

Agenda Item 15.1

National Reporting

Reports from Parties

Document Inf.15.1.d

**2014 Annual National Report:
France**

Action Requested

- Take note

Submitted by

France



**NOTE:
DELEGATES ARE KINDLY REMINDED
TO BRING THEIR OWN COPIES OF DOCUMENTS TO THE MEETING**

2014 ASCOBANS Annual National Reports

This questionnaire has been pre-filled with answers given in 2013 National Report - please update!

This format for the ASCOBANS Annual National Reports was endorsed by the 6th Meeting of the Parties in 2009. Reports are due to be submitted to the Secretariat by 31 March of each year.

Parties are requested to use this report to provide NEW information on measures taken or actions towards meeting the objectives of the Conservation and Management Plan and the Resolutions of the Meeting of the Parties.

The 7th Meeting of the Parties in 2012 agreed to move to online reporting with immediate effect. In order to benefit fully from the opportunities for synergies among CMS Family treaties afforded by this tool, Parties decided that a revised national report format be developed by a small working group assisted by the Secretariat for consideration by the Advisory Committee in preparation for the 8th Meeting of the Parties. While retaining the questions related only to ASCOBANS, it should align more closely to the format used in CMS, AEWa and EUROBATs.

General Information

Name of Party

> France

Report prepared by

This should indicate the name and affiliation of the lead person for filling in the report.

| | |
|---------------|---|
| Name | Florian EXPERT |
| Function | National Focal Point |
| Organization | MEDDE |
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| Email | florian.expert@developpement-durable.gouv.fr |

Coordinating Authority and National Coordinator

Please confirm the Coordinating Authority responsible for the national implementation of the Agreement, and give the name and contact details of the officially appointed National Coordinator (Focal Point).

> None

List of National Institutions

List of national authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans, including contact details

> Observatoire PELAGIS, UMS 3462 Université de La Rochelle-CNRS, La Rochelle PELAGIS/ULR
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> > Centre de la Mer de Biarritz / CMB
iker.castege@centredelamer.fr ; contact@ermma.fr

> Groupe d'Etude des Cétacés du Cotentin et des mammifères marins de la mer de la Manche, Cherbourg
GECC
gecc@wanadoo.fr

> Groupe d'Etude de la Faune Marine Atlantique, Cap-Breton GEFMA
alexandre.dewez@free.fr

> Groupe Mammalogique Normand, Caen GMN
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>

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> Observatoire pour la Conservation et l'Etude des Animaux et Milieux Marins OCEAMM oceamm@orange.fr

> Parc naturel marin d'Iroise, Agence des Aires Marines Protégées PNMI
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l'Environnement, La Rochelle, CEBC vincent.ridou@univ-lr.fr

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Habitat Conservation and Management

Fisheries Interactions

Direct Interaction with Fisheries

1.1 Investigations of methods to reduce bycatch

> A programme named INPECMAM has been funded and agreed between the fishermen, the Iroise sea MPA, University of Brest, the National Natural History Museum and Oceanopolis to work on the by-catch of marine mammals (cetaceans and seals) and the depredation in set net fishery in the Iroise sea with also a social approach on these issues. The low result in observed by-catch don't allow, statistically, an extrapolation to estimate the by-catch of the set net fisheries in Iroise Sea .The final report should be available this summer. The perspective is to continue such research on this topics focusing on areas and period of risk.

> The national program OBSMER dedicated to all the observations on board includes the English channel set net fisheries which is not asked by the European regulation. This program is implemented by the ministry of agriculture and fisheries (Direction des Pêches Maritimes et de l'Aquaculture) and IFREMER. All the results are now included in the national report for regulation 812/2004.

For set net and pelagic trawl fisheries, observers for the EC regulation (n° 812/2004) are deployed for vessels greater than 15 meters and through pilot studies for vessels less than 15 m. However it was not always possible to put observers on boats less than 8m for safety reason.

> During the year 2012, the effort dedicated to observation on board of vessels for the European Regulation 812/2004 represents 199 days at sea for static gears in ICES area VIII, and also 158 days at sea for towed gears in ICES areas VII&VIII. In addition 268 days at sea were dedicated to all kinds of set nets in areas concerned with pingers (zones IV and VII) . Over all 625 fishing days were monitored at sea during the year 2012 for the Ascobans area . The monitoring scheme contained a higher number of days by assuming a coverage rate of 10% throughout the year for trawlers >= 15m, 5% for trawlers = 15 ms and 1% for vessels less than 15 m operating with set nets.

In the Ascobans area, two different species of cetaceans were caught incidentally during the year 2012: *Delphinus delphis* (19 animals), *Phocoena phocoena* (6 animal). The bycatch was estimated on some segments of fleets. An estimate of 172 common dolphins *Delphinus delphis* was obtained for pair midwater trawling in the area VIIe,h and an estimate of 77 common dolphins for set nets in Western Channel. An estimate of 61 harbour porpoises *Phocoena phocoena* was calculated for set nets with vessels less than 15m in area VIIIb and 22 harbour porpoises for netters greater than 15m and working with large mesh size. The coefficients of variation are high on these estimates.

No catch of cetaceans have been observed in some segments well covered by observations. This was the case of the tuna pelagic trawl area VIII, pelagic trawling on small pelagic species in area VIIIb. No estimate has been made possible in some fisheries with set nets in English Channel and in south of North Sea. Analyses made on strandings demonstrate that the incidental catch of *Delphinus delphis* exist in some fisheries of the Bay of Biscay (van Canneyt et al., 2013), fisheries which are not well or enough observed at sea.

It would be useful to improve the monitoring scheme to get enough samples in the potential contributors of cetacean incidental bycatch as PTM seabass trawling and set nets in the Bay of Biscay. In the North Sea/east of English Channel, an effort should be made to increase the samples of vessels.

> An additional study of the last three years were also achieved. This study was included in the national report for 812/2004 . A period of three years offers the advantage to increase the amount of observations for an analysis. The fisheries having the higher bycatch rate per cetacean species have been ranked but some samples remain low. A list of métiers having no cetacean bycatch after at least 50 observed days was also established. These results should help to improve the regulation.

> Observations done in year 2013 have recorded 12 common dolphins in pelagic trawling and 4 porpoises. Non mandatory observations are still continuing on all set netters in the area dedicated to pingers by the regulation. The 2014 national report is under progress.

> In 2014, a new synthesis on interactions between cetaceans and set nets in France will be achieved in order to provide some informations to stakeholders in preparing the new European regulation. This synthesis uses all the observation data available since 2008. A final report should be made available in May 2014. The preliminary results indicate that the main cetacean bycatch is harbour porpoise *Phocoena phocoena* and that 80 % of the French bycatch of porpoises occurs in the monkfish trammel net fisheries and the sole trammel net fisheries of areas IV, VII and VIII. Some bycatch occur also with GNS gears mainly in area VIII. These results show that the EC regulation need to be improved to include the trammel nets in the mandatory list of set nets requiring pingers and/or observations on board.

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1.2 Implementation of methods to reduce bycatch

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- > Modification of practices in pelagic trawling (headline at 5 m depth)
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1.3 Other relevant information

Other relevant information, including bycatch information from opportunistic sources

> Standard examination carried out on cetacean stranding demonstrate that bycatch rates are strongly higher than the results provided by fisheries observation scheme, mainly for *Delphinus delphis* and *Phocoena phocoena*. Indeed, by catches still occur in several fisheries of the Bay of Biscay and English channel (Observatoire PELAGIS/ULR)), which are not well or enough observed at sea. It would be useful to improve the monitoring scheme to get enough samples in the potential contributors of cetacean incidental bycatch as PTM seabass trawling and set nets in the Bay of Biscay. In the North Sea/east of English Channel, an effort should be made to increase the samples of vessels. Moreover, causes of death observed on stranded animal should be used to evaluate by-catch rates.

Since 2012 January 1st, a French ministerial regulation requires fishermen to report marine mammals by catch with the objective of contributing to scientific knowledge. The aims of this regulation don't produce by catch estimates but should involve fishermen through scientific program on knowledge of the species: composition of catches, spatial and temporal distribution, etc.. End of 2012, a pilot program with four fishing ports (Atlantic and English Channel coast) began to assess the possibility of land by-caught animals for biological samples (diet, genetic, age, reproductive status, contaminant,...). These program is coordinated by PELAGIS/ULR (CRMM) Estimates of by-catch in set net and pelagic trawl fisheries

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1.4 Report under EC Regulation 812/2004

Please provide the link to your country's report under EC Regulation 812/2004.

> A report is available from IFREMER for the year 2012. And for the period 2010-2012. The report for 2013 is not finished at this time.

Reduction of Disturbance

2.1 Anthropogenic Noise

Please reference and briefly summarise any studies undertaken

> IFREMER continues to apply mitigation measures on his seismic surveys, based on the classical international recommendations. The use of a PAM system is now being considered when high-power seismic sources are to be deployed. The order of a complete passive monitoring system is planned for early 2013.

Study projects are being launched in France (about the monitoring and control of the anthropogenic noise in the sea) in the framework of the MSFD (Marine Strategy Framework Directive). Most noticeably, a synthesis report (Bilan des activités anthropiques génératrices de bruit sous-marin et de leur récente évolution en France Métropolitaine) has been produced by SHOM (the French Hydrography Service). However at this stage these works do not address directly the impact on the cetacean populations.

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| Incident | | | | |
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2.4 Pollution and Hazardous Substances

Please report on main types of pollution and hazardous substances (including source, location and observed effects on cetaceans). Please provide information on any new measures taken to reduce pollution likely to have an impact.

> > Chemical pollution was evaluated in five species of small cetaceans that frequent the NW Iberian Peninsula waters: the common dolphin, the harbour porpoise, the bottlenose dolphin, the striped dolphins and the longfinned pilot whale. To this aim, 14 trace elements (Ag, As, Cd, Co, Cu, Cr, Fe, Hg, Mn, Ni, Pb, Se, V, Zn), 32 congeners of polychlorinated biphenyl ethers (PCBs) and 9 congeners of polybrominated diphenyl ethers (PBDEs) were analysed in samples of the main storage tissues for these pollutants (i.e. liver, kidney and blubber) collected from stranded and/or by-caught animals along the NW Iberian Peninsula coast between 2004 and 2008. Fieldwork was conducted by members of the Spanish (Coordinadora para o estudo dos mamíferos marinos, CEMMA) and Portuguese (Sociedade Portuguesa de Vida Salvagem, SPVS) stranding networks and was part of the PhD project of P. Mendez Fernandez. This project was a collaboration between the university of La Rochelle, the University of Minho, in Braga Portugal, the marine laboratory of Scotland and the Spanish Oceanographic Institute (IEO) from Vigo, Spain. Differences related to biological factors such as age and sex and /or to ecological factors such as feeding habits or bioavailability of the various elements were observed in the bioaccumulation of the trace elements between the five species. Pilot whale and striped dolphin showed the highest concentrations of renal Cd (30 ± 26.9 and $10.3 \pm 11.0 \mu\text{g.g}^{-1}$ wet weight respectively) and the highest concentrations of hepatic Hg (31.0 ± 59.5 and $22.9 \pm 39.1 \mu\text{g.g}^{-1}$ wet weight respectively) and Se (16.9 ± 30.1 and $12.3 \pm 17.2 \mu\text{g.g}^{-1}$ wet weight respectively). Comparing with other studies world-wide, the element concentrations (mercury and cadmium) found in Iberian toothed whales indicate that these populations are not specially threatened by Hg and Cd exposure in the area Méndez-Fernandez et al, 2014a).

Concerning organic pollutants, of the five species studied, bottlenose dolphin and harbor porpoise showed the greatest concentrations of PCBs. Both species exceed the toxic threshold of $17 \mu\text{g.g}^{-1}$ lipid weight (PCB Aroclor equivalent) for health effects on marine mammals, for 100% and 75% of the individuals analysed, respectively. Overall, the PCB and PBDE levels observed in the North West Iberian Peninsula toothed whales were of the same order of magnitude or lower than those reported by previous studies in the NE Atlantic but higher than studies carried out in the southern Atlantic and Pacific Ocean (Méndez-Fernandez et al, 2014b).

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2.5 Other Forms of Disturbance

Please provide any other relevant information, e.g. relating to recreational activities affecting cetaceans.

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Marine Protected Areas

Marine Protected Areas for Small Cetaceans

3.1 Relevant Information

Please provide any relevant information on measures taken to identify, implement and manage protected areas for cetaceans, including MPAs designated under the Habitats Directive and MPAs planned or established within the framework of OSPAR or HELCOM.

> > Between October 2008 and February 2010, 95 marine Natura 2000 sites have been designated by France. Among all existing Natura 2000 sites in the ASCOBANS area, Bottlenose dolphin is listed in 39 and Harbour porpoise in 37, both on the Channel and Atlantic coast.

The Management Plan of the Marine Protected Area in Iroise Sea (West Brittany) is applicable to the Natura 2000 sites of the Molene archipelago and Ouessant

Creation of a new MPA « Estuaires picards / mer d'Opale (English Channel-North Sea)» in December 2012.

Creation of the MPA « Bassin d'Arcachon » in June 2014

Creation of the MPA « Parc naturel marin de l'estuaire de la Gironde et de la mer des Pertuis » in April 2015

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3.2 GIS Data

Please indicate where GIS data of the boundaries (and zoning, if applicable) can be obtained (contact email / website).

> > Ministère de l'Écologie, du Développement durable des transports et du Logement Mer

Tour Sequoia 92055 La Defense CEDEX

Natura 2000 network :

camille.campeon@developpement-durable.gouv.fr

tel : + 33 (01) 40 81 21 22

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> > Agence des aires marines protegees

President : Paul Giacobbi

Directeur : Olivier LAROUSSINIE

Adresse du siege et contact :

Agence des aires marines protegees

16 quai de la Douane 29229 Brest Cedex 2

standard : +33 (0)2 98 33 87 67

telecopie : +33 (0)2 98 33 87 77

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Surveys and Research

4.1 Abundance, Distribution, Population Structure

Overview of Research on Abundance, Distribution and Population Structure

- > > Data collection of opportunistic sightings with database (PELAGIS/ULR, GECC, Oceanopolis).
- > Photo-identification of the coastal group of bottlenose dolphins: the photo-id catalog was updated (Oceanopolis Brest in Iroise Sea MPA).
- > The Normano-Breton Gulf population of bottlenose dolphins was estimated in summer 2010 as 420 animals (95% CI: 331-521) using mark-recapture analyses on photo-identification data. Biopsy samples were collected from 92 individuals between 2010 and 2012 and indicated that the dolphins are part of one genetic population. Stable isotopes analyses indicated that they are organized in three ecological clusters that are consistent with social clusters (GECC & CEBC, Louis 2014).
- > Long term use of opportunistic boats to survey cetaceans in the southern Bay of Biscay (Centre de la Mer de Biarritz, CMB) Relationships between cetacean populations and climate change / fishing activities / prey abundance are studied: in 2014, these works has been used for the implementation of a large study on the impact of climate change in southern bay of Biscay, in order to evaluate the link between cetacean abundances at sea, the evolution of exploited fish stock and the oceano-climatic changes.
- > Systematic ship-based surveys were conducted on board the RV "Thalassa" with a top predator monitoring scheme since 2003. The primary aim of these cruises is to assess fish stocks in the Bay of Biscay and English Channel. The area surveyed was restricted to the continental shelf, and incursions on the shelf break were exceptional and only in the middle part of the Bay of Biscay. Sightings of top predators were recorded during daylight by a single and multi-target (cetaceans and sea birds) platform composed of two observers. During the 2014 surveys, 4 campaigns of IFREMER were concerned by the top predator monitoring scheme (PELAGIS/ULR):
 - IBTS survey, Ifremer, PELAGIS/ULR: winter survey carried out yearly in January across the English Channel: (pelagic fish, plankton, physical parameters and top predators are recorded simultaneously): 16 days of sighting effort in 2014 ;
 - PELGAS survey, Ifremer, PELAGIS/ULR : spring survey carried out yearly in May on the continental shelf of the Bay of Biscay (pelagic fish, plankton, physical parameters and top predators are recorded simultaneously): 90 days in 2014
 - CAMANOC survey, Ifremer, PELAGIS/ULR : autumn survey carried out for the first time in September on the western English Channel (pelagic fish, plankton, physical parameters and top predators are recorded simultaneously): 75 days of sighting effort in partnership with the British NGO Marine-Life,
 - EVHOE Program, Ifremer, PELAGIS/ULR: autumn demersal fish survey carried out yearly in October-November across the Bay of Biscay (top predators recorded on transit between trawl hauls): 60 days of sighting effort
- > The recorded sightings on these campaigns accumulated 164 observations of cetaceans (with recorded effort and sighting conditions) in the ASCOBANS area. Concurrently, sightings of seabirds, turtles, elasmobranchs; litters and marine traffic have been recorded, providing an original overview of the annual distribution of the megafauna species and human activities in the ASCOBANS area.
- > SAMM Program: Two 4-months systematic aerial surveys of cetaceans and other megafauna (mainly seabirds) have been conducted by PELAGIS/ULR and AAMP from November 2011 to August 2012 to identify priority areas for the designation of future Natura 2000 sites in the French EEZ. The survey protocol follows a systematic zig-zag line transect pattern across 4 bathymetric strata: coastal, shelf, slope and oceanic. The survey area encompassed the French EEZ extended to the South of Bay of Biscay (Spanish EEZ) and the British Channel. Total survey effort was 48,600 km in winter and 53,200 km in summer in the ASCOBANS area. The project was completed in November 2014 (PELAGIS/ULR). Estimates of harbour porpoise abundance were identical in the Channel in both seasons (~26,000 individuals) whereas in the Atlantic, the estimate in summer (~20,000 individuals) was four times greater than in winter (~4,600 individual). Predicted densities showed an aggregation of harbour porpoise in the eastern Channel and southern North Sea in winter but low densities all along the coast down to the southern Bay of Biscay. In the summer, two areas of high predicted density were found: the southern North Sea and a broad region composed of the Celtic Sea, northern Bay of Biscay and western Channel. Common and striped dolphins were considered jointly because there were too many sightings that could not be identified at species level with any certainty. Estimated abundance varied from 290,000 individuals in winter to 690,000 in summer (this difference not significant). A small fraction was predicted to be present in the western Channel during the winter. Predicted habitat in winter included shelf waters of the Bay of Biscay, the western Channel and the Celtic Sea, predominantly parallel to the shelf break. In summer, highest densities were predicted over the slope and in oceanic waters. No seasonal difference in bottlenose dolphin abundance was found (18,000 individuals in winter vs 11,000 in summer). Predicted densities followed the slope in both summer and winter and were the highest over the slope of the southern Bay of Biscay in winter. Lower densities were predicted across shelf habitats in the Celtic Sea, western Channel and Bay of Biscay. Concurrently, sightings of seabirds, turtles, elasmobranchs; litters and marine traffic have been recorded, providing an original overview of the annual distribution of the megafauna species and human activities in the ASCOBANS area.
- > Marsac Program has been conducted as a baseline to determine the feasibility of use Static Acoustic

Monitoring to monitor the harbor porpoise and other small odontocetes (small delphinids and bottlenose dolphins) along the Atlantic French coasts through two small scale acoustic observatories. Eight click detectors (C-PODs) were deployed in waters 16-55 m deep over a one year period (from July 2012 to March 2014, depending of the deployment site). In well-contrasted environment, five different mooring set-ups and their deployment and recovery procedures were tested. C-PODs were moored during almost 2206 days and acoustically monitored for the presence of cetaceans for 1488 days, which means 67% of the recording effort. Heavy structures on the bottom without surface buoy and mooring line with acoustic release were the most effective design and are highly recommended for future SAM study in coastal waters. The acoustic data collected by CPODs have allowed to assess seasonal pattern of distribution of harbour porpoises and other small odontocetes (small delphinids and bottlenose dolphins) in the Marine Protected Area in Iroise Sea (West Brittany) and in the coastal waters in front of Arcachon Bay. The study proves a regular use of the Iroise Sea and waters offshore the Arcachon Bay by harbour porpoises and other cetaceans with seasonal pattern of occurrence consistent with previous visual surveys. Presence of porpoises and dolphins around the deployment sites was also influenced by the light regime and certain deployment sites were clearly important for foraging activity of species. In protected areas where there are limited funds to provide the legal monitoring requirements, this study underscores advantages of passive acoustic monitoring over visual surveys for monitoring echolocating cetaceans during all weather conditions with minimal staff requirements and relatively inexpensive setup costs.

> Ferry observer surveys between Roscoff and Cork, Portsmouth and Santander (Orca/ Oceanopolis Brest/), using a standardized protocol.

> Genetic study on harbour porpoise (collaboration between the university of Brest and Oceanopolis Brest). This work was presented successfully, end of September in the case of a PHD (student involved Alfonsi, E.). the analysis are undergoing with samples from the North Sea.

> Restriction-site associated DNA tag (RAD-tag) applicability has been evaluated to conduct genome wide-scans for polymorphism across two cetacean species belonging to distinct families: the short-beaked common dolphin (*Delphinus delphis*) and the harbor porpoise (*Phocoena phocoena*). Results showed that cetaceans have undergone rapid diversification, and the estimated divergence time between the two families is relatively recent (14-19 MA). It has been shown that, for this level of divergence, a large number of orthologous loci can still be genotyped using this approach. This study constitutes one of the first empirical investigations using RAD-tag sequencing at this level of divergence and highlights the great potential of this approach in comparative studies and to address evolutionary questions (Viricel et al, 2014).

> Forces shaping population structure and ecotype differentiation ('pelagic' and 'coastal') of bottlenose dolphins in the North-east Atlantic were investigated using complementary evolutionary and ecological approaches. Inference of population demographic history using approximate Bayesian computation indicated that coastal populations were likely founded by the Atlantic pelagic population after the Last Glacial Maxima probably as a result of newly available coastal ecological niches. Pelagic dolphins from the Atlantic and the Mediterranean Sea likely diverged during a period of high productivity in the Mediterranean Sea. Genetic differentiation between coastal and pelagic ecotypes may be maintained by niche specializations, as indicated by stable isotope and stomach content analyses, and social behaviour. The two ecotypes were only weakly morphologically segregated in contrast to other parts of the World Ocean (Louis et al. 2014).

> Functional approaches in cetacean foraging ecology have been developed to go beyond traditional taxonomic framework in dietary studies, and to improve our knowledge of ecosystem functioning notably in the perspective of cetacean conservation and management. The relevance of a three-matrix approach in foraging ecology among a marine mammal community in the north-east Atlantic has been tested to identify the key functional traits shaping prey selection processes regardless of the taxonomy of both the predators and prey. The study reveals prey found in the diet of marine mammals possess functional traits which are directly and significantly linked to predator characteristics allowing the establishment of a functional typology of marine mammals-prey relationships. Prey selection of marine mammals was primarily shaped by physiological traits and then by morphological traits of both predators and prey, confirming that energetic costs of foraging strategies and muscular performance are major drivers of prey selection in marine mammals. Trait-based approaches proposed a new definition of cetacean needs which should provide an appealing framework to anticipate bottom-up effects on cetacean population dynamics in identifying the sensitivity of predators to the loss of prey key functional traits associated with shift in prey availability (Spitz et al., 2014).

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4.2 Technological Developments

New Technological Developments

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4.3 Other Relevant Research

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Use of Bycatches and Strandings

Post-Mortem Research Schemes

5.1 Contact Details

Contact details of research institutions and focal point

> > French stranding network is nationally coordinated by PELAGIS/ULR under an agreement with the Ministry in

charge of the Environment. Local voluntary observers, generally under local supervision by various institutions or NGOs (Oceanopolis, GEFMA, GMN, CMNF, Picardie Nature, ONCFS...), have been trained to process stranded cetaceans under a common standardized protocol.

An annual synthesis of all strandings reported in France is produced by PELAGIS/ULR.

Statistics of stranding for the coasts of France in the ASCOBANS region in 2014 indicate more than 1 930 cetaceans reported. These strandings concerned 10 species and are composed of 49 % of common dolphin, 36 % of harbor porpoise, 7 % of striped dolphin, 6 % of bottlenose dolphin and 2 % other species.

Stranding data provides information on death causes, demographic structure (age and reproductive status), diet (stomach content), trophic levels (stable isotopes) and subpopulation structure or movement pattern (genetic, stable isotopes, heavy metals and contaminants). A total exceeds 360 individuals were sampled according 3 levels of exams/sampling (see 5.3)

Observatoire PELAGIS/ULR, Universite de La Rochelle, La Rochelle PELAGIS/ULR

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5.2 Methodology

Methodology used (reference, e.g. publication, protocol)

> Standardized protocol derived from ECS necropsy workshop 2005

(Jauniaux, T. Beans, C; and Dabin W. 2005. Stranding, Necropsy and sampling: Collection data, sampling level end techniques)

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5.3 Samples

Collection of samples (type, preservation method)

> Collection of samples (type, preservation method)

Standardized protocol on cetacean strandings includes 3 levels according to the animal decomposition state, necropsy means and skills available (biologist / veterinarian)

- Level 1 : teeth and external samples (skin, blubber)

- Level 2 : level 1 + gonads and samples of internal organs (liver, kidney, stomach contains,...)

- Level 3 : level 2 + samples for pathological analyses

In 2014, the sampling on cetacean strandings includes (data gathering uncompleted at the time of writing this report) :

- Level 1 : 284 individuals from 8 species

- Level 2 : 77 individuals from 8 species

- Level 3 : 3 individuals from 3 species

> Biodemographics samples : gonads (formalin/frozen) and teeth (frozen)

> Diet and feeding ecology: stomach contains (frozen) and blubber fatty acids and stable isotope (frozen)

> Genetics: skin and kidney (frozen and alcohol)

> Toxicologic: heavy metal and POP's analysis on muscle, liver and kidney (frozen with specific packaging)

> Parasitology (alcohol)

> Histopathology (formalin)

> Bacteriology and virology (frozen)

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5.4 Database

Database (number of data sets by species, years covered, software used, online access)

> Database (number of data sets by species, years covered, software used, online access) > National stranding data base (1972-2014) contains a total of 17 100 records of cetacean strandings in the ASCOBANS area, and 930 records from 10 species in 2014. In 2014 the national database was migrated to an webdatase system (php myadmin)

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5.5 Additional Information

Additional information (e.g. website addresses, intellectual property rights, possibility of a central database)

> <http://www.observatoire-pelagis.cnrs.fr/catalogueSI/> (metadata catalogs)

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Activities and Results

5.6 Necropsies

Number of necropsies carried out in the reporting period

| | Recorded cause of death | Number |
|-------------------------------------|---|--------|
| Phocoena phocoena | For the reporting period, 930 cetaceans are recorded by the national stranding network in the French part of the ASCOBANS area: -787 were examined by the stranding network -49 the exam added samples -and 75 necropsies documented the cause of death Data is currently gathered and archived but the detail isn't still known at the date of this report | |
| Tursiops truncatus | | |
| Delphinus delphis | | |
| Stenella coeruleoalba | | |
| Grampus griseus | | |
| Globicephala melas | | |
| Globicephala macrorhynchus | | |
| Lagenorhynchus albirostris | | |
| Lagenorhynchus acutus | | |
| Orcinus orca | | |
| Hyperoodon ampullatus | | |
| Mesoplodon bidens | | |
| Kogia breviceps | | |
| Other (please specify under number) | | |
| Other (please specify under number) | | |
| Other (please specify under number) | | |

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| Other (please specify under number) | | |
| Other (please specify under number) | | |
| Other (please specify under number) | | |

5.7 Other Relevant Information

Please provide any other relevant information on post-mortem / stranding schemes

> A new paper was recently accepted for publication in Environmental Science and Policy and aimed to provide a context for the interpretation of marine megafauna stranding data, in order to assess the achievement of specific objectives against Good Environmental Status criteria in context of EU Marine Strategy Framework Directive or other regional agreements. The first step is to construct an a priori spatial distribution under a null hypothesis H0. The drift prediction of these theoretical carcasses would provide time series of strandings expected under the null hypothesis. The reverse drift of observed strandings would highlight mortality areas of stranded animals. The correction of these areas by the probability of getting stranded according to drift conditions would provide an estimated distribution of dead animals inferred from strandings. The differences between expected and observed situations constitute anomalies and highlight cases where inferred distribution departs from the a priori spatial distribution. This work proposes several population indicators that can be used anywhere in the world and can be applied for all large marine vertebrates found stranded. The integration of these indicators in MSFD and various regional agreements could provide cost-effective and relevant information on protected species.

According to these results, new methodology was developed to compare parameters and bycatch estimates provided by observer programs in France and UK national reports and those inferred from stranding data. Bycatch estimates were estimated from stranding data, correcting effectives for drift conditions (using a drift prediction model) and probability of being buoyant. Observer programs on fishing vessels allowed to identify the specificity of the interaction between common dolphins and fishing gears, and provided low estimates of annual bycaught animals (around 550 animals.year-1). However, observer programs are hindered by logistical and administrative constraints and the sampling scheme seems not well designed for marine mammal bycatches. Bycatch numbers inferred from strandings suggested very high levels, ranging from 3,650 dolphins.year-1 [2,250-7,000] to 4,700 [3,850-5,750] dolphins.year-1 depending on methodological choices. The main advantage of these source of data is the large spatial scale irrespective of administrative boundaries. Diverging estimates between observer programs and stranding interpretation can set off very different management consequences: observer programs suggested sustainable situation for common dolphins whereas estimates based on strandings highlighted a very worrying and unsustainable process. These results demonstrated the complementarity of these approaches and the importance of consider bycatch through different source of data in order to have a bigger view of this worrying phenomenon.

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Relevant New Legislation, Regulations and Guidelines

6.1 New Legislation, Regulations and Guidelines

Please provide any relevant information

> A new legislation on marine mammals was released in July 2011 clarifying the disturbance and the harassment. There is also an article on the necessity to declare any by-catch to help the research. There are also provisions for the protection of the habitat of the species.

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Public Awareness and Education

7.1 Public Awareness and Education

Please report on any public awareness and education activities to implement or promote the Agreement to the general public and to fishermen.

- > > Public conferences and exhibitions (Oceanopolis-Brest and PELAGIS/ULR)
- > National stranding network: training for volunteers and national meeting (PELAGIS/ULR)
- > Observer training in the frame of fishing observation scheme, council regulation 812/04 (PELAGIS/ULR)
- > Regional stranding network: training for volunteers and annual meeting (LEMM/Oceanopolis)
- > Educational workshops on cetaceans implemented for schools by the Education Department/ (Oceanopolis)
- Movie on cetaceans and ferries survey produced by Brittany Ferries and Oceanopolis broadcasted onboard the ferries+ conference on board
- > New exhibition on cetaceans: National Museum Paris, partnership Oceanopolis. An itinerant version circulates in Europe.
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Possible difficulties encountered in implementing the Agreement

Difficulties in Implementing the Agreement

Please provide any relevant information

> None

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