

Agenda Item 5.4.2: Other bycatch-related issues

**Harbour Porpoise Action Plan for Sweden.
English Summary**

Submitted by: Sweden



NOTE:
**IN THE INTERESTS OF ECONOMY, DELEGATES ARE KINDLY REMINDED TO BRING
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HARBOUR PORPOISE ACTION PROGRAMME FOR SWEDEN

English summary

The Swedish Environmental Protection Agency and the Swedish National Board of Fisheries have established an action programme in order to protect the harbour porpoise (*Phocoena phocoena*) in Swedish waters. The programme, which was established on 6 May 2003, will govern the efforts to conserve the harbour porpoise during the period 2003-2005.

The harbour porpoise is listed as vulnerable in both the national and the international red lists of endangered species. The species was common off the Swedish west coast as well as in the Baltic Sea up until World War II, when severe winter ice conditions combined with hunting caused a decline in the Baltic population. Even though there is a lack of reliable population estimates, it is thought that the harbour porpoise has suffered a major decline in Swedish waters since the 1960s.

Estimations based on reports from ferry staff and coastguards from 1950 until 1990 suggest that the observed number of harbour porpoises has declined to less than 1% of the original population in the Baltic Sea, and to 10-25% off the Swedish west coast.

It is likely that a number of factors have contributed to the decline. Unintentional bycatch is considered to be the most important threat to the harbour porpoise. Factors such as environmental pollutants, disturbance from boat traffic, disease and parasites, and shortage of prey may have had additional negative impact.

The action programme covers population status, distribution, ecology and threats, as well as measures necessary for the conservation of the species. This document in English is an updated summary of the parts of the action programme covering Swedish management, aims and measures.

General directions for the management of the harbour porpoise

Apart from Swedish law, there are several international agreements and directives of importance to what guidelines should be applied in the administration of the harbour porpoise in Swedish waters. Several nations often affect one and the same population of harbour porpoises through fishing or other activities, either because the population is distributed over several economical zones or because the activities overlap within an area. Thus, international efforts are needed in order to preserve the harbour porpoise.

Sweden takes part in the ongoing activities within ASCOBANS (Agreement on the Conservation of Small Cetaceans in the Baltic and North Seas). ASCOBANS has, for example, agreed on the following:

- The populations of harbour porpoise should be restored to 80% of the theoretical carrying capacity level (ASCOBANS, 1997a).
- A bycatch rate of more than 1.7% of the population is considered unacceptable (IWC, 2000; ASCOBANS, 2000).
- Concerned parties are requested to make an estimation of the total bycatch of harbour porpoises in the Baltic Sea, Skagerrak and Kattegat.

In order to save the Baltic harbour porpoise the ASCOBANS Recovery Plan for Baltic Harbour Porpoises, also known as the Jastarnia Plan, recommends for example the following measures:

- In fisheries associated with bycatch of harbour porpoises, fishing efforts should be reduced or there should be a change towards low-risk fishing methods.
- On a short-term basis, use of pingers should be mandatory in fisheries associated with a high risk of bycatch.

Article 12.4 of the European Union's Habitats and Species Directive (European Union's Council Directive 92/43/EEC) requires member states to prevent and monitor unintentional bycatch of harbour porpoises. The Directive states that measures shall consider economical, social and cultural needs.

After a Swedish initiative in 1996, the Helsinki Commission (HELCOM) issued a recommendation to concerned governments to, for example:

- Give the highest priority to the avoidance of harbour porpoise bycatch.
- Examine size and structure of, and potential threats to, harbour porpoise populations.
- Consider protecting areas for the harbour porpoise when relevant information is available.

The Ministerial Declaration of the 5th International North Sea Conference, which was held in Bergen, Norway in 2002, established that:

- The interim aim is that bycatch of harbour porpoises should be no more than 1.7% of the best population estimate.
- Concerned authorities should as soon as possible develop a recovery plan for harbour porpoises in the North Sea.

Concerning the conservation of the harbour porpoise in Swedish waters, the environmental quality objective "*A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*" established by the Swedish Parliament states that:

- By 2005 action programmes will have been prepared and introduced for threatened marine species and fish stocks that are in need of targeted measures.
- By 2010 annual total bycatches of marine mammals will not exceed 1% of each population. Bycatches of sea birds and undesired fish species will have been reduced to levels that have no adverse effect on the populations concerned.
- By 2008 catches of fish, including bycatches of juveniles, will not exceed recruitment, enabling fish stocks to survive and, where necessary, recover.
- By 2010 noise and other disturbance from boat traffic will be negligible in particularly sensitive and designated archipelago and coastal areas.

Aims

The short-term aim is that within three years the total bycatch of harbour porpoises in the Swedish economical zone shall be below 1.7% of the population, in agreement with the maximum bycatch level set by ASCOBANS and HELCOM. Due to limited migration between the Baltic Sea and adjoining waters, the harbour porpoises in the Baltic should be managed as a separate unit.

In the long term, bycatch of harbour porpoise shall be less than 1% of the respective populations within the Baltic Sea, Skagerrak and Kattegat by the year 2010, in accordance

with the interim target of the Swedish environmental quality objective "A *Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*". Measures within the fisheries, reduction of toxic pollutants, and other relevant action will allow the Baltic population to increase and spread north.

There is no information that indicates that areas of special importance to the harbour porpoise exist in Sweden. Considering current knowledge the designation of protected areas is therefore not a high priority at present.

Need for knowledge – questions to be answered

1. **What size are the harbour porpoise populations in the Baltic Sea, Skagerrak and Kattegat? How are the populations distributed within each area?** The latest inventory of harbour porpoises on the Swedish west coast, which was a part of the SCANS project (Hammond *et al.*, 2002), needs to be updated. A similar project, SCANS II; will probably be performed during the summer of 2005 and Sweden should take part in this inventory. Aerial inventories of the harbour porpoise in the Baltic Sea was carried out by Per Berggren during 1995 and 2002, but the population size estimate is very uncertain (Berggren, 1995; Berggren 2003).

The migration patterns, local distribution and the exchange between different populations can be surveyed through satellite tracking of individuals fitted with transmitters (Teilmann, 2000). But there are practical problems in connection with satellite monitoring, and it may not be suitable for such a small population as the Baltic one. Acoustic monitoring is an interesting, and potentially valuable and cost-effective, complement to visual inventories (Hansen, 2001). These methods can also be used to determine the development of harbour porpoise populations over time, which is an interesting alternative to estimations of the definite population size. However, further methodological development is needed.

2. **How extensive is the bycatch? How is bycatch distributed in time and space? How are different fishing methods related to bycatch?** Several relevant studies on bycatch have been performed by North Sea states (Berggren, 1994; Kock and Benke, 1995; Carlström and Berggren, 1996; Berggren and Carlström, 1999; Vinther, 1999). However, since it is not known how possible differences in factors such as behaviour, fishing methods or the physical environment affect the bycatch risk, results from other countries are not always applicable to Swedish conditions.

Due to the rarity of the Baltic harbour porpoise, the dilemma is that estimating the extent of bycatch in the Baltic Sea requires unreasonable cost and effort. On the other hand, studies of bycatch off the Swedish west coast require considerably less efforts.

3. **What is the effect of pingers?** So far, pingers have only been used to a small extent in northern Europe, and a number of issues need further investigation:
 - Do harbour porpoises become habituated to pingers so that bycatch is not reduced in the long term?
 - Will use of pingers displace the harbour porpoises from too large areas of their habitat? Can this problem be solved by use of interactive pingers or other acoustic methods, or by regulation of the distribution of fishing gear within each area?
 - Are fish deterred?
 - How should pingers be designed and used in order to facilitate for fishermen?

4. **What influence does environmental pollutants have on the decline in harbour porpoise populations?** This matter is particularly relevant for the Baltic population, where pollutant load is high and the most marked decline has occurred.
5. **Can alternative fishing methods replace methods that involve high risk of bycatch?** Several kinds of fisheries involve bycatch of harbour porpoises, and adaptation of alternative methods must consider the economical, as well as biological, prerequisites of each fishery. The cod and turbot fishery in the Baltic Sea is by far the most extensive commercial net fishing in Swedish waters. Reduction of the bycatch risk by transition to alternative methods could be decisive for the status of the Baltic harbour porpoise.

Preliminary Norwegian studies have indicated that modification of the net material reduces the bycatch risk. Sweden should make use of lessons learnt.

Cod traps have been pointed out as a possible alternative, but there is a need for further development in order for traps to be a cost-effective option. Swedish fishermen in the Baltic Sea have for a long time used longlining when fishing for cod, and if modernised and mechanised it may be an alternative.

However, it should be noted that alternative methods might have other disadvantages such as bycatch of sea birds and other threatened species, inferior size selectivity of the target species, higher costs and ergonomical disadvantages.
6. **How are harbour porpoises affected by boat traffic and other noise sources?** Even though experts have repeatedly expressed concern that harbour porpoises may be severely disturbed by noise, this problem has not been sufficiently studied. Observations and experimental studies of harbour porpoise behaviour in the vicinity of pleasure boats could be performed in areas with high densities of harbour porpoises, for example north of the Danish island of Fyn.
7. **What is the structure of harbour porpoise populations in Swedish and adjoining waters?** Knowledge needs to be compiled and analysed to get a better overview.
8. **Is harbour porpoise population growth limited by prey abundance?** A comparative study of the development of harbour porpoise populations and the supply of fish in the Baltic Sea should be performed.

Measures (not in order of priority)

1. The results of the aerial inventory of harbour porpoises in the southern Baltic Sea, which was carried out in 2002, were reported and analysed during 2003 (Berggren, 2003).
2. Sweden will set aside funds to contribute to the inventory of harbour porpoises in the planned SCANS II-project, which will probably be performed during 2005. If possible, the results of the aerial inventory mentioned above will be included in SCANS II.
3. A pilot project for clearance of ghost nets was carried out during the cod fishing ban in 2002, and this will be introduced as a regularly recurrent activity.
4. Economical and ecological aspects of alternative fishing methods will be investigated. Experiences of those fishermen in the Baltic Sea who have changed to longline fishing of

cod should be analysed. In addition, testing of alternative net materials, cod cages and other alternative methods will be launched immediately. Studies on alternatives to bottom-set gillnets for cod have been initiated.

5. During 2002, a monitoring program concerning the salmon drift-net fishing in the Baltic Sea was carried out. The results are to be used as a basis for regulations on the use of pingers.
6. Equipment for control of function of pingers needs to be developed so that the Swedish Coast Guard can enforce compliance with regulations on pinger use.
7. Use of pingers will be implemented in other net fisheries that may cause high risk of harbour porpoise bycatch, for example the mackerel driftnet fishery.
8. A survey of bycatch within selected fisheries off the Swedish west coast will be performed through interviews and with the aid of independent observers. The survey should concentrate on the most extensive fisheries and also on fisheries that other studies have shown to be associated with high bycatch rates.
9. Possible bycatch associated with trawling shall be documented in connection with the observatory activities of the Swedish National Board of Fisheries.
10. A permanent, national working group on the reduction of bycatch of marine mammals and seabirds shall be established. The working group should primarily consist of representatives from sectoral authorities, the fishery industry and the fishery technology research.
11. In 2003, an informative leaflet about the harbour porpoise was produced and distributed to people working along the Swedish coast, as well as to the general public. Its purpose is to encourage reporting of harbour porpoise sightings. Information has also been made available on the web pages of the Swedish EPA, with links to the National Board of Fisheries and the natural history museums in Stockholm and Gothenburg. The Swedish Museum of Natural History in Stockholm has also established a reporting system for harbour porpoise sightings.
12. Assuming that the study on pingers in the salmon fishery shows no major negative effects, use of pingers will be made mandatory on all Swedish salmon driftnets in the Baltic Sea from 2003. The Swedish Coast Guard should be given the task of controlling the compliance with this regulation, by inspection of pingers on board fishing vessels and by sonar monitoring of nets in use.
Comment: As of December 2003, mandatory use of pingers had not yet been put into practice. According to the Swedish National Board of Fisheries, the implementation awaits EU-regulations dealing with mandatory use of pingers on bottom-set gillnets and restrictions on the use of driftnets in the Baltic Sea.
13. If an analysis of the present fishery activities off the Swedish west coast leads to the conclusion that the bycatch of harbour porpoises is higher than 1.7%, the maximum value set up by ASCOBANS, the fisheries with the highest probability of bycatch will be equipped with pingers.

14. A synthesis of all available data, with supplementary analyses to the extent possible, should be carried out to unravel the harbour porpoise population structure in Swedish and adjoining waters. An independent scientist performed this compilation of knowledge and critical review during 2003. The synthesis will be available in 2004.

It is of uttermost importance that all measures that concern fisheries are planned and implemented in close cooperation with representatives of the professional fishermen.

Resource needs and responsibilities

The Swedish Environmental Protection Agency and the National Board of Fisheries in Sweden shall be jointly responsible for the implementation and financing of the action programme. When required, research assignments will be commissioned to universities or other contractors.

A natural division of responsibilities is that the Swedish EPA answers for inventories, genetic and pathological studies, and information efforts. The main responsibilities of the National Board of Fisheries are monitoring of unwanted bycatch, measures to prevent bycatch, and gear development.

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