conservation Actions. The eastern African Marine Ecoregion*: 50-55.
- Littaye, A., Gannier, A., Laran, S., Wilson, J.P.F. 2004. The relationship between summer aggregation of fin whales and satellite-derived environmental conditions in the northwestern Mediterranean Sea. *Remote Sensing of Environment* 90 (1): 44-52.
- Pusineri, C., Meynier, L., Spitz, J., Ridoux, V. 2004. An example of dietary overlap study between small cetaceans and fisheries from stomach content analysis. *CIESM Workshop on the Role of Cetaceans in the Ecosystems. CIESM, Venice, Italy*.
- Ridoux, V., Lafontaine, L., Bustamante, P., Caurant, F., Dabin, W., Delcroix, C., Hassani, S., Meynier, L., Pereira da Silva, V., Simonin, S., Robert, M., Spitz, J., Van Canneyt, O. 2004. The impact of the *Erika* oil spill on pelagic and coastal marine mammals: combining demographic, ecological, trace metals and biomarker evidences. *Aquatic Living Resources*, 17: 379-387.

11.2 Unpublished literature

- Certain, G., Bretagnolle, V., Petitgas, P., Massé, J. 2004. Top Predators in the Bay of Biscay : spatial distribution and relationships with lower trophic levels. IXème Colloque International d'Océanographie du Golfe de Gascogne, Juin 2004, Pau, France.
- Garrigue, C., Russell, K., Dodemont, R. 2004. A preliminary survey of humpback whales and other cetaceans in Vanuatu, South-West Pacific. Report to the International Whaling Commission, SC/56/SH18.
- Garrigue, C. 2004. Etude de la population de baleines à bosse de la province Nord. Rapport final, 99 p. (Service de l'environnement de la Province Nord).
- Garrigue, C., Russell, K. 2004. Report of the first assessment of marine mammals in Vanuatu waters. Contract for the Natural Heritage Trust, Department of Environment, Australia. 42 p.
- Hassani, S., Dumas, C., Le Clec'h, J.Y., Le Menec, P., Liret, C., Ménégaz, J.M., Cherel, Y., Allée, K., Guichard, B. 2004. Ingestion de déchets plastiques et de macro-plancton chez un jeune cachalot mâle (*Physeter macrocephalus*) échoué en Bretagne. Actes de la 13ème conférence R.I.M.M.O.
- Hassani, S., Liret, C., Dumas, C., Le Clec'h, J.Y., Le Menec, P., Le Nozerc'h, Y., Menegaz, J.M. 2004. Conservation and study of marine mammals in Brittany. EAZA Second Forum on in situ conservation projects, Angers 23-25 June.
- Hémery, G., Castège, I. 2004. Impact des marées noires sur les oiseaux et mammifères marins dans le golfe de Gascogne. CCSTI Pays de l'Adour, *Fête de la Science*, Biarritz 11-17october
- Kiszka, J. 2004. Habitat préférentiel et écologie comparée de deux grands prédateurs marins supérieurs : la baleine à bec de Cuvier *Ziphius cavirostris* et le cachalot *Physeter macrocephalus* dans le golfe de Gascogne. DEA Interface et Dynamique en Environnement, Université du Littoral Côte d'Opale, Calais.
- Kiszka, J. 2004. Les mammifères marins dans les eaux de Mayotte (Océan Indien): statut écologique et de conservation dans le cadre de l'inventaire du patrimoine naturel selon la méthodologie nationale ZNIEFF. Rapport de l'Observatoire des Mammifères Marins (Office National de la Chasse et de la Faune Sauvage & Direction de l'Agriculture et de la Forêt). 24 p.
- Kiszka, J. 2004. Les véhicules nautiques à moteurs et leur impact sur les mammifères marins à Mayotte : synthèse et recommandations. Rapport de l'Observatoire des Mammifères Marins (Office National de la Chasse et de la Faune Sauvage & Direction de l'Agriculture et de la Forêt). 14 p.
- Kiszka, J. 2004. Diversité, distribution et taux de rencontre des mammifères marins dans les eaux de Mayotte, Canal de Mozambique. Rapport de l'Observatoire des Mammifères Marins (Office National de la Chasse et de la Faune Sauvage & Direction de l'Agriculture et de la Forêt). 18 p.
- Kiszka, J., Haelters, J., Jauniaux, T., 2004. The harbour porpoise in the southern North Sea: a come-back in northern French and Belgian waters? Paper presented to ASCOBANS, April 2004.

- Kiszka, J., MacLeod, K., Van Canneyt, O., Ridoux, V. 2004 Distribution, occurrence and bathymetric preference of toothed cetaceans in the western English Channel and Bay of Biscay. Poster presentation, European Cetacean Society Annual Conference, Kolmarden, Sweden, April 2004.
- Kiszka, J., Van Canneyt, O., Macleod, K., Ridoux, V. 2004. Utilisation combinée des données d'échouages et d'observations issues de campagnes dédiées pour déterminer la diversité, l'occurrence et l'habitat des ziphiidés dans le golfe de Gascogne. XIIIème Conférence Internationale sur les Cétacés RIMMO.
- Lahaye, V., Bustamante, P., Das, K., Spitz, J., Meynier, L., Magnin, V., Caurant, F. 2004. The use of cadmium (Cd) and mercury (Hg) to discriminate dietary preferences of common dolphins (*Delphinus delphis*) and striped dolphins (*Stenella coeruleoalba*) in the Bay of Biscay (France). 18th Annual Conference of the European Cetacean Society, Avril 2004, Kolmarden, Sweden.
- Lahaye, V., Bustamante, P., Spitz, J., Das, K., Meynier, L., Magnin, V., Caurant, F. 2004. Utilisation du cadmium (Cd) pour caractériser les habitudes alimentaires du dauphin commun (*Delphinus delphis*) dans le Golfe de Gascogne. IXème Colloque International d'Océanographie du Golfe de Gascogne, Juin 2004, Pau, France.
- Lahaye, V., Bustamante, P., Law, R., Aubail, A., Spitz, J., Rogan, E., Caurant, F. 2004. Bioaccumulation of trace elements in small cetaceans from the NE Atlantic and transfer through the diet. Rapport contrat européen BIOCET, Workpackage 8 Deliverable. Contrat n° EVK3-2000-00027
- Laran, S., Gannier, A., 2004. Modélisation de la distribution de deux grands prédateurs : Comparaison du Rorqual commun (*Balaenoptera physalus*) et du Cachalot (*Physeter macrocephalus*) dans le Sanctuaire de Méditerranée Nord Occidentale. Actes de le 13eme conference R.I.M.M.O, Antibes le 14 novembre 2004: in print.
- Meissner, A., Gannier, A., Ridoux, V., 2004. Utilisation de l'habitat par un groupe de dauphins bleu et blanc au large d'Antibes. Actes de le 13eme conference R.I.M.M.O, Antibes le 14 novembre 2004: in print.
- Meynier, L. 2004. Food and feeding ecology of the common dolphin, *Delphinus delphis*, in the Bay of Biscay: intraspecific dietary variation and food transfer modelling. MSc report, University of Aberdeen, Aberdeen.
- Pierce, G.J., Zuur, A.F., Caurant, F., Lahaye, V., Boon, J., Rogan, E., Santos, M.B., Learmonth, J.A. 2004. Synthesis and modelling. Rapport contrat européen BIOCET, Workpackage 9 Deliverable. Contrat n° EVK3-2000-00027
- Praca, E., Gannier, A., 2004. Modalités de distribution estivale du Cachalot en Méditerranée Nord Occidentale. Actes de le 13eme conference R.I.M.M.O, Antibes le 14 novembre 2004: in print.
- Pusineri, C., Meynier, L., Spitz, J., Ridoux, V. 2004. An example of dietary overlap study between small cetaceans and fisheries from stomach content analysis. CIESM Workshop on the Role of Cetaceans in the Ecosystems. CIESM, Venice.
- Olavarria, C., Poole, M., Hauser, N., Garrigue, C., Caballero, S., Russell, K., Oremus, M., Dodemont, R., Florez-Gonzalez, L., Capella, J., Rosenbaum, H., Baker, C.S. 2003. Population differentiation of South pacific humpback whales based on mitochondrial and nuclear DNA markers. XVth Marine Mammals Conference, 14-19 December 2003, Greensboro, USA.
- Ridoux, V., Caurant, F., Bustamante, P., Dabin, W., Delcroix, C., Léonard, M., Meynier, L., Van Canneyt, O., Spitz, J. 2004. Direct and indirect impact of the *Erika* oil-spill on cetaceans of the Bay of Biscay: discriminating paroxystic events from background variability. 18th Annual Conference of the European Cetacean Society, Kolmarden, Sweden, Avril 2004.
- Rogan, E., Murphy, S., Learmonth, J.A., Dabin, W., González, A., Lockyer, C. 2004. Age determination in small cetaceans from the NE Atlantic. Rapport contrat européen BIOCET, Workpackage 4 Deliverable. Contrat n° EVK3-2000-00027
- Santos, M.B., Learmonth, J.A., Pierce, G.J., Rogan, E., Murphy, S., Ridoux, V., Meynier, L., Lahaye, V. 2004. Dietary studies on small cetaceans in the NE Atlantic using stomach contents and fatty acid analyses. Rapport contrat européen BIOCET, Workpackage 6 Deliverable. Contrat n° EVK3-2000-00027.
- Spitz, J. 2004. Le régime alimentaire des petits cétacés et sa variabilité temporelle : un indicateur des changements environnementaux ? Diplôme de l'Ecole Pratique des Hautes Etudes, Université de Montpellier II.
- Van Canneyt, O., Dorémus, G., Caurant, F., Gautier, G., Massé, J., Ridoux, V. 2004a. Détermination des habitats préférentiels des prédateurs supérieurs pélagiques du proche Atlantique : Campagne PELGAS 2003 – Bilan des Observations. Rapport technique ULR/CRMM, La Rochelle, 14 pages.
- Van Canneyt, O., Kostecki, C., Dorémus, G. 2004b. Les échouages de mammifères marins sur le littoral français en 2003. Rapport ULR/CRMM pour le Ministère de l'Ecologie et du Développement Durable, Direction de la Nature et des paysages, Programme Observatoire du Patrimoine Naturel, 28 pages.