

**Agenda Item 5.5: Post-mortem and stranding schemes**

**Information submitted by Parties and Range States in response to  
post-mortem research questionnaire**

**Submitted by: Secretariat**



**ASCOBANS**

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

## Belgium

These answers were modified from the answers to the questionnaire of October 1999.

### Answers were received from:

Dr. Virginie Debacker: University of Liège (Ulg), Department of Oceanology

Dr. Thierry Jauniaux: University of Liège (Ulg), Department of Pathology

Prof. C.R. Joiris, L.Holsbeek: Free University of Brussels (VUB), Laboratory for Ecotoxicology

Jan Haelters: Management Unit of the North Sea Mathematical Models (MUMM)

The answers were compiled by Jan Haelters

A comprehensive report describing the methods and results of research on cetaceans in Belgium during the last five years was prepared (Debacker et al., 2002)

A Royal Decree of 21 December 2001, published on 14 February 2002, gives a better protection to certain marine species. For certain of these species, including all marine mammals, reporting incidental catches is required. Fishermen are requested to return certain bycaught species to port if they are dead, for research purposes. Also for stranded animals, the intervention of authorities concerning the necessary research requirements is taken up in this legislation.

Basic strandings data, and more information about exceptional strandings, are published on the website of MUMM:

<http://www.mumm.ac.be/EN/Management/Nature/strandings.php>

### 1. What measurements are recorded routinely?

Necropsy and sampling is performed according to the protocol prepared by the European Cetacean Society (Kuiken & Hartmann, 1991).

Toxicological research includes the analysis of the content of heavy metals (Cu, Zn, Cd, Fe, Cr, Ni, Pb) in liver, muscle and kidney, Se in liver and kidney,... Liver and muscle tissues are analysed for their lipid content. Tissues are also analysed for total mercury, methylmercury, PCBs and organochlorine pesticides.

### 2. What methods and units are used?

Heavy metals are analysed using atomic absorption spectrophotometry (ICPS ARL 3510); units are  $\mu\text{g/g dw}$ .

For Se a fluorometric technique is used following an acid digestion of the tissues ( $\mu\text{g/g dw}$ ).

Lipids are analysed using a colorimetric technique: sulphosphovanillin method for total lipids, described by Barnes & Blackstock (1973). Units are  $\text{g/g dw}$ .

Total mercury is analysed using atomic absorption spectrometry. For the analysis of methylmercury, PCBs and organochlorine pesticides, GC-ECD is used. Units are  $\text{ng/g}$  and  $\mu\text{g/g}$  fresh/dry/lipid weight.

### 3. What tissue samples are collected?

See Kuiken & Hartmann (1991).

For toxicological investigations liver, kidney, blubber, adipose and muscle tissue is collected. Sometimes brain and mother milk is collected.

#### **4. How are these stored?**

For toxicology, tissues are stored at  $-18^{\circ}\text{C}$  to  $-35^{\circ}\text{C}$  after necropsy, and kept frozen until analysis.

Dried samples (lyophilisation) are stored in containers at room temperature.

#### **5. What happens to the carcass afterwards?**

Remains of the necropsy are sent to a carcass disposal plant. Occasionally a skeleton is preserved. Sample debris is discarded through the system at the university.

#### **6. Are data entered into a computer database?**

Necropsy data are recorded in word and excell files.

Toxicological data are stored in databases, and afterwards entered into a general oceanographic database: IDOD (Integrated and Dynamical Oceanographic Data Management) managed by MUMM).

#### **7. How many data sets, by species, do you have?**

Pathology: each year 5 to 35 marine mammals stranded at the Belgian coast or at the northern French coast are necropsied (for stranded marine mammals in the north of France a cooperation exists between Belgian and French researchers).

Data exist for the following stranded cetaceans (toxicological data do not exist for all of these):

*Phocoena phocoena*: n > 59

*Stenella coeruleoalba*: n = 2

*Lagenorhynchus albirostris*: n = 11

*Lagenorhynchus acutus*: n = 2

*Globicephalus melas*: n = 1

*Mesoplodon bidens*: n = 1

*Balaenoptera physalus*: n = 3

*Physeter macrocephalus*: n = 6

#### **8. What database software do you use?**

ULg: Excell (7.0), Lotus 1-2-3 (9.0);

VUB: XL 4.0 (Mac)

MUMM (database strandings): Microsoft Access 97

#### **9. Do you foresee any problems regarding the intellectual property rights if these data were later to be included in a common database?**

Published data are, of course, accessible and can be used with reference to the publication. Other data should not be used without authorisation, or prior to publication. Some general data, such as the number of strandings and preliminary observations are available via MUMM.

#### **References**

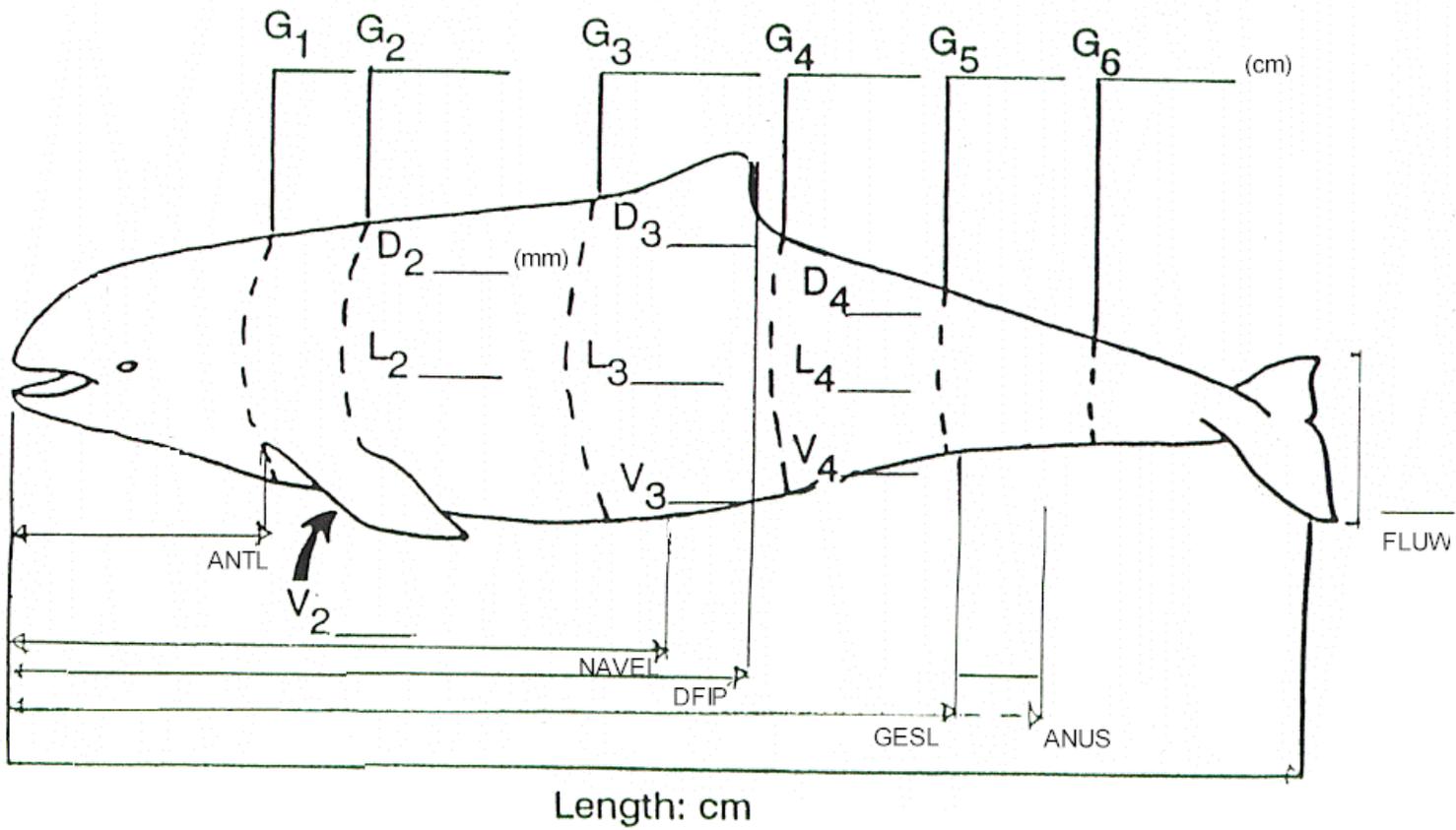
Barnes, H. & Blackstock, J. (1973). Estimation of lipids in marine animals and tissues: detailed investigation of the sulphosphovanillin method for 'total' lipids. *J.exp.mar.Biol.Ecol.* 12: 103-118

Debacker, V, Coignoul, F., Das, K., Haelters, J., Holsbeek, L., Jauniaux, T., Joiris, C.R., Stienen, E., Tavernier, J., Van Waeyenberge, J. & Bouquegneau, J.M., 2002. North Sea seabirds and marine mammals: pathology and ecotoxicology. Final report to the project MARIN, funded by the SSTC (MN/DD/50-53), Brussels

Kuiken & Hartmann, G. (1991). Proceedings of the first ECS workshop on cetacean pathology: dissection techniques and tissue sampling. ECS newsletter 17.

## Denmark

Name and address of reporting institution	Danish Institute for Fisheries Research, Charlottenlund Slot, DK2920 Charlottenlund, Denmark.
Name of respondent	Christina Lockyer
What data are recorded routinely?	Please see: "dissektionsskemær" and "marsvin_pic_2000" for details. In general if the carcass is in good condition, total length is taken, some other specific lengths (see pic file), girths, blubber thicknesses, total body weight, organ and tissue weights (see schemær file). Species normally investigated are porpoise, whitebeaked dolphin and more rarely other small cetaceans and a few baleen whales when a modified scheme is used.
Description of methods and units of measurement used	Methods as per dissection scheme file. Metric scheme: m, cm, mm; kg, g
List of tissue samples usually taken	Comprehensive collections – see schemær file. However, we have different sample collections – e.g. ASCOBANS tissue bank (all frozen at –25°C or colder), genetics (mainly frozen or in special preservatives), etc. Note that some tissue samples e.g. blubber or muscle routinely come from specific body sites! Also we keep stomach contents for analysis of diet, and ovaries if from mature females, in alcohol. Other tissues are taken on specific personal request from researchers (ask if interested!).
How are the samples preserved?	Mainly frozen at –25°C, but ovaries may be in alcohol. Some blubber samples are wrapped in foil before storage.
How are carcasses disposed of?	Usually destroyed. Between 1996 and 1997, complete skeletons were collated, but thereafter only skulls and pelvic bones. The Zoological Museum (Copenhagen) do not currently tend to encourage further collation because of storage problems, but would like to continue if possible! Skeletons from very large or unusual specimens are occasionally prepared by the Zoological Museum in Copenhagen.
Are data recorded in a computer database? Please describe	Yes – a nested comprehensive database of all biological information and measurements (currently in Access format), which also contains position (ICES ref.), date, origin (by-catch and net-type, stranding, etc.) and other basic features. This is for porpoise and is constantly updated. Fokus på hvaler maintains a basic stranding database of all strandings – fewer details.
How many data sets (by species) do you have?	DIFRES only holds porpoises
Which computer software is used?	Microsoft Access
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	Not especially. However, we would need assurances that persons accessing the database have been vetted and authorised. Also, certain very specialised data would not necessarily be allowed to be included in the common database. This would have to be negotiated as the database is a shared property of several institutions in Denmark.
What advantages would you expect from a central database?	We would like at least reciprocal access. However, there are some specialised data that we might require, but this would normally be asked for through individual researchers or institutions.
Additional information	None.



DANISH INSTITUTE FOR FISHERIES RESEARCH

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**IDNO:** \_\_\_\_\_ **ALTID:** \_\_\_\_\_ **SPECIES:** *Phocoena phocoena*

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LOCALITY: \_\_\_\_\_ DATE OF DEATH: \_\_\_\_\_  
 CONDITION: \_\_\_\_\_ CAUSE OF DEATH: \_\_\_\_\_  
 DATE OF AUTOPSY: \_\_\_\_\_ PHOTOGRAPHS: \_\_\_\_\_

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**CHARACTERS:**

Male: Mature \_\_\_\_\_ Immature \_\_\_\_\_  
Sex  
 1.1 Female: Mature \_\_\_\_\_ Immature \_\_\_\_\_ Pregnant \_\_\_\_\_  
 Lactating \_\_\_\_\_

Knobs on dorsal fin: \_\_\_\_\_ leading edge: Y / N trailing edge: Y / N  
 Tongue fringes: Y / N length \_\_\_\_\_ mm

**MEASUREMENTS:**

Body Length: \_\_\_\_\_ cm Liver Weight: \_\_\_\_\_ g  
 Body Weight: \_\_\_\_\_ kg Heart Weight: \_\_\_\_\_ g  
 Muscle Weight: \_\_\_\_\_ kg Pancreas Weight \_\_\_\_\_ g  
 Blubber Weight: \_\_\_\_\_ kg Spleen Weight: \_\_\_\_\_ g  
 Skull Weight: \_\_\_\_\_ kg Kidney Weight, R \_\_\_\_\_ g  
 L \_\_\_\_\_ g  
 Skeleton:  
 (incl. flukes, excl. Skull) \_\_\_\_\_ kg Adrenal Weight, R \_\_\_\_\_ g  
 L \_\_\_\_\_ g  
 Stomach - Full: \_\_\_\_\_ kg Lung Weight, R \_\_\_\_\_ g  
 L \_\_\_\_\_ g  
 Empty: \_\_\_\_\_ kg Lung-fat: R \_\_\_\_\_ mm L \_\_\_\_\_ mm  
 Intestines: \_\_\_\_\_ kg Gonad Weight, R \_\_\_\_\_ g L \_\_\_\_\_ g  
 lengt: \_\_\_\_\_ m Gonad\_ (l x b x h), R \_\_\_\_\_ mm L \_\_\_\_\_ mm

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**FOETUS ID.NO** \_\_\_\_\_

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Foetus Weight \_\_\_\_\_ kg  
 Foetus Length \_\_\_\_\_ mm

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ID.NO: \_\_\_\_\_

**BODY CONDITION:**

Blubber, D2 \_\_\_\_\_, D3 \_\_\_\_\_, D4 \_\_\_\_\_; L2 \_\_\_\_\_, L3 \_\_\_\_\_, L4 \_\_\_\_\_; V2 \_\_\_\_\_, V3 \_\_\_\_\_, V4 \_\_\_\_\_

**see diagram overleaf for positions of sampling**

Leaf fat, if present: \_\_\_\_\_

**GENERAL SAMPLES:**

Teeth: \_\_\_\_\_ Gonads: \_\_\_\_\_ Skull: \_\_\_\_\_ Pelvic bones: \_\_\_\_\_

Stomach contents: \_\_\_\_\_ Urine: \_\_\_\_\_ Blood (if fresh): \_\_\_\_\_

**GENETICS:**

Skin: \_\_\_\_\_ Liver: \_\_\_\_\_ Kidney: \_\_\_\_\_ Muscle: \_\_\_\_\_

**DMU-SAMPLE:** Liver: \_\_\_\_\_ Liver(in aluminium foil): \_\_\_\_\_

**TISSUE BANK (ASCOBANS):**

Blubber, D3: \_\_\_\_\_ Blubber (in aluminium foil) - ca 100 g, D3 position \_\_\_\_\_

Muscle, D3 \_\_\_\_\_ Liver: \_\_\_\_\_ Kidney: \_\_\_\_\_ Heart: \_\_\_\_\_

Lung: \_\_\_\_\_ Adrenals: \_\_\_\_\_ Spleen: \_\_\_\_\_ Milk: \_\_\_\_\_

Other: \_\_\_\_\_

**PARASITES - Level of infection:**

Ear: \_\_\_\_\_ Lung: \_\_\_\_\_ Liver: \_\_\_\_\_ Stomach: \_\_\_\_\_

Intestine: \_\_\_\_\_ Blowhole: \_\_\_\_\_

**ID.NO: \_\_\_\_\_**

**Notes on pathology, especially general health and parasites:**

**External appearance:**

**Body condition:**

**Internal organs:**

**Skeleton:**

**Reproductive tract:**

**General:**

## Germany (Mecklenburg-Vorpommern)

Name and address of reporting institution	Germany: Area of Mecklenburg-Vorpommern; Deutsches Meeresmuseum Katharinenberg 14/20, 18439 Stralsund, Germany
Name of respondent	Dr. Harald Benke
What data are recorded routinely?	Species, location of finding, date of finding, circumstances, finder, by-catch/stranding/life stranding, state of preservation, estimated age, frozen before necropsy or dissected freshly
Description of methods and units of measurement used	Post mortem examination were performed together with Dr. Ursula Siebert, University of Kiel, according to the Proceedings of the First ECS Workshop on Cetacean Pathology (Kuiken and Hartmann, 1993). Measurement were taken in metric systeme.  Kuiken, T. and Hartmann, M. G. (1993). Dissection techniques and tissue sampling. <i>Proceedings of the ECS Workshop</i> , Leiden, 39 pp.
List of tissue samples usually taken	In close co-operation with Dr. Ursula Siebert, University of Kiel, all organ systems were examined macroscopically and samples of lesions and different organ systems, including lungs, trachea, stomach (1 <sup>st</sup> , 2 <sup>nd</sup> , and 4 <sup>th</sup> compartment), intestine, esophagus, liver, pancreas, thyroid gland, adrenal gland, kidney, urinary bladder, testis, uterus, ovary, spleen, thymus, pulmonary and intestinal lymph nodes, retropharyngeal lymph nodes, heart, aorta, skeletal muscles, rete mirabilis of the intercostal musculature, skin, blubber, brain, spinal cord, eye, bone, bone marrow, and tissue of the aural peribullar cavity, blood, urine etc.
How are the samples preserved?	Formalin, alcohol, other special fixation, frozen at -20-30°C or 70-80°C, OCT etc.
How are carcasses disposed of?	Incineration for special toxic waste
Are data recorded in a computer database? Please describe	Data base on important biological parameters of harbour porpoises from the German Baltic Sea (e.g. morphometrics, genetics, chemical analyses, stomach content, age, reproductive data, pathological data)
How many data sets (by species) do you have?	Since 1951 all strandings of cetaceans at the coast of Mecklenburg-Vorpommern were collected by the Deutsches Meeresmuseum
Which computer software is used?	Excel
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	Data should be put in an international data base after publication. Use and interpretation of data sets should be restricted
What advantages would you expect from a central database?	Exchange and comparison of all data collected in different countries. This will give a more precise picture of the different subpopulation of harbour porpoise.
Additional information	

## Germany (Schleswig-Holstein)

Name and address of reporting institution	Germany: Area of Schleswig-Holstein; Forschungs- und Technologiezentrum Westküste Christian-Albrechts-Universität zu Kiel Hafentörn, 25761 Büsum, Germany
Name of respondent	Dr. Ursula Siebert
What data are recorded routinely?	Species, location of finding, date of finding, circumstances, finder, by-catch/stranding/life stranding, state of preservation, estimated age, frozen before necropsy or dissected freshly
Description of methods and units of measurement used	Post mortem examination were performed, according to the Proceedings of the First ECS Workshop on Cetacean Pathology (Kuiken and Hartmann, 1993). Measurement were taken in metric system.  Kuiken, T. and Hartmann, M. G. (1993). Dissection techniques and tissue sampling. <i>Proceedings of the ECS Workshop</i> , Leiden, 39 pp.
List of tissue samples usually taken	All organ systems were examined macroscopically and samples of lesions and different organ systems, including lungs, trachea, stomach (1 <sup>st</sup> , 2 <sup>nd</sup> , and 4 <sup>th</sup> compartment), intestine, esophagus, liver, pancreas, thyroid gland, adrenal gland, kidney, urinary bladder, testis, uterus, ovary, spleen, thymus, pulmonary and intestinal lymph nodes, retropharyngeal lymph nodes, heart, aorta, skeletal muscles, rete mirabilis of the intercostal musculature, skin, blubber, brain, spinal cord, eye, bone, bone marrow, and tissue of the aural peribullar cavity, blood, urine etc.
How are the samples preserved?	Formalin, alcohol, other special fixation, frozen at -20-30°C or 70-80°C, OCT etc.
How are carcasses disposed of?	Incineration for special toxic waste
Are data recorded in a computer database? Please describe	Data base on important biological parameters of harbour porpoises from the German North an Baltic Sea (e.g. morphometrics, genetics, chemical analyses, stomach content, age, reproductive data, pathological data)
How many data sets (by species) do you have?	Between 1990 and 2002 the following number of data sets has been collected per species: Phocoena phocoena: 1213 Delphinus delphis: 4 Lagenorhynchus albirostris: 21 Physeter catodon: 3 Balaenoptera acutorostrata: 6 Balaenoptera physalus: 3 Globicephala melaena: 3
Which computer software is used?	Ingres, Excel, Filemaker
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	Data should be put in an international data base after publication. Use and interpretation of data sets should be restricted
What advantages would you expect from a central database?	Exchange and comparison of all data collected in different countries. This will give a more precise picture of the different subpopulation of harbour porpoise
Additional information	

## Germany (Lower Saxony)

Name and address of reporting institution	Germany, coast of Lower Saxony: Veterinary Institute for Fish and Fishery Products D 27472 Cuxhaven; Schleusenstraße 1
Name of respondent	Dr. Michael Stede
What data are recorded routinely?	Species, location and circumstances of finding incl. by-catch, life stranding and condition of the carcass. In rotten and un-transportable cases: sex, estimated age, length;- all according to the condition of the carcass.
Description of methods and units of measurement used	Post mortem examination according to good anatomical-pathological practice depending on the state of decomposition. Units: metric cm/g-System.
List of tissue samples usually taken	According to the state of decomposition and need to confirm macroscopical results. Stomach content; for Xenobiotics incl. radioactivity: Liver, kidney, muscle
How are the samples preserved?	Deep frozen, Formaldehyd solution, alcohol
How are carcasses disposed of?	In rendering plants safeguarding that the final product contains less than 10% of Marine Mammal origin.
Are data recorded in a computer database? Please describe	No special system; special form of protocol for each p.m.examination.
How many data sets (by species) do you have?	-for all stranded and dissected animals from the coast of Lower Saxony
Which computer software is used?	Word 97 or higher
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	Data may be put into a base after interpretation and publication by the owner. Use and further interpretation should be restricted.
What advantages would you expect from a central database?	Focusing special region depended problems (diseases, fisheries, protection)
Additional information	

## Lithuania

Name and address of reporting institution	Lithuanian Sea Museum
Name of respondent	SAULIUS KARALIUS
What data are recorded routinely?	A single harbour porpoise by-catch in April 2001 off Klaipėda Bottlenosed dolphin standing in 1998, Latvia
Description of methods and units of measurement used	
List of tissue samples usually taken	No samples taken
How are the samples preserved?	
How are carcasses disposed of?	A skeleton of harbour porpoise is being produced for the display in LSM
Are data recorded in a computer database? Please describe	No data recorded in PC
How many data sets (by species) do you have?	
Which computer software is used?	
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	
What advantages would you expect from a central database?	
Additional information	

## Sweden

Our veterinary pathologist, Anders Bergman, uses the routines recorded below, at post mortem investigations *on seals* from Swedish waters. Any small cetaceans caught in the Baltic that could be brought fresh to the Swedish Museum of Natural History, Stockholm would receive similar treatment. From harbour porpoises from the Swedish west coast a piece of tissues from the dorsal fin is sampled.

Name and address of reporting institution	Contaminant Research Group Swedish Museum of Natural History PO Box 500 07 SE 104 05 Stockholm SWEDEN		
Name of respondent	Anders Bergman		
What data are recorded routinely?	<u>Body measurements.</u>	Body weight Blubber thickness Total body length Length of hind foot (-"-) Length of tail: anus-tip of tail (-"-)	Units of measurements:  kg cm,mm cm,mm cm,mm cm,mm
	<u>Weights, non-reproductive organs</u>	Thymus Spleen Portal (hepatic) lymph node Liver Pancreas Kidneys Heart Thyroid Adrenals (Brain, Pituitary)	g g g g g g g g g g (g, mg)
	<u>Weights, and measures, male sex organs</u>  <u>Weights, and measures, female sex organs</u>	Special measurements are performed.  Special measurements are performed.	g, mm
Description of methods and (units) <i>grades of pathological changes</i>	As a rule, both macroscopic and microscopic changes are graded using a 4-degree-scale: 0, no changes, 1, slight, 2, moderate and 3, severe.		
List of tissue samples usually taken for <i>environmental contaminant chemistry</i>	1. Blubber                      4. Kidney 2. Skeletal muscle            5. Brain 3. Liver                         6. Lung		
How are the samples preserved?	Material for histology is fixed in 10% neutral buffered formalin. Material for environmental contaminant chemistry is deep frozen and stored at -30 degrees C.		
How are carcasses disposed of?	The animals are found dead at the shore or found drowned in fishing gear. In that connection reports and help from fishermen, Coast Guard and Police is of great value. Most animals are transported to the Museum of Natural History for necropsy. At some occasions, when seals are found close to Stockholm, necropsies have been performed at the finding place.		

Are data recorded in a computer database? Please describe	Points 11-15. Preliminary contacts have been taken on this matter with database people.	
How many data sets (by species) do you have?	We have no data set dedicated to post mortem research data on small cetaceans Specimens and samples in the museum of harbour porpoise and other small cetaceans can be found at: <a href="http://www.nrm.se/mg/mpb/mpbsearch.html.se">http://www.nrm.se/mg/mpb/mpbsearch.html.se</a>	
Which computer software is used?	MS Excel and MS Access	
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	We do not think it is a good idea to have a central database. There are problems especially with updating. A distributed database is preferable see for example <a href="http://habanero.nhm.ukans.edu/zportal/tsasimple.asp">http://habanero.nhm.ukans.edu/zportal/tsasimple.asp</a>	
What advantages would you expect from a central database?	none	
Additional information		

ACCNR	SPECIES	LSKP	SEX	AGE	FO	KF	NS	ADAT	DDAT	FDAT	WEIGHT	LENGTH	SITE
Ma1973/0210	TUMLARE	NB	F							19730916	47		FÅRÖHOLMEN, KALIX, BOTTENVIKEN
C1980/5019	TUMLARE	SK	F			4		19801107					SKÅNE
A1981/5089	TUMLARE	SK	F		R	1	M	19811006	19811005		31,5	136	VITEMÖLLA, SIMRISHAMN
A1984/5019	TUMLARE	SK	F		RN	1		19840314	19840310		72	158	SIMRISHAMN
A1984/5020	TUMLARE	SK	M	J	RN	1	Ö	19840314	19840310		23	109	SIMRISHAMN
A1984/5044	TUMLARE	SK	M		RN	1	M	19840515	19840506		34	122	KÄMPINGEBUKTEN
A1984/5047	TUMLARE	SK	M		F	4		19840525		19840523			SIMRISHAMN
A1984/5062	TUMLARE	SK	M		RN	1		19840710	19840705		37	135	TRELLEBORG
A1984/5087	TUMLARE	ÖL	M		RN	1		19840802	19840729		38,5	130	BLÅ JUNGFRUN
A1984/5187	TUMLARE	SK	M		RN	1	U	19841018	19841016		34,8	130	YSTAD
A1984/5230	TUMLARE	SK	M		RN	1		19841129	19841127		35	125	SKÅLDERVIKEN
A1985/5141	TUMLARE	SK	M		R	1	U	19850815	19850813		23	134	SKÅRE
A1985/5179	TUMLARE	SK	F	J	R	1	U	19850924	198509		35	117	ÅHUS
A1985/5196	TUMLARE	SK	F		R	1	U	19851022	19851017		57,5	156	SIMRISHAMN
A1985/5223	TUMLARE	SK	M		R	1		19851126	19851124		50	135	GISLÖV
A1986/5044	TUMLARE	BL	F		RN	1	U	19860513		19860511	64	154	HÄLLEVIK
A1986/5087	TUMLARE	SK	F		RN	1	Ö	19860723	19860721		34	118	VERKAÅN
A1986/5093	TUMLARE	BL	F		RN	1	M	19860728	19860727		36,5	122	HASSLÖ
A1986/5118	TUMLARE	UP	M	J	RN	1	Ö	19860814	19860810		16,6	92	FÅGELSUDET
A1986/5132	TUMLARE	SK	F		RT	1	M	19860901	19860829		34	128	KIVIK
A1986/5214	TUMLARE	SK	M		RN	1	Ö	19861111	19861108		30	120	YSTAD
A1986/5229	TUMLARE	SK	M		RN	1		19861215	19861211		41	122	HANÖ
A1987/5045	TUMLARE	SK	F		R	2	M	19870430	19870427		63		GISLÖV
A1987/5217	TUMLARE	SK	M	2	R	1	Ö	19870804	19870731		31,7		YSTAD
A1987/5226	TUMLARE	BL	M	J	R	1	Ö	19870818	19870813		20,2		UTLÅNGAN
A1987/5357	TUMLARE	SK	F		R	1		19871203	19871202		39,5		SMYGEHAMN
A1988/5010	TUMLARE	BL	F		RN	1	M	19880224	19880220		36,6	126	PUKAVIKSBUKTEN
A1988/5094	TUMLARE	SK	M	1	RN	1	M	19880527	19880526		35		SMYGEHAMN
A1988/5142	TUMLARE	SK	M		F	3		19880727		19880721	34	122	TRELLEBORG
A1988/5210	TUMLARE	SK		0		4		19880907		19880901		166	
G1988/7656	TUMLARE	SK	M		RN	1		19880921		19880920	28,8	114	ABBEKÅS
G1988/7719	TUMLARE		M	8	RN	1		19881119		19881117	47	139	BLÅ JUNGFRUN
A1989/5156	TUMLARE	SK	F		F	4		19891004		19891003	43	175	SKÅRE HAMN
C1990/3080	TUMLARE	ÖL	F		RN	1		19910108		19910103	49	146	KALMARSUND
A1991/5084	TUMLARE	SK	M		RN	1	M	19910801	19910730		24	118	YSTAD
A1993/5175	TUMLARE	ÖL	M		RN	1		19930813	19930805		45	135,5	S ÖLAND
A1994/5053	TUMLARE	ÖL	M		RN	1		19940121	19940120		45	137	MÖRBYLÅNGA
A1994/5071	TUMLARE	SK	M								44,8	148	
A1994/5175	TUMLARE	SK	M	2	RN	2		19940930	19940926		31,9	129	SIMRISHAMN
C1994/5342	TUMLARE	SK			F	2		19941221		19941218			SKANÖR
A1995/5049	TUMLARE	BL			RN	1		19950531		19950527	26,8	117,6	
A1998/5770	TUMLARE	ÖL	F					199810	19980116		37,5	128,5	SÖDRA BANKARNA
A2001/8255	TUMLARE	BL	M	0	RN	1		20010319	20011212				03F 2B

Column FO: R = fishing gear, RN = fishing gear, net, F = found dead  
Column KF: 1-4 = condition  
Column NS (nutritional status): Ö = over normal, U = under normal

## United Kingdom

Name and address of reporting institution	Institute of Zoology (Zoological Society of London), Scottish Agricultural College (Inverness), The Natural History Museum (London). Full addresses can be provided on request.  <i>Legend:</i> NHM (Natural History Museum), SAC (Scottish Agricultural College, Inverness), IoZ (Institute of Zoology)
Name of respondent	Paul Jepson (IoZ), Tony Patterson/Bob Reid (SAC) and Richard Sabin (NHM).  Submitted by Stacey Hughes, Department for Environment, Food and Rural Affairs (DEFRA), Bristol, UK.
What data are recorded routinely?	<i>All cetacean strandings:</i> Depending on availability of information, data routinely recorded can include:  Date of event NHM assigned reference number per animal Number of animals involved in the event Nominal species involved as scientific and common names. Source and path of information Status code (stranding, by-catch, floater, swimming nearby) Condition of specimen(s) with categories from very decayed to survived and swam off Gender Morphological features and metrics, including e.g. overall length Material retained for collections Locality by name (additionally county and country, ) Locality by geographic co-ordinates (UK national reference system, UK national grid, decimal Latitude, decimal Longitude) Pathological conditions and parasites Species codes assigned (based on Marine Conservation Society 'Directory of the British marine fauna and flora' 1987) Other organisation reference numbers  <i>Cetacean strandings undergoing necropsy:</i> full morphometric and pathological data taken according to standardised necropsy protocol of the 1 <sup>st</sup> ECS Pathology Workshop, Leiden, The Netherlands, 1991.
Description of methods and units of measurement used	Direct measurement and observation at site where possible. Interviews. Photography where possible. Original measures metric by preference. Carcasses suitable for necropsy retrieved and examined in laboratory. Larger carcasses examined on site. A broad range of laboratory investigations of retrieved samples is usually conducted. Necropsies are undertaken according to standardised cetacean postmortem protocol of the 1 <sup>st</sup> ECS Pathology Workshop, Leiden, The Netherlands, 1991.
List of tissue samples usually taken	Carcasses retrieved or examined <i>in situ</i> using standardised cetacean postmortem protocol of the 1 <sup>st</sup> ECS Pathology Workshop, Leiden, The Netherlands, 1991. Otherwise, teeth, body wall core (blubber/muscle), stomach contents, parasites are often taken from more decomposed carcasses.
How are the samples preserved?	Frozen (-80 <sup>o</sup> C and -20 <sup>o</sup> C) and formalin-fixed (10% neutral buffered). Parasites fixed in 70% alcohol.
How are carcasses disposed of?	Usually cleared by Environmental Health Departments of local Government Authorities (if no necropsy undertaken), or incinerated as pathological waste following necropsy. Larger carcasses have been taken to landfill sites in some cases.
Are data recorded in a computer database? Please describe	Yes. All cetacean strandings data entered in a central database held at NHM (data from 1913-present). Pathological data held on central databases at Institute of Zoology and Scottish Agricultural College Inverness.

How many data sets (by species) do you have?	25 cetacean species have been recorded stranded in the UK since 1913. Individuals of 17 cetacean species have been necropsied in the UK since 1990.
Which computer software is used?	NHM - Smart ver 3.10, ArcView/MapInfo, MS Excel, In-house routines. IoZ - Microsoft FoxPro, Microsoft Excel SAC - RapidFile (Ashton-Tate), Microsoft Excel
Do you foresee any problems (e.g. regarding intellectual property rights etc.) related to a central database?	NHM have experienced some inertia with large-scale projects as a proportional and consistent feature. Possibly better to agree common data objectives and to harvest on a regular basis for assembly/assimilation for common access. Database would also need to be dynamic so that data entries can be regularly updated as new laboratory data becomes available. Lag-time should not a problem with electronic transfer for updates. Any international database would need to have agreement on procedures for access and use of centralised data among contributors and funding organisations. Suggest using English language as the international standard.
What advantages would you expect from a central database?	Would allow European-wide monitoring of trends in distribution, causes of mortality, diseases, levels of pollutants, etc. of cetaceans in European waters using standardised protocols and methodologies. This could subsequently prove to be a very useful tool for understanding and assessing impacts of specific threats to cetaceans throughout the ASCOBANS range.  In conjunction with other long-term datasets such as those holding sightings and environmental data, novel multidisciplinary research could be undertaken on many aspects of the biology and conservation of cetaceans in European waters. A central database would also permit an integrated catalogue of tissues collected from stranded animals (cetacean tissue banks) to be made available to other researchers involved in many different research disciplines involving small cetaceans in ASCOBANS areas.
Additional information	The above work is carried out under the DEFRA-funded UK Cetacean Strandings Scheme. In addition, the National Assembly for Wales currently funds the Welsh Strandings Co-ordinator in conjunction with the Countryside Council for Wales.  Email contact details: Paul Jepson Email: <a href="mailto:paul.jepson@ioz.ac.uk">paul.jepson@ioz.ac.uk</a> Tony Patterson/Bob Reid Email: <a href="mailto:WildlifeUnit@ed.sac.ac.uk">WildlifeUnit@ed.sac.ac.uk</a> Richard Sabin Email: <a href="mailto:rsc@nhm.ac.uk">rsc@nhm.ac.uk</a> Stacey Hughes Email: <a href="mailto:Stacey.Hughes@defra.gsi.gov.uk">Stacey.Hughes@defra.gsi.gov.uk</a>