

Agenda Item 5.3

Implementation of the ASCOBANS Triennial  
Work Plan (2007-2009)

Review of New Information on Bycatch and  
Other Causes of Mortality

Document 44

**The Belgian Marine Mammal Biobank:  
a tool to stimulate tissue exchange**

**Action Requested**

- Take note of the information submitted
- Comment

Submitted by

Belgium



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



## **The Belgian Marine Mammal Biobank: a tool to stimulate tissue exchange**

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Since 1990, the stranding network MARIN (Marine Animals Research and Intervention Network) deals with marine mammal strandings along the coasts of Belgium and Northern France. Its aims are to identify the causes of death and monitor the health status of marine mammals through a systematic necropsy of all stranded animals by trained pathologists. This work also includes determining concentrations of chemical contaminants in tissues and relating lesions to toxicological data and human activities such as navigation and fishing. Samples collected during necropsies have been preserved (formalin fixed, paraffin embedded, ethanol fixed and frozen). These samples originate especially from harbour porpoises and harbour seals, but samples from other cetaceans and pinnipeds are also present.

Samples were used for pathology, microbiology, toxicology, and life history investigations, and part of them are still available for research purposes. Other stranding networks in Europe are also collecting samples but up to now, no marine mammal tissue collection related to the North East Atlantic area has been made easily accessible. To our knowledge two tissue banks are accessible through the Internet : one for the Mediterranean Sea and one for the USA and Canada; there is probably scope for a marine mammal tissue bank with easy access for scientists in northwestern Europe.

In the frame of a joint-venture between the Royal Belgian Institute of Natural Sciences (MUMM) and the University of Liege (Department of Veterinary Pathology) the concept of a biobank, a unique collection of marine mammals tissues from European waters, is currently being developed: “The Belgian Marine Mammal Biobank –BMMB”.

The goal of the BMMB is to provide high quality samples of marine mammals for research purposes as a non-profit scientific collaboration. As a first step, an agreement where the scientific purposes of the request are clearly stated will be concluded between the user and the sample owner. Then, the user will select and request the useful samples. After having performed her/his own investigation, the remains of the samples, if still of scientific value, will be returned to the BMMB and the main results of the study will have to be provided, through references to the corresponding scientific publications. As it has no commercial purpose, no CITES authorization is requested for transporting these marine mammal tissues between countries of the European Union. For other countries, a specific permit is required. The BMMB contains animal samples such as liver, blubber, lung, ... but also stomach contents, lesions (pneumonia, encephalitis, ...) and isolated and identified pathogens from those animals (parasites, virus, bacteria,...).

The BMMB is linked to a database including information about the stranding or bycatch, and necropsy and post-mortem results with associated published results.. Once the system will be implemented, as part of the website of the Belgian Marine Data Centre (BMDC), a user will be able to request samples through the Internet, using several selection criteria, such as species, area, age, sex, tissues, year, conservation procedure, lesion, cause of death. This website is expected to be published during the summer 2009.

For the moment the BMMB includes more than 20,000 samples from more than 900 marine mammals necropsied between 1991 and 2008.

Interests for BMMB's users are multiple: fast and easy access to a tissue bank with well-documented relevant information; selection of tissues following their own criteria; access to samples usually not included in tissue banks such as lesions or pathogens; access to results of other post-mortem investigations (associated published papers). The target audience of the BMMB encompasses a wide range of scientists: biologists, veterinarians, toxicologists, microbiologists, pathologists... In the public part of the website, information sheets on marine mammals and the basic information on strandings will attract a wider public and increase their awareness on these captivating species.

Samples in the BMMB originate from animals stranded or bycaught in the Belgian maritime zone, but also include selected tissues of marine mammals stranded in France, the Netherlands and Ireland. Although these stranding networks also kept samples, no European system has been setup yet to share such tissues and data. The interest of gathering samples of marine mammals from various European areas is to have a geographical overview, highlighting regional variations within species. In addition, given that some samples that were collected in the 1970's and 1980's could be stored in the database, the opportunity exists to study temporal evolutions and trends. Such long term and international overviews can be also considered as a valuable tool for cetacean and seal conservation in the ASCOBANS area.

Information on the database should be addressed to the BMDC ([BMDC@mumm.ac.be](mailto:BMDC@mumm.ac.be)) and on the biobank to T. Jauniaux ([t.jauniaux@ulg.ac.be](mailto:t.jauniaux@ulg.ac.be))