

Catalogue of questions on the Public Hearing on the Committee for the Consumer  
Protection, Food, and Agriculture on the “Protection of Whales”

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**A. Function in the ecosystem**

First we need to define what “whales” are because much confusion is on that matter. It is important to realise that there are over 80 species of cetaceans, whales, dolphins and porpoises, of which we list the large baleen whales, blue, fin, sei, humpback, right and bowhead whales (all weighing more than say 15 tons) as well as the smaller minke whale, and the large sperm whale, which belongs to toothed whales. In addition, we have the smaller toothed whales (say less than 8 tons) which comprise many species such as killer whales, long-finned pilot whales, many dolphins species and the smallest cetacean, the harbour porpoise.

Thus, when speaking on the function or role of whales, it is important to keep in mind that there are many species inhabiting the world’s oceans and usually each species consists of several or many separate stocks.

The large whales are usually highly migratory and undertake long-distance movements up to several thousand nautical miles from the low latitude wintering grounds to the highly productive feeding grounds far north in the North Atlantic and North Pacific Oceans, where they consume as much as 80% of their annual food requirements. Also in the feeding areas the lesser migrating species occur in greater abundance than elsewhere. Therefore, the function of whales as top predators in the northern regions is substantial, where the baleen whales consume much “krill” (pelagic crustaceans) and pelagic fish (such as herring, capelin), and the toothed whales eat all kinds of fish, including squid.

Evidently the rich feeding grounds of the high latitude northern regions give rise to high consumption by whales of fish and other animal life. In the northern regions, one has demonstrated that the fish taken by marine mammals as percentage of total fish removed by the fishing fleets is much larger (as much as order of magnitude) than in the more temperate/boreal ecosystems such as the North and Baltic Seas.

**B. Whale stocks**

**1. What is known about the reproductive cycle of whales?**

The reproductive capacity (including reproductive cycle, age at maturity, etc.) of whales and dolphins is known to a varying degree. The general reproductive pattern of most whale species is relatively well known, but the situation varies between stocks, areas and periods, because food availability and competition for food and space varies due to variations in abundance of the different components of the food web (so-called density dependent response). Also variations in environmental factors

can significantly influence the reproductive capacity of the stocks and these changes with time and area. It is thereby important in order to estimate the productivity of the stock in question to conduct study on the current situation case by case.

**2. Is there at present (or will there be in future) reliable, scientifically based knowledge about the situation of the individual whale stocks?**

For most of the previously exploited whale stocks in the world there is available relatively reliable estimates of stock sizes, since in recent decades systematic whale sightings surveys have been conducted regularly in several important ocean areas. Such surveys have been conducted off Greenland, Iceland, the Faroe Islands and Norway in the northern North Atlantic Ocean (North Atlantic Sightings Surveys, NASS-surveys), around Japan in the Pacific (JARPN-surveys) and in the Antarctic Ocean.

The NASS-surveys in the North Atlantic carried out in the summers of 1987, 1989, 1995, and 2001, respectively, have been said to be probably the most extensive and wide ranging wildlife monitoring surveys ever conducted and have provided valuable data on whale distribution and abundance. It seems clear that unless there is an economic incentive, limited information on the status of the stocks will be available in the future since one will probably give higher priorities to other kind of research. Today the level of knowledge is generally much better and the resources allocated to whale research are much greater in areas where whales are regarded as exploitable resource.

**3. To what extent have the stocks of the great whales recovered world-wide since the decision to end whaling 18 years ago?**

Unfortunately, with few exceptions, only where economic interest is in whales as a resource there seems to have been sufficient level of research effort to throw light on this question. In order to obtain accurate enough estimates to detect minor changes in whale stock abundance during a limited period of time, the level of research effort needs be very high. Such close monitoring has e.g. taken place on the grounds off Iceland and has revealed very significant increase in both the stocks of fin and humpback whales.

**4. At the present time, are all whale species equally endangered, or are certain whale species not endangered, and which are these?**

At species level one can only speak of the northern right whale (occurring mainly off the North Atlantic US coast) as being threatened. At stock levels some species are more threatened in certain areas than in others, such as bowhead, the blue whale and the humpback whale. In other areas the same species are thriving well and cannot be regarded as threatened, so their status is just as different as the stocks are many. Therefore, to allude to the status of the whale stock (in singular) is very misleading when discussing the situation of the many whale stocks of the world.

5.

**(a) Which whale species are still threatened with extinction, despite the moratorium on whaling?**

**(b) In your opinion is there one or more whale stocks which now or in the future would allow utilisation?**

(a) Probably the right whale only can still be regarded at critically low levels although such levels are difficult to define. Both at species and stock level, right whales are very much far below historical levels and should therefore be managed in such a way to help them to recover.

(b) Yes, definitely, there are many species and stocks that can today sustain limited/regulated harvest, such as minke whales in many ocean areas, fin and sei whales. Even humpback whales in the North Atlantic have reached pre-exploitation level and could for that matter tolerate some limited harvest and the same applies to Northeast Pacific grey whales, although no plans are to reopen commercial harvest of these species. But it should be stressed that any successful exploitation scheme requires modern science-based management, based on rational precautionary approach.

**6. How large is the population of the Western Pacific grey whale and is this threatened by measures for the exploitation of oil and gas reserves?**

According to the IWC website, the Western North Pacific grey whales number less than 100 animals.

**7. According to *Science* (July 2003), populations of the humpback and fin whales have fallen over the past 150 years to one tenth of their former level: there used to be 240 000 humpback whales and 360 000 fin whales; the International Whaling Commission (IWC) estimates that today there are 20 000 and 40 000 animals respectively. On recovery to 54% of the old stocks, whaling should be possible once again. According to an IWC decision, this would require a ten-year moratorium, according to *Science* it will require 70 years. How do you assess the period needed for stocks to recover?**

The paper referred to in July issue of *Science* (vol. 301) is not of relevance in determining pre-exploitation levels of whale stocks as pointed out by many critics to the above paper in the following issues of *Science* and elsewhere. Thus the reference to 70 years required for recovery of the stocks is not relevant.

Historical sizes of whale stocks are normally referring to decades or centuries back and therefore it is natural to refer to pre-exploitation levels some 100 years ago but not thousands or more years (as the *Science* paper) when we consider current stock status (fin and humpbacks exploited off Iceland since 1883; minke whales 30 years later).

For a number of reasons, it is impossible that so many more fin and humpback whales occurred e.g. off Iceland in the 19th century just prior to exploitation than earlier studies have indicated, because although some greater errors occur due to higher number of struck and lost whales or under-reporting than earlier assumed, obviously the stock estimates are based on apparently reliable counting (written records) of

landed whales from stocks that were seriously depleted by whaling operations. In other words, there is no way that whaling activities in the 19th and 20th centuries removed sufficient number of whales that could give rise to such high pre-exploitation stock sizes as indicated by the current genetic study.

**8. Which whale species are native in the North Sea and the Baltic Sea, how have their stocks developed over the past ten years (separately for North and Baltic Seas, by what if anything are the whales threatened, and what protective measures are required to preserve the stocks?)**

The table below lists species and numbers of cetaceans in the Celtic Sea, North Sea and the Western Baltic Sea. Limited information is available on the stock development of these stocks. Net entanglement is to some degree documented as significant mortality factor in at least harbour porpoises, while factors like shipping and pollution may be additional factors of concern in these densely populated areas.

Table. Cetaceans in the Celtic Sea, North Sea and the Western Baltic Sea.

<b>Cetacean species</b>	<b>Abundance</b>	<b>95% CI</b>
Harbour porpoise	341, 366	260, 000-449, 000
White-beaked dolphin	7, 856	4, 000-13, 000
White-sided and white-beaked dolphin	11, 760	5, 900-18, 500
Minke whale	8, 445	5, 000-13, 500
Killer whale	common	
Bottlenose dolphin	129	110-174
Long finned pilot whale	rare	
False killer whale	rare	
Fin whale	rare	
common dolphin	rare	
Risso's dolphin	rare	
Sperm whale	rare	

**9. To what extent and for which species are regional measures appropriate to make whale stocks safe, and which species can only be protected by global measures?**

The large whales are highly migratory and need be considered on ocean-wide basis. There is not evidence for any migration of large whales across the meridian between the southern and northern hemispheres, nor between the world oceans (e.g. North Atlantic and the Pacific). Often the species are split into geographic stocks that intermingle during winter season at low latitudes, while they split into different feeding areas in the warmer half of the year. Here they usually are more subject to harvest and other man-induced activities. It is thus evident that regional measures can be very important and successful if applied. Global measures at species level should be unnecessary, unless the same status prevails for all stocks of the species in question.

**10. What influence have the increases in the whale population in recent years had on the stocks of commercially-exploited fish species?**

The interactions between whale stocks and fish resources are difficult to map and model, because data of sufficient quality and resolution is difficult to obtain within reasonable research budgets. But by basic measurements of changes in whales stock sizes, assumptions of food requirements and diets, and by modelling of interactions between whale stocks and fish resources one can approach this question. Such studies, e.g. off Iceland and off Norway in the Barents Sea, have shown how significant influence the whale stocks have on the development of the fish stocks.

### **C. Threats and protective measures**

#### **1. What does the term "Walschutz" (= whale protection) mean?**

In wildlife management it is important to discriminate between conservation and protective measures. Whale conservation can go along with sustainable harvest of the whale stock while whale protection implies ban on harvest and other human activities that may negatively affect the status of the whale stock.

#### **2. What (level of) extraction of whales by whaling , extraction along with other catches, or other threats, measured on the stock levels, is expected to lead to a threat of stocks, according to current knowledge?**

This depends on the definition of threat, which in turn depends on the (politically determined) management objectives for the species in question. There is clearly a large difference between threat of extinction of a species (or population) on one hand and a threat of a population decline below a certain level, judged to be desirable by management authorities, on the other.

As an example of the latter is the management procedure agreed by the IWC (RMP), according to which no whaling is permitted on stocks which are below 54% of their initial abundance. This is not to say that below this level, stocks are threatened with extinction, but rather the goal is to facilitate rapid population growth to the level giving maximum yield, which is regarded as 60-72% of the initial stock size.

The levels of harvest from whale stocks rely heavily on the reproductive capabilities and other life history parameters of the species in question. These are poorly known for many species, in particular density dependent responses of stocks under exploitation (e.g. change in growth rate and age at maturation, fertility, etc. due to changes in food density of whale abundance). It is therefore impossible to generalise on sustainable harvesting levels across all species. As a rule of thumb, available evidence indicates that harvesting levels of 1-4% of stock sizes of large whales do not pose a threat to the populations provided a healthy stock.

Examples from the real world.

The uncontrolled whaling in the first 4-5 decades of modern whaling in the world's Oceans was clearly beyond sustainability and posed a real threat to the populations, the most drastic example being the Southern Hemisphere whaling during 1920-1960s.

There are, however, several examples of long term (many decades) whaling that appear to have been sustainable. An example of this is Icelandic post-war fin whale fishery, which took on average 236 whales/year during 1948-1985 without bringing the stock below 70% of the initial stock size. Recent assessment of this stock has predicted that a future catch at similar levels for the next 20 year will not reduce the stock below that level.

Norway has applied a slightly modified version of the RMP for about a decade without any signs of a population decline.

Thus, well science-based managed whale fishery is both realistic and practised.

### **3. By what - apart from whaling - are whales above all threatened in your opinion?**

As said, whaling as such needs not be regarded as a threat to the whale stocks if sustainably managed. Other human-influenced factors that may pose threats to the stocks, particularly coastal species, include other fishery activities (by-catch), shipping/traffic and pollution. The by-catch as such does not itself need to be a threat to the stock if at low level. Rather the catch of non-targeted species is more often a cause of concern since the species caught are not utilised.

### **4. What is known about the potential hazards for whales due to environmental damage (e.g. marine pollution, oil tanker spills, dumping of chemicals)?**

Accumulation of trace metals and persistent organic polychlorinated hydrocarbons (POP's) in whale tissues and organs is a cause of concern in some regions. Such accumulation may even take place in geographic areas distant from the source of origin, such as the high pollution burden in some arctic animals of airborne substances, that originate from low latitude industrial regions.

### **5. What effects do climate change and temperature changes in the oceans have on the whales (e.g. on the supplies of food)?**

Potential effects of global warming are difficult to predict at fine scale. Nevertheless, historical evidence shows that climate change can influence the productivity (increase or decrease) and the food web composition in each geographic area, which in turn may influence stock sizes and distribution of whale stocks. If global warming continues, this may result in decrease of ice in the arctic regions and reduced habitat of ice-attracted whale species.

### **6. Are whales threatened globally by shipping, and in particular by high-speed ferries?**

In general shipping cannot be considered a serious threat to whale populations. However, for some species in some areas it may be of significance. The most obvious example is the Northern right whale off the eastern coast of North America where coastal distribution, slow swimming, low abundance and high levels of traffic coincide to produce a significant threat.

7.

**(a) What is known about the threats to whales posed by military activities at sea, and in what parts of the world do such threats arise?**

**(b) How do you assess the evidence that low-frequency active sonar systems (< 240 dB), which affect approx. 75 of the oceans, can cause the whales' ear drums to burst? Is there evidence that underwater noise affects the communication of whales?**

Not examined/answered.

**8. What is known about the threats to whales posed by the exploitation of underwater mineral reserves?**

Not examined/answered.

**9. What is known about the possible detrimental effects for native small whales from the construction of off-shore wind power generators?**

Not examined/answered.

**10. In late 2002, 20% fewer beluga whales were counted off the coast of Greenland than 40 - or 50 years ago. Are there protection strategies for the beluga?**

The Government of Greenland has not yet implemented quotas for beluga and narwhal. A legislation allowing the government to set quotas is to be passed shortly. According to this legislation the municipalities will be involved in the allocation of the quota.

The proposed legislation also calls for the protection of calves and females with calves and limits the size of vessels that are involved in beluga and narwhal hunting as well as hunting methods. The municipalities will have the power to limit the use of nets for narwhal/beluga harvesting.

**11. What methods would you recommend to avoid the unintentional catching of porpoises and dolphins (in fishing nets) in the North Sea and Baltic Sea?**

The use of pincers have given positive results in minimising cetacean by-catch. There are, however, concerns that as cetaceans may become used to the pingers their effects may decline. Closure of areas for nets of specified mesh size and/or area closures for certain or all fisheries may be considered for high risk areas/seasons.

12.

**(a) To what extent are restrictions necessary on fishing in the Baltic Sea (coastal fishing) in order to protect porpoise populations there?**

**(b) In this context, how do you judge the proposals for a regulation of the European Council to establish measures against whale encapturement in fishing (COM [2003], 451 final)?**

Not examined/answered.

**13. How do you evaluate the draft proposal of the EU Commission presented in July 2003 for the protection of "small whales" and the suitability and the practicality of the measures proposed there for the protection of "small whales" which envisage the following:**

**(a) a complete ban on drift-net fishing in the Baltic Sea beginning 1 Jan 2007 and a prior limitation on the length of drift-nets.**

**(b) the obligatory use of acoustic warners (pincers) in net fishing in EU waters**

**(c) the documentation of encapturements by independent observers on board the ships.**

Not examined/answered.

#### **D. Scientific whaling and research**

##### **1. How do you assess the so-called scientific whaling of Japan and Iceland?**

Both programmes are ambitious research projects that have contributed, and are likely to contribute significantly to our knowledge of various aspects of cetacean biology and ecology. Although disputed at the time, it is now widely recognised that the Icelandic programme for whale research in 1986-1989 greatly increased the knowledge on many vitally important aspects of whale populations in Icelandic waters. Likewise, the Japanese and Norwegian programmes have greatly contributed to our knowledge about the situation in other ocean areas.

##### **2. What aims do Iceland and Japan have in resuming scientific whaling?**

Available information indicates that cetacean consumption in Icelandic waters amounts to about 6 million tons, whereof some 2 million tons are finfish - a similar magnitude as the total fish catch in Icelandic waters. Preliminary research, based on multi-species modelling (including cod, capelin, shrimp and three species of cetaceans) indicates that continued growth of cetacean stocks may significantly reduce the long-term yield of the cod and capelin stocks. There is, however, substantial uncertainty surrounding this estimate. The most important source of uncertainty is limited data on diet composition of minke whales in Icelandic waters. It is, however, clear, based on reliable data on minke whale distribution and abundance, that the species is among the most important components of the coastal continental shelf Icelandic ecosystem. The lack of knowledge on the species feeding ecology is highly unsatisfactory given the increased importance of multi-species considerations in fisheries management and the overwhelming importance of fisheries to the Icelandic economy (60-70% of export merchandise value).



In 2003 Iceland initiated a programme for research on minke whales, including take of 36 minke whales in that year (out of 200 in the total programme). The main objective of the Icelandic research is to collect basic information on the feeding ecology of minke whales in Icelandic waters. In addition to studies on the diet composition by analysing the stomach contents, other data that are essential for estimation of minke whales predation on various prey species will be collected. These include research on the energetics, food requirements and seasonal and spatial variation in whale abundance. The multi-species model that is being applied at the Marine Research Institute, Reykjavik (MRI) and includes cod, capelin and shrimp will be further developed by incorporating minke whales for estimation of the ecological interactions of these species.

The following secondary objectives of the research will be:

- To investigate the stock structure of the minke whale in the North Atlantic by genetic methods and satellite telemetry.
- To investigate parasites and diseases in the minke whale in Icelandic waters.
- To collect information on age and reproduction of minke whales in Icelandic waters.
- To investigate concentration of organochlorines and trace elements in various organs and tissue types.
- To examine the applicability of various alternative research methods compared to the more traditional methods.

### **3. Do you think it is possible that scientific whaling could also serve as a cover for commercial whaling?**

No. To state that the Icelandic scientific whaling is a cover for commercial whaling is from an economic perspective far from true.

The costs associated with the research conducted by Iceland in 2003 was around 35 million IKR (around 400 thous. €). The products are sold on the domestic market, and the income used to cover part of the sampling costs. It is clear that this income does not nearly cover the research costs and Icelandic authorities place greater part of the resources into the research. However, to secure, that no profit is being made from the scientific takes, an agreement between the MRI and the whalers contracted to catch the animals entails that all potential profit goes into a research fund.

Regarding Japanese whaling under Special Permit, it appears from the scale of the operation and the enormous scientific activities, that the operation can not be economically viable and thus be defined as a cover for commercial whaling.

### **4. Which whale species are investigated and what proportions of populations are to be caught?**

The original Icelandic research programme, considered by the IWC Scientific Committee in 2003 involved annual take of 100 fin, 100 minke and 50 sei whales over a two year research period. A decision was taken by the Government of Iceland to start implementing the minke whale part of the programme in August 2003. No decision has yet been taken on the implementation of the fin and sei whale parts of the programme.

The best abundance estimate for minke whales in Icelandic coastal (continental shelf) waters is around 44 thousand animals. It is clear (and agreed by the IWC) that the proposed take (200 animals in total) will not have any detectable effects on the stock.

### **5. What data is to be acquired by scientific whaling?**

As stated in the objectives a wide range of data will be collected for the various sub-projects of the programme. For the main objective data on stomach contents of minke whales are of prime importance in order to establish the diet composition of minke whales. The sampling is distributed in time and space according to relative abundance of the species in Icelandic waters to secure representative sampling.

As a part of the primary objective data will also be collected on energetic condition of the whales (for estimation of energy requirements), seasonal abundance and distribution by aerial surveys and satellite telemetry.

In connection with the 4 secondary objectives data will be collected on genetic structure, biological parameters and various aspects of the health status such as pathology (veterinarian dissections), parasitology, physiology and pollutant burden. In addition, examinations will be conducted on the applicability of various non-lethal methods. Many of these methods are still at a theoretical stage and lack verification (by comparison with more established methods) before being applicable as routine scientific methods. The programme is thus meant to contribute to the development of non-lethal research methodology.

### **6. Could the findings gained as a result of scientific whaling not be made just as well using whale captures by indigenous populations, by studying discovered carcasses, and by using animals caught in fishing nets?**

The data needed for the primary objective of the programme, feeding ecology of minke whales in Icelandic waters can not be obtained in sufficient resolution by any of the non-lethal methods suggested. Minke whales are known for their opportunistic feeding habits, and thus research from other ocean areas cannot be extrapolated to Icelandic waters. Representative sampling is of great importance in studies like these, and the limited number of bycaught minke whales (0-5 per year) is neither representative nor sufficient sample size in terms of numbers.

The various non-lethal methods suggested, such as fatty acid analysis and isotope ratios, can give a rough idea on feeding ecology (i.e. trophic status) but are not detailed enough for use in multi-species models of the type used in fisheries management in Iceland. It is, however, true that some of the secondary objectives of the research can, at least partly, be reached by non-lethal methods. In particular, population structure by genetic methods can be studied by examination of skin biopsy samples. It is also claimed that conclusions on pollutant burden can be done with non-lethal methods, but comparative analyses of different organs and different year classes are difficult to conduct by non-lethal means.

**7. To what extent does scientific whaling represent competition for commercial fishing?**

Not examined/answered.

**8. Are the current research programmes appropriate for the existing deficits in knowledge?**

The Icelandic programme is a feasibility, or pilot study, but is meant in due course to fill in a very critical research needs in multi-species research in Iceland. It will also provide useful information for management of whales, addressing various research needs identified by the IWC SC such as regarding pollution, stock structure and biological parameters.

The Japanese research programmes in the Antarctic and the North Pacific have already contributed significantly to knowledge on cetacean populations in these areas. In particular the JARPA programmes in the Antarctic for the past 16 years have produced a wealth of information on biological parameters (including mortality rates), stock structure and abundance of minke whales in the area. These programmes have during this period been the overwhelmingly dominant source of knowledge on cetacean populations from this vast ocean area. The JARPN programmes in the North Pacific, which have been ongoing for a much shorter period, have also provided useful information on the complex stock structure and feeding ecology of minke whales and other whale species in this area.

**E. Utilisation**

**1. What arguments are there in favour of excluding whales from the ethically-based right of humans to use renewable raw materials in a sustainable fashion?**

There is no such argument available that can be accepted by a society that bases its income to a large degree of animal hunt. Although the history of whale exploitation was a history of failure, modern technology and knowledge can provide for sustainable utilisation of whales as any other renewable source. Whales are highly developed animals that does not justify them being protected from cautious harvest schemes rather than land mammals, birds or any other animal life on earth.

**2. How do you assess "whale watching" as a form of using whales?**

Whale watching is a business activity popular among many tourists. The practise of areal/temporal closures of fishing areas for regulating purposes is well known in fisheries management. Whaling and whale watching should be able to live in harmony but some regulations of activities are needed if these are to be conducted simultaneously.

**3. Do you find it justifiable to eat whale-meat in view of the high levels of contaminants it contains?**

The levels of contaminants vary highly between species and individuals according to areas, trophic status and age of the animal. In general toothed whales utilise food high

in the food chain whereas the baleen whales mainly feed on zooplankton and small schooling fishes. Therefore, the contaminants in large long-living toothed whales frequently reach critical levels for consumption. Infrequent consumption of baleen whales, however, is in most cases not considered harmful.

For minke whales, the levels are high in the North Sea, lower further north. An advice from Icelandic health authorities, based on Norwegian minke whale meat, required no general limitations for consumers. As a precautionary measure, however, pregnant women were not to eat more than two meals per week (same class as canned tuna). Preliminary results on mercury values in Iceland minke whales do not for all practical purposes pose risk for anyone.

In Greenland values are above EU reference values in some cases for toothed whales. At a conference on the matter in Shetland there was general agreement among health specialists, that in spite of this, people should not be encouraged to refrain from eating marine mammals because the positive health factors of this food exceeded the possible negative impact of the pollutants.

#### **F. International agreements, indigenous whaling, establishment of protection areas**

**1. Does the draft " Revised Management Scheme" (RMS) in its current form offer sufficient security for the whale populations, in your opinion?**

Yes.

**2. Does the on-going dispute about RMS represent a threat to the continued existence of the IWC? Are the individual points of disagreement based on sound science or are they politically motivated?**

Yes, this poses a threat to IWC. The disagreement is politically motivated.

**3. How safe or unsafe is the Revised Management Scheme?**

Very safe, since it provides a well founded low risk precautionary approach, taking regularly note of stock status and imposing extremely conservative, transparent and safe regulatory mechanism which has no precedence elsewhere.

**4. Does the German government act in good faith in the practical application of the international agreements for the regulation of whaling?**

Probably, yes. But it exposes limited tolerance towards the views of local communities in the far north, which are highly dependent on the living marine resources and which show all wills and skills to manage the exploitation in a sustainable manner.

**5. In what order of magnitude are whales caught annually in traditional subsistence whale hunting by the Alaskan and Greenland Eskimos and the**

**Chukchi in Siberia for their own use, and what proportion of the whale populations is this?**

Large whale takes (number of whales) by Alaskan (USA) and Greenland Inuits, Chukchi Inuits in Siberia and aborigines in St. Vincent and Grenadines in the Caribbean are shown in the following table. The estimated stock size of the relevant stocks according to IWC are shown in the top row of the table.

		Fin whale	Bowhead whale	Gray whale	Humpback whale	Minke whale	Brydes whale
	<b>Stock size</b>	unknown	8,000	26,300	11,570	unknown	unknown
<b>1997</b>	USA		66				
	Russia			79			
	Greenland	13				162	
	St Vincent and Grenadines				2		
<b>1998</b>	USA		54				
	Russia		1	125			
	Greenland	11				176	
	St Vincent and Grenadines				2		
<b>1999</b>	USA		47	1			
	Russia		1	123			
	Greenland	9				190	
	St Vincent and Grenadines				2		
<b>2000</b>	USA		47				
	Russia		1	115			
	Greenland	7				155	
	St Vincent and Grenadines				2		1
<b>2001</b>	USA		75				
	Russia		1	112			
	Greenland	8				154	
	St Vincent and Grenadines				2		
<b>2002</b>	USA		50				
	Russia		3	131			
	Greenland	13			2	149	
	St Vincent and Grenadines				2		

**6. In your opinion, should the so-called subsistence whaling for indigenous peoples continue in its present form and extent?**

Yes, in most cases it should continue, although at any given time harvest of depleted or threatened stocks should not be permitted, regardless of who is harvesting the resource.

**7. Is there evidence that Greenland is not observing the quota levels for indigenous whale hunting?**

Although there have been a few infractions from IWC regulations in the past it has been more common that the Greenlanders do not utilise the full quota, particularly of fin whales. NAMMCO and the Canada-Greenland joint commission have recently expressed concern that recent harvest levels of narwhal and beluga in Greenland have exceeded sustainability and that management actions are required. Greenland is working towards reduction in the catches.

**8. How large is the extent of illegal whale captures (e.g. by Japan and Korea) estimated to be?**

Not examined/answered.

**9. In your opinion, should there be further protected reserves for whales, and if so, where?**

The RMS is a very conservative management scheme, placing large emphasis on minimising the risk of over exploitation. In that respect one may argue it is among (if not the) the most cautious and rigorously tested (for the last 18 years!!) management scheme developed in the history of wildlife management. Given its implementation it seems superfluous to impose further protection measures on top of that.

One of the main stated objective of the sanctuaries, already agreed upon in the IWC is to promote research on whale stocks. Experience from the present sanctuaries has so far not shown any signs of increased research activities in those areas (apart from the Japanese research in the Southern Ocean Sanctuary – which is though not related to the establishment of the sanctuary).

**10. What priorities do you see for the Conservation Committee formed by the so-called Berlin Initiative?**

Increased influence of NGOs in an intergovernmental institution like the IWC by the new Conservation Committee is of some concern since most of these organisations are not driven by organised democratic processes and simply may become too influential at the cost of representatives of sovereign states. The establishment of the new Committee may also weaken the scientific pillar of the IWC decision making process and even contribute to movement away from the content and intentions of the IWC Convention, i.e. towards rational utilization of the whale stocks and towards the orderly development of the whaling industry.