

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

A. Proposal: Inclusion of Monodon monoceros in Appendix II.

B. Proponent:

C. Supporting Statement

1. Taxon

1.1. Classis	Mammalia
1.2. Ordo	CETACEA
1.3. Familia	Monodontidae
1.4. Genus/Species/Subspecies	<u>Monodon monoceros</u> <u>Linnaeus, 1758</u>
1.5. Common name(s)	
English:	narwhal, unicorn whale
Spanish:	narval
French:	narval
Danish:	narhval
Greenlandic:	qilalugaq
Icelandic:	nahvalur
Norwegian:	narvhal
Russian:	narval

2. Biological data

2.1. Distribution (current and historical)

The narwhal has a circumpolar distribution in the high Arctic. It is common in the eastern Canadian Arctic: Jones Sound, Lancaster Sound, Baffin Bay, Davis Strait, northern Hudson Bay and Foxe Basin. Records from Newfoundland are scarce, and its presence in Alaskan waters is considered exceptional (Leatherwood et al., 1988, Leatherwood and Reeves, 1983; Hay and Mansfield, 1989). Narwhals are also present in the waters off western Greenland, and in the Barents, White, Kara, Laptev, East Siberian and Chukchi Seas. There are reports of their presence in the Eurasian Arctic Ocean up to 85°N and occasionally in the Bering Sea and in waters adjacent to Europe (Tomilin, 1967; Hay and Mansfield, 1989).

2.2. Population (estimates and trends)

Three stocks have been proposed: the Davis Strait-Baffin Bay stock, the Foxe Basin stock and the East Greenland stock (IWC, 1980:121). Mitchell and Reeves (1981), however, did not find enough evidence to consider the Foxe Basin stock as a separate one from the Strait Davis-Baffin Bay stock. According to Smith et al. (1985) minimum estimates for the Davis Strait-Baffin Bay

stock are between 13,150 and 18,000 narwhals. A probably discrete population that summers in the Thule and Melville Bay region has been estimated at a minimum of 4,000 individuals (Born, 1986). There are no current estimates for the East Greenland stock.

2.3. Habitat (short description and trends)

Narwhals are deep-water cetaceans, associated with the pack ice (Leatherwood et al., 1988; Hay and Mansfield, 1989). Prey items include Arctic cod, Greenland halibut, polar cod, squids and shrimps. Narwhals feed heavily as they migrate, but very little during the open water season (Reeves and Tracey, 1980; Tomilin, 1967; Hay and Mansfield, 1989). Stomach content analyses suggest that these cetaceans feed over a wide range of depths, at least in the Baffin Bay area (Hay and Mansfield, 1989).

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

Migration of this species is related to the dynamics of the pack ice. In summer narwhals move from their wintering grounds in Davis Strait northward to northern Baffin Island and north western Greenland (Reeves and Tracey, 1980; Hay and Mansfield, 1989). On the east side of Greenland their migration routes are poorly known, although they are believed to move to the northeast part of the Greenland Sea and may even reach Franz Josef Land and the New Siberian Islands. In the seas of the USSR they have been recorded as far north as 85°N (Tomilin, 1967; Hay and Mansfield, 1989). There is an account of the migration of narwhals in Lancaster Sound in the period June-July 1976. The migration was led by groups of adult males; mixed groups and young animals were more frequent in mid-July, while females with calves were observed to pass at the end of the period (Greendale and Brousseau-Greendale, 1976).

3. Threat data

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

The narwhal has been hunted since earliest times by the Eskimos. The history of the catches has been well documented by Mitchell and Reeves (1981). Commercial exploitation probably dates back to the 10th century (Mitchell and Reeves, 1981). Early hunters used harpoons and spears that they threw from small boats (kayaks). Today motorized boats and high-powered rifles are used by most of the Canadian Inuits. The shootings result in high loss rates of up to 50% (Mitchell and Reeves 1981; IWC, 1980). Occasionally, narwhals are trapped in fjords when ice prevents them from returning to the open sea. Eskimos from Greenland referred to this entrapment as savssat. During the event, narwhals are easy prey for hunters, who sometimes may kill over 1,000 animals (probably including sinking

losses) in one operation (Reeves and Tracey, 1980; Mitchell and Reeves, 1981).

The only reference to incidental catch is that of one animal caught in a seal net. Narwhals frequently break seal nets, causing considerable damage to the gear (Mitchell and Reeves, 1981).

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

Exploration and exploitation of both gas and minerals are potential threats to the narwhal's habitat (Mansfield et al., 1975). Projects for industrial development could seriously affect the habitat of this cetacean in the Davis Strait, Baffin Bay and Lancaster Sound regions (IWC, 1981). Concern has been expressed about a Canadian project for transportation of liquefied natural gas along the West Greenland coast that involves increasing traffic of super tankers in the area (IWC, 1981; Strong, 1988). The noise pollution and the possibility of accidents should also be assessed.

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

Heavy metals have been detected in narwhal tissues collected from northern Baffin Island, but neither the source nor the possible effects could be established (Strong, 1988). No commercial fisheries are reported in the narwhal's range, but future developments could represent a source of conflict (Northridge, 1984; Northridge and Pilleri, 1986).

3.4. Threats connected especially with migrations

Hunting of narwhals occurs mainly during their migration to higher latitudes in the summer. Off southwest Greenland, the species is also hunted in the wintering grounds in Davis Strait (Kapel, 1977; Hay and Mansfield, 1989). Increase of boat traffic as a result of industrial development could affect the migratory route of narwhals, especially in Davis Strait.

3.5. National and international utilization

The meat of the narwhal is used as dog food; the blubber and skin (called muktuk) are eaten by humans. Previously important in heating and cooking, the oil is no longer used, at least in Canada. The tusk, which was believed to possess medicinal and aphrodisiacal attributes, was exported to Europe during the Middle Ages (Klinowska, in press; Mitchell and Reeves, 1981) and remains at present the only product subject to trade.

The tusk of the narwhal has increased in price during recent years, and it has been suggested that the sale of ivory instead of the need for food is the basis of the modern hunt in the

eastern Canadian Arctic (Kemper, 1980; Strong, 1988). In northern Greenland, more traditional hunting is still in operation, and the use of the narwhal products continues to be important to local communities (Durham, 1977; Kapel, 1977).

4. Protection status and needs

4.1. National protection status

The Fisheries Act of 1976 set out the Narwhal Protection Regulations for protection of habitat and management of the species in Canada (Reeves and Mitchell, 1981; Strong, 1988). No specific regulations for narwhal hunting in Greenland exist, but Eskimos have themselves forbidden the use of motor boats in the narwhal hunting areas in summer (Klinowska, in press). The species is protected in the USA, with some exemptions for subsistence hunting. Full protection is also provided in the USSR and Norway (Klinowska, in press).

4.2. International protection status

Monodon monoceros is listed in Appendix II of CITES. No other international agreement includes this species. It has been categorized as "Insufficiently Known" by the IUCN (Perrin, 1989). There has been a recommendation for listing of the species in the Schedule of the IWC, but this has not been adopted yet.

4.3. Additional protection needs

Information on life history, distribution, abundance and actual hunting loss rates are needed for assessment and management of the stocks. The probable effects of pollution and industrial development should be fully studied, since these may represent a potential threat.

5. Range States

Canada, Denmark (Greenland), USA (Alaska), USSR, Norway (Svalbard) and Iceland.

6. Comments from Range States

7. Additional remarks

8. References

Born, E.W. 1986. Observations of narwhals (Monodon monoceros) in the Thule area (NW Greenland), August 1984. Rep. Int. Whal. Commn 36:387-392.

Durham, F. 1977. Subsistence hunting by natives of NW Greenland. Second Conf. Biol. Mar. Mamm. San Diego, 12-15 December 1977. Abstracts:62.

Greendale, R.G. and C. Brousseau-Greendale. 1976. Observations of marine mammals at Cape Hay, Bylott Island during the summer of 1976. Fisheries and Marine Service (Canada) Tech. Rep. 680:1-25.

Hay, K.A. and A.W. Mansfield. 1989. Narwhal, Monodon monoceros Linnaeus, 1758. Pp. 145-176 in: S.H. Ridgway and R. Harrison (Eds) Handbook of Marine Mammals, Volume 4: River dolphins and the larger toothed whales. Academic Press, London. 442 pp.

IWC. 1980. Report of the Scientific Committee, Annex I. Report of the sub-committee on small cetaceans. Rep. Int. Whal. Commn 30:111-128.

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

Kapel, F.O. 1977. Catch of belugas, narwhals and harbour porpoises in Greenland, 1954-75, by year, month and region. Rep. int. Whal. Commn 27:507-520.

Kemper, J.B. 1980. History of use of narwhal and beluga by Inuit in the Canadian eastern Arctic including changes in hunting methods and regulations. Rep. int. Whal. Commn 30:481-492.

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

Leatherwood, S. and R. Reeves. 1983. The Sierra Club Handbook of Whales and Dolphins. Sierra Club Books, San Francisco. 302 pp.

Leatherwood, S., R.R. Reeves, W.F. Perrin and W.E. Evans. 1988. Whales, dolphins and porpoises of the Eastern North Pacific and Adjacent Arctic waters, a guide to their identification. Dover Publications Inc., New York. 245 pp.

Mansfield, A.W., T.G. Smith and B. Beck. 1975. The narwhal, Monodon monoceros, in eastern Canadian waters. J. Fish. Res. Bd. Canada 32(7):1041-1046.

Mitchell, E.D. and R. Reeves. 1981. Catch history and cumulative catch estimates of initial population size of cetaceans in the eastern Canadian Arctic. Rep. Int. Whal. Commn 31:645-682.

Northridge, S. 1984. World review of interactions between marine mammals and fisheries. FAO Fish. Tech. Paper 251. 190 pp.

Northridge, S. and G. Pilleri. 1986. A review of human impact on small cetaceans. Investigations on Cetacea 18:221-261.

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

Reeves, R. and E.D. Mitchell. 1981. The whale behind the tusk. Natural History 90(8):50-57.

Reeves, R.R. and S. Tracey. 1980. Monodon monoceros. Mammalian Species No 127. Pp. 1-7.

Smith, T.G., M.O. Hammill, D.J. Burrage, and G.A. Sleno. 1985. Distribution and abundance of belugas, Delphinapterus leucas, and narwhals, Monodon monoceros, in the Canadian High Arctic. Can. J. Fish. Aquat. Sci. 42:676-684.

Strong, J.T. 1988. Status of the narwhal, Monodon monoceros, in Canada. Canadian Field-Naturalist 102(2):391-398.

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