

## The Need for a New Review of Significant Trade in the Narwhal

### *(Monodon monoceros)*

The proposal was submitted by Katalin Rodics as European representative of AC

#### Introduction and summary

A Review of Significant Trade in the products of the Narwhal (*Monodon monoceros*) was conducted by Animals Committee in 1995/1996 and concluded in October 2004 when the Standing Committee determined that an outstanding Recommendation - to conduct surveys - had finally been complied with. However, the Standing Committee did not consider the results, and implications, of these surveys, or whether other concerns expressed by the Reviewers in 1996 had been met. Nor did it consider other important and worrying developments since then.

Hunting of Narwhals by Canada and Greenland has increased since 1995 to unsustainable levels. International trade in Narwhal products has also increased and changed in focus, from whole tusks to a high volume of carvings and pieces of tusk, making it harder to assess the real impact of the trade on the species. The North Atlantic Marine Mammal Commission (NAMMCO) and the Canada Greenland Joint Commission on Conservation and Management of Narwhal and Beluga (the JCNB), expressed "grave concern" about the status of the West Greenland Narwhal in 2004, and recommended that substantial reductions in harvesting (to one fifth of current levels) will be required to reduce its decline. Greenland did not comply with this recommendation. Later in 2004, the European Union, concerned about the sustainability of trade, prohibited commercial imports of Narwhal products from Greenland, and Canada upgraded the species to one of 'special concern'.

This information paper provides background and new information on the status of, and international commercial trade in, the Narwhal. The proposal is made by the representative of the European Region, in order that the Animals Committee immediately commence a new Significant Trade Review of the Narwhal.

#### About the Narwhal

The Narwhal (*Monodon monoceros*) is a medium sized toothed whale that is endemic to Arctic waters. Its range states are Canada, Denmark (Greenland), Iceland, Norway (Svalbard), the United States (Alaska) and the Russian Federation. However, the vast majority of the world's Narwhals occur in Canada and Greenland, where they are hunted intensively. In addition to its local value for food (mainly mattak, which is skin and some of the adhering blubber), the Narwhal is also hunted, particularly in the Eastern Canadian Arctic and Greenland, for its unique spiralled ivory tusk. The ivory is commercially valuable and traded internationally as whole tusks, pieces, and carvings.

The stocks of Narwhals shared by Canada and Greenland are monitored by the JCNB, although responsibility for management and conservation rests with the national agencies. The Scientific Committee of the JCNB met most recently with the Scientific Committee of NAMMCO at a Joint Working Group (JWG) meeting in February 2004.

The Narwhal was included in CITES Appendix II in 1979. Its IUCN category is Data Deficient. The species is included in Appendix II of the Convention on Migratory Species (CMS). In November 2004, Canada increased the status of the Narwhal to Special Concern Category<sup>1</sup>. This means it may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

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<sup>1</sup> COSEWIC. 2004. Canadian Species at Risk, November 2004. Committee on the Status of Endangered Wildlife in Canada. 49 pp.

Narwhals have a pronounced annual migratory cycle and, at the time of the last Significant Trade Review in 1995, three 'centres of distribution' were recognised: Baffin Bay/Davis Strait and adjoining channels, northern Hudson Bay/southern Foxe Basin, and the Greenland Sea/Svalbard area<sup>2</sup>.

Based on data collected in the 1970s and 80s, the shared 'Baffin Bay' stock between eastern Canada and west Greenland was estimated to number 34,000 (95%CI 21,600-54,600)<sup>3</sup> and the east Greenland stock about 300<sup>4</sup>. The Hudson Bay stock was estimated at 1355 (90%CI 1000-1900) in 1984<sup>5</sup>. Further published estimates include 18,000 (90%CI 15,000-21,000) for the Canadian High Arctic in 1984<sup>6</sup>. However, in all cases, the estimates were based on numbers of animals seen at the surface and were not adjusted for animals that would have been missed by observers or unavailable at the surface as the aircraft passed overhead. A 1996 aerial survey of a large part of the summer range in Canada produced an estimate of 45,358 (95%CI 23,397-87,932), fully corrected to account for missed animals<sup>7</sup>.

Little information exists about basic biological parameters of Narwhals, such as reproduction rates, generation length and natural mortality. The 2004 JWG meeting noted that there is no new information on biological rates of Narwhal and that, in making status assessments, the Joint Committee had to use data from Belugas as estimates for the biological traits in Narwhals<sup>8</sup>. This has implications for sustainable hunting. For example, as the JWG noted in 2004, while hunters claim that Narwhals can give birth every year, if a rate of every third year is used, estimated sustainable catches will be 20% lower.

### **New information on Narwhal status since the 1995/6 Significant Trade Review**

A secondary recommendation of the Animals Committee in 1996 was for the "responsible authorities of Canada and Greenland [to] initiate a scientifically based survey programme for the Baffin Bay stock. If one is not already in operation, to form the basis of an improved population monitoring programme.

Several surveys have been conducted in Greenland and Canada since 1996, although the results of large-scale aerial surveys undertaken in the Canadian Arctic in 2002 and 2003 are still being analyzed and no formal assessments of Canadian stocks were available to the JWG in 2004. The JWG noted that a three year survey programme will be completed in 2004 and that more complete and up to date abundance information will be available once the analysis of these data has been completed. It looked forward to final abundance estimates at its next meeting<sup>9</sup>.

The recent (and provisional from Canada) satellite-linked telemetry and aerial surveys suggest much finer-scaled stock structure for the Narwhal than originally believed (e.g. Narwhals from Repulse Bay, Grise Fjord and Pond Inlet, and from east Baffin Island are now believed to represent at least three different stocks).

The JWG meeting in February 2004 agreed, given the rapid decline in numbers suggested, that its immediate goal should be "halting the decline of narwhal in West Greenland". It assessed all available survey data to identify discrete summering aggregations with little or no exchange between whales from other summering grounds, in order to identify specific stocks or management areas, determine which aggregations contribute to which hunt, and assess the sustainability of those hunts.

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2 2000. Report of the Sub-committee on Small Cetaceans. J. Cetacean Res. Manage. 2 (Suppl.) :235-263

3 Reeves, R.R., Dietz, R. & Born, E.W. 1994. Overview of the special issue "Studies of white whales (*Delphinapterus leucus*) and narwhals (*Monodon monoceros*) in Greenland and adjacent waters". Meddr. Grønland, Biosci. 39: 3-11. Copenhagen 1994-04-22.

4 Larsen, F., Heide-Jørgensen, M.P., Martin, A.R. & Born, E.W. 1994. Line-transect estimation of abundance of narwhals (*Monodon monoceros*) in Scoresby Sund and adjacent waters. Meddr. Grønland, Biosci. 39:87-91.

5 Richard, P. 1991. Abundance and distribution of narwhals (*Monodon monoceros*) in northern Hudson Bay. Can. J. Fish. Aquat. Sci. 48:276-283.

6 Richard, P., P. Weaver, L. Dueck and D. Barber. 199. Distribution and relative abundance of Canadian High Arctic narwhals (*Monodon Monoceros*) in 198. Meddr Grønland, Biosci. 39:41-50

7 Innes, S., Heide-Jørgensen, M.P., Laake, J.L., Cleator, H.J., Richard, P. And R.E.A Steward, 2002. Surveys of belugas and narwhals in the Canadian High Arctic. NAMMCO Sci Publ. 4: 19-190

8 JCNB/NAMMCO Joint Scientific Meeting, Montreal, Canada. February 3-6, 2004. Executive Summary. P.iv

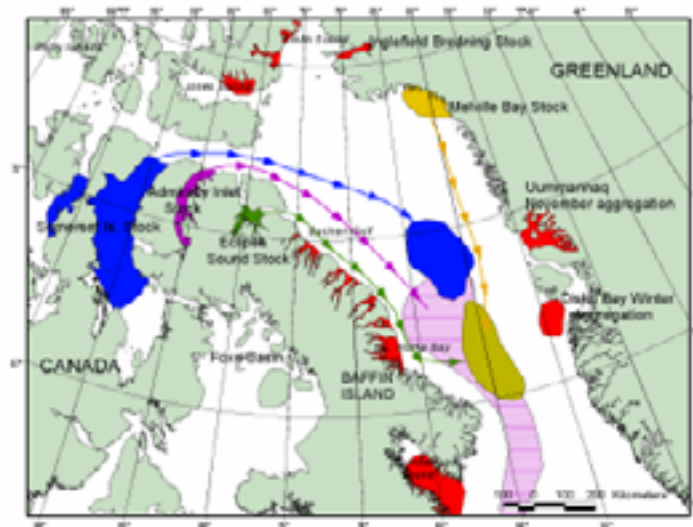
9 JCNB/NAMMCO Joint Scientific Meeting, Montreal, Canada. February 3-6, 2004. Executive Summary. P.v and vii

Coastal summering aggregations in Canada were identified in Eclipse Sound, Admiralty Inlet, Somerset Island, East Baffin Small stocks and Cumberland Sound. Summering aggregations in Greenland were identified in Inglefield Bredning and Melville Bay. Aggregations in Jones Sound and Smith Sound are shared between Canada and Greenland but there is little hunting of Canadian stocks by Greenland and vice versa. The JWG identified eighteen major hunting grounds in Canada and Greenland at which several stocks appear to be hunted more than once.

Stock assessments show that West Greenland Narwhals are depleted to approximately one quarter of their pre-exploitation abundance and that continued harvests at current levels may result in the extinction of West Greenland Narwhals in the near future<sup>10</sup>. The meeting recommended that total removals (not landed catch) in West Greenland should be reduced to no more than 135 animals annually (excluding Melville bay for which the quota should be zero<sup>11</sup>), from current levels of 662. This would result in a probability of recovery for some stocks within 10 years of 0.7. The recommendation was noted to be an interim recommendation and that more work would need to be done on the assessments at the next meeting. However the situation was considered “so serious that an interim recommendation is warranted”.

Aerial digital surveys in Inglefield Bredning and adjacent fjords in West Greenland in 2001 and 2002 showed a decline of 10% in abundance since surveys were conducted last in 1985 and 1986<sup>12</sup>.

Figure 1<sup>13</sup>



10 Executive Summary.JCNB/NAMMCO Joint Scientific Meeting, Montreal, Canada. February 3-6,2004.P. vii

11 A photo survey conducted in Melville Bay in August 2002 sighted no narwhals on almost 1000km of tracklines. This is consistent with reports from hunters who observe only a few animals in the area. The meeting considered it highly unlikely that present harvests in the area could be sustainable and recommended a cessation of hunting in this area.

12 Heide-Joergensen, M.P. 2004. Aerial digital photographic surveys of narwhals, Monodon monoceros, in Northwest Greenland. *Marine Mammal Science* 20(2):246-261.

13 Heide-Jørgensen, M.P., Richard P., Dietz, R., Laidre, K. 2004. Metapopulation structure and hunt allocation of narwhals in Baffin Bay. Working paper NAMMCO/SC/12-JCNB/SWG/2004-JWG/20 presented to the NAMMCO/JCNB Working Group on Belugas and Narwhals, February 2004

Figure 1. Map of the major summering aggregations ("stocks") of narwhals, the Uummannaq November aggregation (UNA) and the Disko Bay winter aggregation (DBWA). Narwhals from the Melville Bay (MBS), the Eclipse Sound (ESS), the Somerset Island stock (SIS) and the Admiralty Inlet stocks (AS) have been tracked by satellite and their late summer and autumn movements to three different wintering grounds are shown. Other less significant summering areas include those shown in italics on the map; Smith Sound-Kane Basin and adjacent fjords (Smith Sound Stock), Jones Sound (Jones Sound Stock), the waters around the Parry Islands (Parry Islands Stock) and Burchard Gulf, Home Bay (East Baffin Small Stock) and Cumberland Sound (Cumberland Sound Stock).

## Hunting

Narwhal hunting has increased in West Greenland and Canada since the last Review of Significant Trade. Between 1986 and 1995, the average annual reported catch of Narwhals in West Greenland was 469. Between 1995 and 2001, the rate was 642<sup>14</sup>. These figures compare with average catches of 270 between 1970-1980<sup>15</sup>. Between 1981 and 1990, the catch of Narwhals from East Greenland averaged at least about 80 animals per year<sup>16</sup>. More recent figures are not available. Similarly, hunting is increasing in Canada. Hunters averaged 420 Narwhals annually between 1999 and 2003<sup>17</sup>, compared to 295 individuals from 1996-1998<sup>18</sup>.

Reports of Narwhal catches in both Greenland and Canada are believed to be incomplete, and under-reporting is significant in some areas. Undocumented mortality of Narwhals that are wounded and escape, or sink and are lost ('struck and lost') in Canada is higher than 30%<sup>19</sup>. The JWG agreed that data from the Canadian hunt can be used to provide a general indication of loss rate in Greenland<sup>20</sup>. Making reasonable allowances for struck and lost animals, mortality due to hunting by Canada and Greenland certainly exceeded 1,000 Narwhals annually through the 1990s<sup>21</sup> and could have been as high as 1,500.

In 1996, the Animals Committee asked "*The responsible authorities of Canada and Greenland [to] inform the Secretariat of the basis for their non-detriment findings in accordance with Article IV, paragraph 2 (a) of the Convention.*"

Canada responded that an offtake of 2.5% a year would be sustainable for this stock<sup>22</sup>, but justified its hunting level by doubling a population estimate that was based on an aerial survey of half the known range. Greenland responded that "2-4% of a Narwhal population can be harvested without jeopardising the sustainability of the catches"<sup>23</sup>. However, those statements from 1996 do not reflect current understanding of, and concerns about, Narwhal stock structure and status.

The risk assessment conducted by the JWG in 2004 indicated that an annual catch of 150 Narwhals in West Greenland implies a risk of extinction near 80% after 30 years. The only catch level that appeared to have zero risk of extinction, even after 50 years, is 20 animals.

14 JCNB/NAMMCO Joint Scientific Meeting. Montreal, Canada. February 3-6, 2004. P. 60

15 Heide-Jorgensen M.P. 1994. Distribution, exploitation and population status of white whales (*Delphinapterus leucas*) and narwhals (*Monodon monoceros*) in West Greenland. – Meddr Grønland, biosi. 39: 135-149. Copenhagen 1994-04-22

16 Dietz, R., Heide-Jorgensen, M.P., Born E. W. & Glahder C. M. 1994. Occurrence of narwhals (*Monodon monoceros*) and white whales (*Delphinapterus leucus*) in East Greenland. – Meddr Grønland, Biosci. 39: 69-86. Copenhagen 1994-04-22.

17 JCNB/NAMMCO Joint Scientific Meeting. Montreal, Canada. February 3-6, 2004.

18 JCNB/NAMMCO Joint Scientific Meeting Qeqertarsuaq, Greenland, May 9-13, 2001

19 K. L. Ditz. **2004** Catch Statistics (1999-2003) for Narwhal and Beluga in Selected Communities in the Eastern Canadian Arctic. Working paper NAMMCO/SC12-JCNB/SWG/2004-JWG/10 presented to the NAMMCO/JCNB Working Group on Belugas and Narwhals, February 2004

20 JCNB/NAMMCO Joint Scientific Meeting. Montreal, Canada. February 3-6, 2004. P. 10

21 Executive Summary. JCNB/NAMMCO Joint Scientific Meeting. Qeqertarsuaq, Greenland, May 9-13, 2001

22 Doc. AC.13.14.1 Implementation of Resolution Conf. 8.9. Thirteenth Meeting of the Animals Committee. CITES 1996

23 Doc. AC. 13.14.1 Implementation of Resolution Conf. 8.9. Thirteenth Meeting of the Animals Committee. CITES 1996

## **New Information on regulation of Narwhal hunting and trade in Greenland since the 1995/6 Significant Trade Review**

Most Narwhals in Greenland are killed from motorized boats using high powered rifles. Only in Qaanaaq (Thule) are they hunted from traditional kayaks using harpoons. Until 2004, Greenland's Home Rule Government did not set quotas on the number of Narwhals taken annually by more than 11,000 licenced professional and leisure hunters. In 2004, the Government adopted its first regulations for Beluga and Narwhal hunts which sought to establish annual and regional quotas, prohibit the killing of females and juveniles and prohibit hunting using nets. However, after NAMMCO (endorsed by the JCNB in May) recommended in March 2004 that the annual quota be no higher than 135, the government temporarily suspended setting quotas and the full implementation of the regulations. Quotas were finally set in June 2004 at 300 Narwhals (100 for Qaanaaq and 200 for the rest of Greenland from June 2004 to June 2005).

In July 2004, the Scientific Committee of the International Whaling Commission observed that estimated total abundance of Narwhals in the Inglefield Bredning summering area in Northwest Greenland in 2002 was only 15% of the estimated abundance in 1986 and noted the JWG's conclusion that continued hunting at recent levels may result in the extinction of West Greenland Narwhals in the near future. The Committee noted the recommendations of both the NAMMCO Council and JCNB of substantial reductions in removal levels, and a moratorium on hunting in Melville Bay, acknowledged the effort of scientists involved in the assessment of these stocks, and expressed its concern for Narwhals in this region<sup>24</sup>.

### **Extent and value of trade since 1995/6 Significant Trade Review**

According to WCMC data, Canada and Greenland have exported 2,082 tusks, 5,379 kg meat, 1,716 Narwhal teeth (although some of these may actually have been tusks) and 3,342 carvings since 1995. There is no evidence of regular international trade in mattak.

International trade has increased in the ten years following the last Significant Trade Review in 1995, compared to the ten previous years, and its focus has shifted from tusks to carvings, which makes it harder to assess the impact of the trade. Canada exported an annual average of 79 tusks between 1980 and 1985, 75 between 1987 and 1992, 72 between 1993 and 1997 and 122 between 1998 and 2002. Greenland exported an annual average of 14 tusks between 1980 and 1985, 244 between 1987 and 1992, 237 between 1993 and 1997 and 72 between 1998 and 2002. Greenland only recently submitted overdue trade reports to WCMC and its export data are not included in the database at time of writing. However, Greenland's annual reports (published domestically) show an increase in export permits issued over this period, from 255 in 2000 to 1315 in 2002<sup>25</sup>.

The CITES Guidelines on the Submission and Preparation of Annual Reports require reports to be submitted "in standard units of measure and never in non-standard units", and require the description of the specimen to indicate the type of product traded. However, Greenland reports the export of hundreds of 'carvings', 'sets of carvings', ivory scraps' and 'ivory products' each year with no details of the number of carvings in a set, or the size or weight of individual items<sup>26</sup>. As a carving or ivory product could be anything from a small carved earring to a three metre long engraved tusk, failure to report specific details of the item(s) traded makes it impossible to determine how many individual animals contribute to the trade. Furthermore, it is not possible to identify from the trade data whether a 'carving' or 'ivory product' is a tusk, tooth or bone. (The EU decided in 2003 that the units of measurement used in relation to trade in 'parts' and, in particular in relation to carvings, should be standardized, but the impact of this new rule is not yet evident).

Narwhals only have a maximum of two teeth, of which one erupts into a tusk in all males and occasionally females. It is quite possible that a number of the 1,703 individual teeth (and 31 kg) reported in

<sup>24</sup> Report of the Scientific Committee of the International Whaling Commission. IWC56 Rep1. P47

<sup>25</sup> Annual Reports 2000-2003. CITES Management Authority of Greenland, Home Rule Ministry of Environment and Nature, Nuuk, Greenland

<sup>26</sup> For example, since 1990 Greenland has reported the export of 79 sets of carvings and 86 ivory products in addition to whole tusks and teeth.

Greenland's export data since 1995 were not un-erupted teeth but, in fact, tusks, thus increasing the number of animals contributing to international trade. This possibility was raised by the Reviewers in 1995, who noted, "Standardisation of terms (teeth, tusks) used when reporting trade to CITES is also required to identify the numbers of animals represented by this trade".

As the Review of Significant Trade noted in 1996, "Under the EU's common border policy, once Narwhal products have entered Denmark, they can be traded with any other EU country without the need for further CITES permits". Concerned about the sustainability of the trade, the European Union's Scientific Review Group gave a negative finding on Narwhal imports from Greenland in December 2004 and the EU prohibited imports for commercial purposes.

However, as the table<sup>27</sup> below shows, this prohibition is likely to have minimal impact since the vast majority of permits issued by Greenland for Narwhal products (98.3% in 2002) are supplied to tourists for the export of souvenirs as personal and household effects and are, therefore, exempt from any ban on commercial trade.

	2000*	2000**	2002***
Total no. of CITES permits issued for narwhal	255	551	1312
No. of "P" permits	228 (89.4 %)	540 (98 %)	1290 (98.3 %)
No. of "T" permits	24 (9.4 %)	10 (1.8 %)	21 (1.6 %)
No. of "S" permits	0	1 (0.2 %)	0
No. of "E" permits	0	0	1 (0.1 %)
No. of "Q" permits	3 (1.2 %)	0	0
No. of "P" permits	0	0	0

\* Source: 2000 Annual Report – Greenland. Greenland Home-rule Government

\*\* Source: 2001 Annual Report – Greenland. Greenland Home-rule Government

\*\*\* Source: 2002 Annual Report – Greenland. Greenland Home-rule Government

In Japan and other Asian countries, Narwhal tusks have been valued for their claimed medicinal properties as well as for ornamental purposes. Since 1995, Japan has imported 469 Narwhal tusks (mainly from Canada), 17 carvings and 5kg of teeth.

### **Previous Review of Significant Trade**

The Review of Significant Trade in the Narwhal conducted in 1995, concluded that<sup>28</sup>:

<sup>27</sup> Data collected by Hjarsen, EcoAdvise

<sup>28</sup> IUCN Species Survival Commission, TRAFFIC Network and World Conservation Monitoring Centre. Review of Significant Trade in Animal Species included in CITES Appendix II. Final Report to CITES Animals Committee. 1996.

- “Despite the long history of exploitation, there are insufficient data to determine whether Narwhal populations have declined and to assess reliably whether current exploitation is sustainable.”
- Further research...is required in order to better assess the impact of current offtake on Narwhal populations.”
- “While there is clearly an international market for Narwhal tusks, there is insufficient trade information to determine... whether international trade *per se* is affecting the conservation status of the species”.
- “A greater understanding of the domestic and international market for Narwhal products will be central to any efforts to ensure that offtake does not threaten individual populations of this species.
- Standardisation of terms (tusks, teeth) when reporting trade to CITES is also required to identify the number of animals represented by this trade”.

Ten years later, new information gathered since the last Significant Trade Review indicates serious problems for the species:

- It is clear from new data that Narwhal populations have declined and that current exploitation is not sustainable;
- Expert bodies have recommended a reduced hunting level in Greenland, but this has not been complied with.

Meanwhile, some of the information lacking in 1995 is still lacking:

- There is still insufficient information to determine the extent to which international trade is affecting the conservation status of the species. However, it is clear that the type of products traded has changed since 1995 (e.g. a shift from whole tusks to carvings) and the export of small items as personal and household effects has grown. Both make an assessment of the actual impact of trade (in terms of number of animals involved) harder;
- Standardisation of terms is still required to assess the number of animals represented by the trade.

It is believed that the new data available since 1995 indicate that the status of the Narwhal is worse than at the time of the last Review of Significant Trade, and declining rapidly, with little evidence of remedial action being taken. The species should be included in the Significant Trade Review Process at the 21<sup>st</sup> meeting of the Animals Committee in May 2005.