Agenda Item 13 Annual National Reports 2007

Document 15

Annual National Reports
h) Netherlands

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

Name of party The Netherlands	Period covered 1 January 2007 – 31 December 2007
Name of report compiler Meike Scheidat, Wageningen Imares, meike.scheidat@wur.nl	Date of report 18-March 2008
Any changes in co-ordinating authority: no changes: drs. M.H.W. Moolhuijsen. Directorate Nature, Ministry of Agriculture, Nature & Food Quality	

B. NEW measures/action towards meeting the resolutions of the 2nd Meeting of Parties

1. Direct interaction of small cetaceans with fisheries

World-wide many cetaceans drown incidentally in fishing nets. To reduce the unwanted bycatch in gillnets, pingers (acoustic alarms) have been developed that are attached to the nets. In the European Union, pingers were made compulsory in some areas in 2005 and in others in 2007. However, pingers may affect non-target marine fauna such as fish. Therefore a study has been carried out in The Netherlands in 2006 (published 2007),, to quantify the effects of seven presently commercially-available pingers on the behaviour of five North Sea fish species in a large tank. The species tested were: sea bass (*Dicentrarchus labrax*), pout (*Trisopterus luscus*), thicklip mullet (*Chelon labrosus*), herring (*Clupea harengus*), and cod (*Gadus morhua*). The fish were housed as single-species schools of 9–13 individuals in a tank. The behaviour of fish in quiet periods was compared with their behaviour during periods with active pingers. The results varied both between pingers and between fish species. Of the seven pingers tested, four elicited responses in at least one fish species, and three elicited no responses. Whether similar responses would be elicited in these fish species in the wild, and if so, whether such responses would influence the catch rate of fisheries, cannot be derived from the results of this study. However, the results indicate the need for field studies with pingers and fish. Based on the small number of fish species tested, the present study suggests that the higher the frequency of a pinger, the less likely it is to affect the behaviour of marine fish.

To determine how well harbour porpoises can locate sound sources, and thus can locate acoustic alarms on gillnets, the ability of a porpoise to determine the location of a sound source was investigated by training an animal to indicate the active one of 16 transducers in a 16-m-diam circle around a central listening station. The duration and received level of the narrowband frequency-modulated signals were varied. The animal's localization performance increased when the signal duration increased from 600 to 1000 ms. The lower the received sound pressure level (SPL) of the signal, the harder the animal found it to localize the sound source. When pulse duration was long enough (≈ 1 s) and the received SPLs of the sounds were high (34–50 dB above basic hearing thresholds or 3–15 dB above the theoretical masked detection threshold in the ambient noise condition of the present study), the animal could locate sounds of the three frequencies almost equally well. The porpoise was able to locate sound sources up to 124° to its left or right more easily than sounds from behind it.

In a further study the target strength as a function of aspect angle were measured for four species of fish using dolphin-like and porpoise-like echolocation signals. The polar diagram of target strength values measured from an energy flux density perspective showed considerably less fluctuation with azimuth than would a pure tone pulse. Using detection range data obtained from dolphin and porpoise echolocation experiments, the detection ranges for the Atlantic cod by echolocating dolphins and porpoises were calculated for three aspect angles of the cod. Maximum detection ranges occurred when the fish was broadside to the odontocete and minimum detection ranges occurred when the cod was in the tail aspect. Maximum and minimum detection ranges for the bottlenose dolphin in a noise-limited environment was calculated to be 93 and 70 m, respectively. In a quiet environment, maximum and minimum detection ranges for the bottlenose dolphin were calculated to be 173 and 107 m, respectively. The detection ranges for the harbor porpoise in a quiet environment were calculated to be between 15 and 27 m. The primary reason for the large differences in detection ranges between both species was attributed to the 36 dB higher source level of the bottlenose dolphin echolocation signals.

New publications

Au, W.W.L., Benoit-Bird, K.J., and Kastelein, R.A. (2007) Modeling the detection range of fish by echolocating bottlenose dolphins and harbor porpoises. Journal of the Acoustical Society of America, 121(6), 3954-3962.

Kastelein, R. A., van der Heul, S., van der Veen, J., Verboom, W.C., Jennings, N., and Reijnders P. (2007) Effects of acoustic alarms, designed to reduce small cetacean bycatch, on the behaviour of North Sea fish species in a large tank. Marine Environmental Research 64, 160-180.

Kastelein, R.A., de Haan, D., Verboom, W.C. (2007) The influence of signal parameters on the sound source localization ability of a harbor porpoise (*Phocoena phocoena*). JASA 122, 1238-1248.

Investigations of methods to reduce by-catch

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Implementation of methods to reduce by-catch

No by-catches have been recorded in the ongoing monitoring programme on the incidental bycatch of cetaceans in Dutch pelagic fisheries under EU Council Regulation 812/2004 in 2007.

About 320 porpoises were found stranded in 2007. Stranded porpoises were collected for necropsies, to reveal bycatch percentages among the stranded animals. A total of 58 animals, ranging from freshly dead when stranded to severely putrefied, received a full (or as full as possible) necropsy. The final numbers of bycaught animals for 2007 are not available yet. However, in 2006, about 55% of the necropsied animals were certain or likely bycatch victims. Bycatch has apparently been a major cause of death during the last two decades.

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 porpoise	>150	Dutch North Sea coast	Presumably bottom set gillnets

2. Reduction of disturbance to small cetaceans

The first phase of a study on the possible impact of a wind farm off the North Sea coast of The Netherlands (close to Egmond at Sea) has been finished. The outcome has provided reference data on abundance, occurrence and distribution of harbour porpoises in the wind farm area and two reference sites. Both boat surveys and the deployment of hydrophones (T-PODs) have been used to acquire the necessary baseline data. Early 2007, the second phase of this study started and continued to investigate again abundance, occurrence and distribution of harbour porpoises. The construction of the wind farm has been finalised at the end of 2006. During the construction works, noise levels have been recorded and are being processed. Patterns of strandings of porpoises near the construction site and at greater distances along the Dutch coastline have been studied to reveal any construction-related peaks in strandings (none were found).

A study on the behavioural avoidance threshold level of a harbour porpoise for a continuous 50 kHz pure tone has been finalized and the results will be published in 2008.

Kastelein, R.A., Verboom, W.C., Jennings, N., and de Haan, D. (2008) Behavioral avoidance threshold level of a harbor porpoise (*Phocoena phocoena*) for a continuous 50 kHz pure tone. J. Acoust. Soc. Am. (*submitted*)

Contacts have been made with the Ministry of Defense of The Netherlands to investigate options for mitigating and investigating of acoustic activities of the Dutch Navy (this will feed into a inter-ministerial working group to mitigate potential effects).

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

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

3. Protected areas for small cetaceans

A study started in 2006 to identify candidate Special Areas of Conservation (SACs) under the Habitats Directive and OSPAR in the Dutch sector of the North Sea. In the Dutch Continental Shelf and Coastal Waters 4 sites have been identified as marine areas: Doggersbank, Klaverbank and two parts of the coastal zone, Noordzeekustzone in the north and Vlakte van de Raan in the south. In 2008, these areas will be proposed to the EU commission as Special Areas of Conservation (SACs) under the European Habitats Directives and will also be reported to the OSPAR Secretariat as MPA's according to the OSPAR Convention. Although these future SACs will not be designated for small cetaceans especially, they will contribute to their protection.

Measures taken to identify, implement and manage protected areas

4. Further research on small cetaceans

Porpoises will be collected for necropsies again in 2008 and in the following years, to follow the development of bycatch perctages and for other studies into porpoise biology, such as gathering dietary information.

Implementation of schemes to use and gain information from stranded cetaceans

A research project has been approved to cover part of the southern coastal Dutch waters to estimate abundance of harbour porpoises during different times of the year. The first aerial surveys using distance sampling methodology are planned for May and August 2008.

A pilot study to use a towed hydrophone array in Dutch waters has been finished. The results indicated that the array could be useful in collecting data on harbour porpoise occurrence, especially in weather conditions when visual surveys can not be conducted. Data continues to be collected on an ad hoc basis whenever adequate vessels are available.

Research on abundance, population structure etc.

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Research on the effects of pollutants on cetacean health

5. Public awareness and education

The necropsy findings, particularly the high bycatch percentage has been broadly presented in Dutch newspapers, fisheries bulletins, and national television. Fishermen have been invited to give their views and to join the scientists in an effort to identify the particular type of fishery that is responsible for the high numbers of bycatches.

Measures taken in the fields of public awareness and education to implement or promote the Agreement:
An article about ASCOBANS was published in the magazine “Kust & Zee Gids 2007-2008”. This publication was focussed on the Year of the Dolphin.

6. General actions

In order to improve the conservation status of harbour porpoise in the North Sea, the meeting of parties and the North Sea ministers have decided that a Conservation Plan for harbour porpoises in the North Sea should be developed. After compiling a background document (expert paper by Eisfeld & Kock), a draft conservation plan has now been written and will be discussed at the next AC meeting.

Reijnders, P.J.H., G.P. Donovan, A. Bjorge, K.H. Kock & M.L. Tasker. 2008. ASCOBANS Conservation Plan for Harbour Porpoises (Phocoena phocoena) in the North Sea. AC15, doc. 14, 28pp.

Measures taken to promote the Agreement