CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS

A. PROPOSAL

To include Phocoena phocoena in Appendix II of the Convention; only the populations of the Baltic Sea and the North Sea.

B. PROPONENT

Kingdom of The Netherlands

C. SUPPORTING STATEMENT

1. Taxon

1.1	Classis	Mammalia
1.2	Ordo	Cetacea
1.3	Familia	Phocoenidae
1.4	Genus and species	Phocoena phocoena (Linnaeus 1758)
1.5	Common names	
	English	Harbour porpoise
	French	Marsouin commun
	Spanish	Marsopa
	Dutch	Bruinvis

2. Biological data

2.1 Distribution (current and historical) - see also 5

Phocoena phocoena is found in the Arctic and North Atlantic Oceans and in the North Pacific. In the Atlantic it is distributed from the Barents Sea, Iceland and the Davis Strait to the Black, Asov and Mediterranean Seas and as far south as Senegal and in the Baltic Sea. In the west it is reported as far south as Delaware. In the Pacific it is found from Alaska to Mexico on the east, to Japan on the west and as far north as Point Barrow, Alaska (Harrison, 1970; Hershkovitz, 1966; Tomilin, 1957; Gaskin, Arnold and Blair, 1974).

The stocks in the Atlantic and Pacific are geographically separated and the Black Sea population seems to be isolated from that in the Atlantic, for practical purposes (Tomilin, 1957). Within these populations many local stocks may exist (Mercer, 1973).

Some authorities distinguish three divisions:

1. Azov-Black Sea - Phocoena phocoena relicta
2. North Atlantic - Phocoena phocoena phocoena
3. North Pacific - Phocoena phocoena vomerina

Tomilin (1957) reviews the anatomical evidence, but most recent authorities regard the divisions as below species level, probably representing geogra-

phic races.

2.2 Population

The following population estimates were located, but in general rather little information on stock size, status, past and present levels is available. Mitchell (1975a) estimated, from catch statistics, an initial population for the Danish fishery of 10 000-15 000 animals. Andersen (1975) reported an extremely large reduction of this migratory population. Gaskin (1977) estimated the total Fundy population at about 4000 animals, extrapolated from extensive sightings data.

There are many reports that the species is much less common in the Baltic, the decline beginning in the 1940's, using various measures of abundance. Based on information from strandings there also appears to be a decline on the Dutch and French coasts, and on the British coast (Verwey, 1975; Mitchell, 1975a; IWC, 1977; Duguy, 1977; Van Bree, 1977; ICW, 1979; Verwey & Wolff, 1981; Klinowska, 1987; Smeenk 1987; Reijnders & Lankester, in press). On the French Mediterranean coast there has been no stranding record since the end of the nineteenth century. It has disappeared from all Dutch estuarine areas (Verwey & Wolff, 1981).

The populations in the German and Dutch parts of the Wadden Sea and the estuaries of the Dutch Delta area are virtually extinct. Since about 20 years live animals have not been sighted or caught in inshore waters (Verwey & Wolff, 1981; Wolff, in prep.).

This porpoise no longer appears to enter the Azov Sea, where it was once abundant in the southern part (Smith, 1976; Tomilin, 1957).

Estimates for the Black and Azov Seas are complicated by the facts that the fishery covers three species, Phocoena phocoena, Delphinis delphis and Tursiops truncatus, and catches are recorded by weight. Numbers and species composition have to be estimated. From 1967 twice-annual aerial surveys have been undertaken by the USSR. Zemsky and Yablokov (1974, quoted by Smith, 1976) calculated population sizes from these surveys ranging from, for P. phocoena, 12 600 (1969) to 33 300 (1973). These estimates, however, show no consistent trends and have been severly criticised by Smith (1976). Percentage variations between adjacent years range from - 58% to + 127%. The general picture, from all sources, is that the Black and Azov Sea populations were greatly reduced by overexploitation leading to closure of the USSR, Romanian and Bulgarian operations in 1968 and the Turkish fisheries in 1983. Catches for all species were in the region of tens to hundreds of thousands of animals each year.

Population information on the North Pacific is not available.

No reports indicate reductions in distribution in the North Pacific, although rather little information is available in general about this area, nor on the western side of the Atlantic (Gaskin, 1977).

2.3 Habitat (short description and trend)

Phocoena phocoena occurs mainly in coastal zones, avoiding the open ocean and frequently enters rivers, ascending far upstream (Tomilin, 1957).

Information on food species is considerable, one study alone is based on examination of 4 000 stomachs (Gaskin, Arnold and Blair, 1974; Tomilin, 1957). Food species are mainly benthic fish, but also pelagic species and in three cases the alga Ulva lactuca. A small proportion of benthic invertebrates are taken.

2.4 Migrations (kinds of movement, distance, proportion of the population migrating)

Migrations are related to movements of food species and also show a seasonal change. In general this movement is in-shore in summer and off-shore in winter and in some areas movements to the north in summer are noted (Gaskin, 1977; Tomilin, 1957; Verwey, 1975),
In a Canadian study seasonal movements seemed to correlate quite closely with those of the main food species, herring and mackerel (Gaskin, 1977). On the European coasts herring and whiting are taken and the migration in early spring to the Baltic has been attributed to the pursuit of herring (Tomilin, 1957). In the Black Sea in spring and autumn it migrates following schools of anchovy. Tomilin (1957) assumes that a similar habit is characteristic of the North Pacific populations.
There seems to be a migration to the British coasts reaching a peak from July to October. The precise whereabouts of the North Atlantic populations from December to April is not known (Fraser, 1953; Evans, 1976). Baptist (1987) observed several in the Central North Sea in winter.
The Baltic populations used to leaved the Baltic Sea in late autumn and returned in spring (Andersen, 1975).

3 Threat data

3.1 Direct threat of the population (factors, intensity)

Phocoena phocoena has been exploited directly or indirectly throughout the range. In the Baltic it has been directly or indirectly caught since at least 1378. The most famous fishery was in the Lille Belt, taking migrating porpoises between November and January. The main product was oil for lamps. Andersen (1975) gives catches in the 1830's and 40's as between 330 and 1684 annually with a mean of 981 and a ten year total of 10 791. In the 1880's and 90's 301-1831 per year were caught, with a mean of 1278 and a total over ten years of 15 330. During World War I about 1600 were caught and during World War II, 773. These were all used for human consumption. For comparison, Andersen observed only about 20 animals in the area in an entire year (1969-70).
Porpoises have been by-catches in the Polish salmon net fishery, a minimum of 54 a year being taken between 1922 and 1932. There was a bounty on porpoises. No catches or strandings were reported between 1945 and 1950. One was caught in 1951 (Wolk, 1969).
ICW (1977) report that Phocoena phocoena is caught as a trawling by-catch in the Bay of Fundy, fixed herring weirs account for over 100 a year and up to 10 per season are trapped in gill nets.
Incidental catch by fishermen might be an important threat also in the North Sea. Andersen & Clausen (1983) reported 149 porpoises, mostly caught in Danish gill net fisheries in the North Sea (54 ^{o} N) in a period of four months.
Collection of specimens fos zoos etc. seems negligible.

3.2 Habitat destruction (quality of changes; quantity of loss)

Ice cover seems to be a particular hazard for this species, in early, hard winters they may be trapped by rapid ice formation and suffocate, particularly in areas which are ice-free in normal years. This has been reported on several occasions in the Baltic and in the Sea of Azov (Tomilin, 1957; Lindroth, 1962). Wolk (1969) discusses the possible effects of changing ice conditions on the Baltic (Polish) population, making a similar case for altered distribution as Vibe (1976) put forward for changes in distribution of Arctic mammals in Greenland. Reduction of the North Sea herring due to over-fishing in recent years may also have been a factor influencing sighting and stranding patterns in recent years (UK, 1978). In general, its habitat in Baltic and North Sea is changed by disturbance, such as through ships and seismic surveys, pollution and fishing exploitation.

3.3 Indirect threat (e.g. reduction of breeding succes by pesticide contamination)

As a coastal species, Phocoena phocoena is exposed to pollution. Olsson (1977) has studied the levels of DDT and PCB in Baltic and Swedish coast marine mammals. High levels of DDT and PCB (in the hundreds of ppm) were found in seals in the northern Baltic, the higher levels being found in animals with pathological changes - occlusions and stenosis - in the uterine tract in seals of reproductive age. 80% of the females of reproductive age were not pregnant; examination showed that although ovulation had taken place, abortion, maceration or resorption of foetuses had occurred. The pregnant group showed significantly lower levels of PCB and DDT. PCB seems to be the substance responsible for reproductive failure (Reijnders 1980, 1986). DDT and PCB levels in Baltic porpoises are similar to those of seals. Porpoises from the Swedish west coast show the same high PCB levels but low DDT levels. This may indicate that an important North Sea feeding area is polluted with PCB not DDT. If PCBs affect cetaceans in the same way as seals and mink this may explain the population decrease. However, Clausen (1985) found high PCB-levels in North See porpoises, but no signs of reduced fecundity. Gaskin, Holdrinet and Frank (1971) reported similar high levels of DDT and PCB in specimens from the Fundy area, which seem to have declined in more recent samples (Gaskin, Holdrinet and Frank, 1976).

3.4 Threat connected especially with migrations

See 3.1 for data on the Danish fisheries of the Baltic population.

3.5 National and international utilization

Nowadays none known for North Sea and Baltic Sea

4 Protection status

4.1 National protection status

Belgium:	Protected
Denmark:	Protected
Federal Republic of Germany:	Protected

Finland:	
France:	Protected
German Democratic Republic:	Protected
Norway :	
Poland:	
Sweden:	Protected
The Netherlands:	Protected under Nature Conservation Act.
Union of Socialist Soviet Republics:	
United Kingdom:	Protected

4.2 International protection status

CITES Appendix II
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4.3 Additional protection needs

Information on catches, particularly by-catches, on population numbers and trends and on biology are needed before the true status in many areas can be assessed.

At present there is cause for concern over the North Atlantic populations, in the North Sea and Baltic because of the marked drop in sightings and strandings and contamination with pesticides, in North American waters from contamination and perhaps from by-catching, in the Greenland area because of high catches from a population of unknown size.

5. Range States (North Sea and Baltic Sea)

Belgium, Denmark, France, Federal Republic of Germany, German Democratic Republic, Norway, Poland, Sweden, The Netherlands, Union of Socialist Soviet Republics, United Kingdom, international waters.

6. Comments from range states

None received.

7. Additional remarks

None.

8. References

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