

Agenda Item 13

Annual National Reports 2007

Document 15

**Annual National Reports
c) Denmark**

Action Requested

- briefly present highlights from report (max. 5 minutes)
- take note of the information submitted
- comment

Submitted by

Parties



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

Secretariat's Note

Attached are, as separate documents in order to minimise the need for revisions, the Annual National Reports for 2007, as submitted by the ASCOBANS Parties.

ASCOBANS Annual National Report

A. General information

Denmark	1 January - 31 December 2007
Name of party	Period covered
Magnus Wahlberg Fjord&Baelt Margrethes Plads 1 5300 Kerteminde Denmark	February 26th, 2008
Name of report compiler	Date of report
Any changes in coordinating authority, appointed member of advisory committee	

B. NEW measures/action towards meeting the resolutions of the Meeting of Parties

1. Direct interaction of small cetaceans with fisheries

- The National Institute of Aquatic Resources (DTU Aqua; formerly Danish Institute for Fisheries Research) has conducted research on mitigation of harbour porpoise by-catch in Danish waters. More specifically:

- Investigated the effects of alerting pingers on the by-catch in bottom set gill net fisheries;
- Investigated sound propagation from pingers under varying conditions;
- Investigated durability and handling of commercially available pingers (with the Danish Fishermen's Association/Krog Consult)¹;
- Determined target strength of standard and high-density (iron-oxide and barium sulphate) gill nets (with Aarhus University)²;
- Studied gill net detection capabilities of captive harbour porpoises (with Fjord and Bælt and Aarhus University);

- Aarhus University and Fjord&Bælt completed several studies that may prove useful for reducing by-catch:

- Measurements of the acoustic activity of free-ranging harbour porpoises³;
- Detailed measurements of the frequency content of captive harbour porpoise signals⁴;
- Studies on harbour porpoise hearing abilities⁵, and pilot studies on how harbour porpoises react to sound.

- The University of Southern Denmark has in collaboration with the National Environmental Research Institute conducted a study on harbour porpoise biosonar using an acoustic tag developed by T Akamatsu⁶. This study may have an important impact on how we view harbour porpoise acoustic and foraging activities, and thereby how the by-catch problem may be alleviated.

Investigations of methods to reduce by-catch.

Implementation of methods to reduce by-catch

- In relation to EU Council Regulation 812/2004, DTU Aqua has had dedicated observers on board pelagic trawl fishery vessels for a total of 137 days at sea in the North Sea and 15 days at sea in ICES subdivision 21. No by-catch of cetaceans was observed.

- The total number of reported stranded cetaceans along the Danish coasts in 2007 were:

- 95 harbour porpoises (*Phocoena phocoena*)
- 3 whitebeaked dolphins (*Lagenorhynchus albirostris*)
- 2 whitesided dolphin (*Lagenorhynchus acutus*)
- 1 killer whale (*Orcinus orca*)
- 1 long-finned pilot whale (*Globicephala melas*)
- 3 minke whales (*Balaenoptera acutorostrata*)

Out of the 95 porpoises, three were definitely bycaught in gill nets. It is believed that a major part of the remaining 95 harbour porpoise strandings have been due to by-catch in gill-net fisheries, as several of the stranded animals had wounds characteristic of net entanglement.

Estimates of by-catch in set net and pelagic trawl fisheries			
Species	Estimated number of by-caught animals	Area (ICES area or more detailed)	Notes (type of fishery, effort, seasonal variations, etc.)
Harbour porpoises	No new estimate for 2006. The most recent estimate is that from 2001-2002 presented by Vinther and Larsen (2004) ⁷	23, 23, 24, IIIa, IVb	
Other species	Few, but the exact number and species involved unknown.	23, 23, 24, IIIa, IVb	

¹ Krogh, C. (2007). Anvendelse af pingere I dansk garnfiskeri – overvågning, håndtering og effekt. Final report.

² Larsen, F., O. R., Eigaard, J. Tougaard (2007). Reduction of harbour porpoise (*Phocoena phocoena*) bycatch by iron-oxide gillnets. Fisheries Research 85(3): 270-278.

³ Villadsgaard, A., M. Wahlberg, J. Tougaard (2007). Echolocation clicks of wild harbour porpoises, *Phocoena phocoena*. Journal of Experimental Biology 210: 56-64.

⁴ Hansen, M. (2007). M.Sc. thesis, Aarhus University.

⁵ Beedholm, K., L. A. Miller (2007). Automatic Gain Control in harbour porpoises (*Phocoena phocoena*)? Central versus peripheral mechanisms. Aquatic Mammals 33(1): 69-75.

⁶ Lennenschmidt, M. (2007). M. Sc. thesis, University of Southern Denmark.

⁷ Vinther and Larsen (2004). Updated estimates of harbour porpoise by-catch in the Danish bottom set gillnet fishery. J.Cetacean Res. Manage. 6(1): 19-24.

2. Reduction of disturbance to small cetaceans

K. Lucke (University of Kiel) finished a study in 2007 on temporary changes in the hearing abilities of a captive harbour porpoise at Fjord & Bælt, Kerteminde, when exposed to sounds resembling those generated during pile driving in shallow waters. Results from this investigation are to be published during 2008 or 2009.

Information on levels of disturbance

(e.g. seismic surveys, new high-speed ferry routes, studies about acoustic impacts on cetaceans, etc.)

An Environmental impact assessment from the National Environmental Research Institute was made regarding the impact on harbour porpoises and harbour seals of the Rødsand 2 offshore windfarm construction. The report suggests that animals are likely to be affected during construction phase at larger long distances, but they are most likely not affected during operation of the wind farm⁸.

Implementation of guidelines, new legislation, etc. to reduce disturbance

⁸Tougaard, J. & Teilmann, J. (2007): Rødsand 2 Offshore Windfarm. Environmental Impact Assessment - Marine Mammals. Commissioned Report to DONG Energy. National Environmental Research Institute. 77 pp.

3. Protected areas for small cetaceans

A study was conducted to identify high density areas for harbour porpoises based on satellite tracking, aerial surveys and acoustic ship surveys. 16 areas have been identified and ranked. Project leader: Jonas Teilmann, National Environmental Research Institute^{9, 10}.

Measures taken to identify, implement and manage protected areas

⁹ Sveegaard, S., J. Teilmann, (2007). Identifying areas of high porpoise density using satellite telemetry. In: ICES : Report of the Workshop on Fisheries Management in Marine Protected Areas (WKFMPA), 10-12 April 2007. International Council for the Exploration of the Sea. ICES. - ICES CM 2007/MHC 06: 33-34.

¹⁰ Sveegaard, S., J. Teilmann (2007). Marsvin *Phocoena phocoena*. I: Søgaard, B. & Asferg, T. (red): Håndbog om dyrearter på habitatdirektivets bilag IV – til brug i administration og planlægning. Danmarks Miljøundersøgelser, Aarhus Universitet. - Faglig rapport 635: 101-105.

4. Further research on small cetaceans

Implementation of schemes to use and gain information from stranded cetaceans

- One harbour porpoise was instrumented with an acoustic tag, a time depth logger, and a satellite tag, by Jonas Teilmann, National Environmental Research Institute, and Lee Miller, University of Southern Denmark. The animal (female 166 cm, 62 kg) was bycaught in a weir net at Fjellerup Strand, Denmark (N61°30', E9°47'). The purpose was to study the acoustic behavior and movements of harbour porpoises.

- At Fjord&Bælt in Kerteminde, a harbour porpoise calf was born on the 8th of August, 2007. This is the first time there has been reported a successful harbour porpoise birth under human care. This event has triggered a range of studies on the development, acoustics, physiology, anatomy and the behaviour of a neonate and young harbour porpoise and its mother. Results will be published during 2008 and 2009.

- The population structure based on genetic microsatellites and mitochondrial DNA has been conducted to investigate the present structure in the Danish waters. Furthermore, a comparison with samples collected during the 1800s and during the 1940s is included. Results from this investigation are soon to be published by L.W. Andersen (National Environmental Research Institute) et al.

Research on abundance, population structure etc.

Research on the effects of pollutants on cetacean health

5. Public awareness and education

- An international conference on The effects of noise on aquatic life, Nyborg, 13-18th of August, 2007. This conference attracted some of the 200 most prominent underwater bioacousticians in the world to discuss the impact on cetaceans, fish and other underwater animals on human-induced noise.

- The round-the-world trip with the research vessel Galathea 3, finished in March 2007, generated public awareness of conservation of cetaceans and other marine organisms.

- The smaller boat expeditions Danmark Galathea, September 2007, included plenary discussions among harbour porpoise scientists about harbour porpoise biology.

- Fjord&Bælt houses four harbour porpoises for research purposes and public education and awareness. Through exhibition and talks, the center provides information to the general public and special groups on harbour porpoises and harbour seals in general, and on the by-catch problem and the ongoing efforts undertaken to mitigate these issues. The Fjord&Bælt web page (www.fjord-baelt.dk) also contains information on harbour porpoise conservation.

- The Fishery and Maritime Museum in Esbjerg is a public museum, which offers lessons on cetaceans as well as exhibitions on whales and whale strandings. Its homepage; www.hvaler.dk reports on whales and whale sightings in Danish waters.

- Measures taken in the fields of public awareness and education to implement or promote the Agreement