

Proposal for Inclusion of Species on the Appendices of the Convention on the Conservation of Migratory Species of Wild Animals

A. Proposal: Inclusion of Orcinus orca, (eastern North Atlantic population) in Appendix II.

B. Proponent:

C. Supporting Statement

1. Taxon

- 1.1. Classis Mammalia
- 1.2. Ordo CETACEA
- 1.3. Familia Delphinidae
- 1.4. Genus/Species/Subspecies Orcinus orca
(Linnaeus, 1758)
- 1.5. Common Name(s)
 - English: killer whale
 - Spanish: orca
 - French: orque
 - Icelandic: hahyrna
 - Norwegian: staurvagn
 - Danish: spaekhugger
 - Swedish: svardfisk
 - Greenlandic: dukulad

2. Biological data

2.1. Distribution (current and historical)

The killer whale is a cosmopolitan species, being present in all oceans and seas of the world. In the North Atlantic, the species has been observed off Greenland and Iceland, in the Barents and White Seas, and off Novaya Zemlya (Tomilin, 1967). It is common off Norway (Christensen, 1982; Oien, 1988), and off the British Isles, but occurs infrequently in the Mediterranean and Baltic Seas (Hammond and Lockyer, 1988). In the western North Atlantic there are records in the Labrador Sea and off Nova Scotia, Newfoundland, Canada (Sergeant and Fisher, 1957).

2.2. Population (estimates and trends)

Few population estimates exist for killer whales. Based on cumulative catches by Norway from 1961-1970 the northeast Atlantic killer whale population was estimated at at least 1,250 animals in 1960. Recent sightings in the eastern North Atlantic give rough estimates of around 3,100 killer whales for the area comprising the Norwegian and Barents Seas, as well as Norwegian coastal waters (Oien, 1990) and some 6,600 whales for

Icelandic and Faroese waters (Gunnlaugsson and Sigurjonsson, 1990). Elsewhere, information on populations or estimations of abundance is lacking (IWC, 1987; Heyning and Dahlheim, 1988).

2.3. Habitat (short description and trends)

Although reported from tropical waters and the open ocean, killer whales seem to be most common in colder waters, with greater abundance within 800 km of major continents (Heyning and Dahlheim, 1988).

The killer whale appears to be an opportunistic feeder. The diet may vary from one region to the next, between groups of pods in the same region, among age and sex classes and within years. Food items in the eastern North Atlantic include many species of fishes (especially herring), other cetaceans, pinnipeds, birds, cephalopods and sea turtles. Studies in Japan and the eastern North Atlantic revealed that marine mammal preys are preferred by the larger killer whales (Jonsgard and Lyshoel, 1970; Matkin and Leatherwood, 1986; Heyning and Dahlheim, 1988).

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

In some areas, killer whales occur seasonally, but in other areas they are apparently year-round residents. Norwegian data indicate that killer whales occur in coastal waters all year round, with concentrations in the Lofoten, More and Finnmark areas (Christensen, 1982; IWC, 1982). However, killer whales present in offshore Norwegian waters appear to arrive there from Icelandic waters, following the migration of herring (Jonsgard and Lyshoel, 1970; Oien, 1988). Evidence of seasonality is also observed in the southern part of the northeastern Atlantic (Hammond and Lockyer, 1988).

3. Threat data

3.1. Direct threats to the population (factors, intensity)

The Norwegian small-type whale fishery took 2,435 killer whales between 1938 and 1981. The fishery started in the 1930s, probably with hunting of killer whales to scare them from the herring fishing grounds. Annual catches were relatively stable until about 1960, when they increased, probably as a result of the expansion of Norwegian whaling westward through the Norwegian Sea to areas off Iceland and East Greenland (Christensen, 1975; Oien, 1988). Since the minke whale (Balaenoptera acutorostrata) was the main target of the Norwegian small-type whaling the catches of killer whales can be considered more sporadic and incidental (Oien, 1988). Other direct catches on a lower scale have been reported from throughout the species' range, including a former drive fishery in the Faroe Islands (Klinowska, in press).

Occasionally, killer whales become entangled in fishing nets, and there are reports of this in Norway, Mauritania and Iceland (Sigurjonsson and Leatherwood, 1988).

Culls of this species were adopted in Greenland, Iceland and Norway to reduce killer whale populations said to be responsible of decline of herring stocks (IWC, 1987; Oien, 1988; Klinowska, in press).

3.2. Habitat destruction (quality of changes, quantity of loss)

There is no information of pollutant levels in killer whales from the eastern North Atlantic, but high levels of organochlorines and heavy metals have been recorded in the area, in particular in European coastal waters (Gaskin, 1982). Habitat disturbance may be a matter of concern in areas inhabited by killer whales and supporting whale watch industries (Barstow, 1986).

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

There are no studies on the effects of pollutants on killer whales, but these substances have been found to affect the reproductive cycle of other marine mammals (Reijnders, 1986). Although in general opportunistic feeders, some populations of killer whales could be affected by reduction of their food supply, e.g. coastal Norwegian populations which reportedly feed mainly upon herring, (Christensen, 1982) a fish heavily exploited in the area.

3.4. Threats connected especially with migrations

No information.

3.5. National and international utilization

Norwegian catches yield meat used for animal food (Jonsgard and Lyshoel, 1970; Mitchell, 1975). In Greenland and the Faroe Islands killer whales were taken for human consumption (Klinowska, in press).

Since 1976, Iceland have been involved in live-captures of killer whales for export. During the period 1976-1988, 59 whales were collected of which 8 were released, 3 died and 48 (average 3.7 per year) were exported for display (Sigurjonsson and Leatherwood, 1988).

4. Protection status and needs

4.1. National protection status

Norway set a quota for the killer whale catch that operated until 1981. National legislation protecting this species has been summarized by Klinowska (in press).

4.2. International protection status

Orcinus orca is listed on Appendix II of CITES. The species is also included in Appendix II of the Berne Convention (Klinowska, in press). In addition is included in the IWC Schedule, and the stock from Norwegian waters was classified as Sustained Management Stock, with a catch limit of 52 (IWC, 1981). The species is categorized as "Not Threatened" by the IUCN (Perrin, 1989).

4.3. Additional protection needs

Studies on population structure, abundance, life history. Research on the effects of removals in the case of the Icelandic live-capture and the effects of killer whale predation on the recovering of herring stocks off Norway are needed. The status of killer whales in the southern part of the eastern North Atlantic should be assessed.

5. Range States

Belgium, Denmark (Atlantic coast and Faroe Islands), France, West Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, United Kingdom, Sweden and the USSR.

6. Comments from Range States

7. Additional remarks

North and Baltic Sea States are working on an Agreement to the conservation of all cetacean species from these waters (UNEP/CMS Secretariat, 1990, unpublished report). Therefore these areas could be separate from the present proposal.

8. References

Barstow, R. 1986. Non-consumptive utilization of whales. *Ambio* 15(3):155-163.

Christensen, I. 1975. Preliminary report on the Norwegian fishery for small whales: expansion of Norwegian whaling to Arctic and Northwest Atlantic waters, and Norwegian investigations of the biology of small whales. *J. Fish. Res. Bd. Canada* 32(7):1083-1094.

Christensen, I. 1982. Killer whales in Norwegian coastal waters. *Rep. Int. Whal. Commn* 32:633-641.

Gaskin, D.E. 1982. *The Ecology of Whales and Dolphins*. Heinemann Educational Books, London. 459 pp.

Gunnaugsson, T. and J. Sigurjonsson. 1990. NASS-87: Estimation of whale abundance based on observations made onboard Icelandic and Faroese survey vessels. Rep. Int. Whal. Commn 40:571-580.

Hammond, P.S. and C. Lockyer. 1988. Distribution of killer whales in the eastern North Atlantic. Pp. 24-35 in: J. Sigurjonsson and S. Leatherwood (Eds). North Atlantic Killer Whales. Rit Fiskideildar, Reykjavik 11. 316 pp.

Heyning, J.E. and M.E. Dahlheim. 1988. Orcinus orca. Mammalian Species No. 304, pp. 1-9.

IWC, 1981. Report of the Scientific Committee, Annex H. Report of the sub-committee on small cetaceans. Rep. Int. Whal. Commn 31:140-153.

IWC, 1982. Report of the Scientific Committee, Annex H. Report of the sub-committee on small cetaceans. Rep. Int. Whal. Commn 32:113-126.

IWC, 1984. Report of the Scientific Committee, Annex H. Report of the sub-committee on small cetaceans. Rep. Int. Whal. Commn 34:144-160.

IWC, 1987. Report of the meeting on North Atlantic killer whales. IWC/SC/39/SM 18 (unpublished)

Jonsgard, A. and P.B. Lyshoel. 1970. A contribution to the knowledge of the biology of the killer whale Orcinus orca (L.). Nyt. Mag. Zool. 18:41-48.

Klinowska, M. (In press). Whales, Dolphins and Porpoises of the World. The IUCN Cetacean Red Data Book. IUCN, Gland, Switzerland.

Matkin, C.O. and S. Leatherwood. 1986. General Biology of the killer whale, Orcinus orca: a synopsis of knowledge. Pp.35-68 in: B.C. Kirkevold and J.S. Lockard (Eds). Behavioral Biology of Killer Whales. Alan R. Liss, Inc. New York. 457 pp.

Mitchell, E.D. 1975. Porpoise, Dolphin and Small Whale Fisheries of the World. Status and Problems. IUCN Monograph No.3. IUCN, Switzerland. 129 pp.

Oien, N. 1988. The distribution of killer whales (Orcinus orca) in the North Atlantic based on Norwegian catches, 1938-1981, and incidental sightings, 1967-1987. Pp. 65-78 in: J. Sigurjonsson and S. Leatherwood (Eds). North Atlantic Killer Whales. Rit Fiskideildar, Reykjavik 11. 316 pp.

Oien, N. 1990. Sightings surveys in the northeast Atlantic in July 1988: distribution and abundance of cetaceans. Rep. Int. Whal. Commn 40:499-511.

Perrin, W.F. 1989. Dolphins, Porpoises, and Whales. An Action Plan for the Conservation of Biological Diversity: 1988-1992. IUCN, Gland. 27 pp.

Reijnders, P.J.H. 1986. Reproductive failure in common seals feeding on fish from polluted coastal waters. Nature 324:456-457.

Sergeant, D.E. and H.D. Fisher. 1957. The smaller Cetacea of eastern Canadian waters. J. Fish. Res. Bd. Canada 14:83-115.

Sigurjonsson, J. and S. Leatherwood. 1988. The Icelandic live-capture fishery for killer whales, 1976-1988. Pp.307-316 in: J. Sigurjonsson and S. Leatherwood (Eds). North Atlantic Killer Whales. Rit Fiskideildar, Reykjavik 11. 316 pp.

Tomilin, A.G. 1967. Mammals of the USSR and Adjacent Countries, Vol. IX, Cetacea. Israel Program for Scientific Translations. Jerusalem. 717 pp.