

Comprehensive and standardised data on whale killing: welfare considerations

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Provision of whale killing data to the IWC

Historically, Contracting Governments to the International Whaling Commission (IWC) have reported composite¹ data on whale killing to the Commission on an annual basis². Summary statistics and measures calculated from composite data include: sample mean and sample median Time To Death (TTD); Instantaneous Death Rate (IDR); and, in some cases, maximum TTD and total number of animals that were recorded as struck and then lost. Japan also provides the standard deviation of the data sets for some of its hunts. However, presenting only mean and median values for the data set may mask data points at the extreme end of the data set. These data points may be significant in welfare terms.

An example of significant detail masked by the presentation of composite data was provided by Denmark, on the Greenlandic hunts, at the 2003 Whale Killing Methods Workshop. The mean TTD for minke whales in the West Greenland hunt was reported to be 16 minutes (IWC/55/WK 12). However, this report combined data from both the harpoon and rifle-only (collective) hunts. New Zealand requested that data for West Greenland should be broken down according to the primary killing method (IWC/55/Rep5). Greenland subsequently provided a revised table (IWC/55/WKM 12 Rev) which demonstrated that although the overall mean TTD for minke whales killed in West Greenland was 16 minutes, in fact the mean TTD for whales killed in West Greenland using the harpoon as a primary killing method was 7 minutes, whereas the mean for whales killed using only the rifle in West Greenland was 33 minutes.

The breakdown of these data also revealed: (1) that the rifle hunt was responsible for a reported, but previously unattributed, maximum time to death of 300 minutes, and (2) that the median TTD in the rifle-only hunt was 20 minutes; considerably longer than suggested by combining data for both hunts (a median of 15 minutes).

Thus the provision of composite data can provide a misleading indication (positive in the case of the rifle-only hunt; negative in the case of the harpoon hunt) of the efficiency of a hunt.

During the 2004 season in West Greenland, 126 minke whales were killed in the harpoon hunt, and 53 minke whales were killed in the collective (rifle-only) hunt. At the 2005 Whale Killing Methods and Associated Welfare Issues (WKM&AWI) Working Group Denmark again provided composite data for the two hunts and did not, despite the previous request at the Workshop, break down the data according to the killing method employed (IWC/57/WKM&AWI 4 and IWC/57/WKM&AWI 6). New Zealand requested such a breakdown of the data and Denmark indicated that it would consider this for the next meeting (IWC/57/Rep 7).

This demonstrates the need to provide comprehensive data sets to the Commission and illustrates that the outliers in the data set may be particularly important in welfare terms.

¹ Composite is used in this context to denote data that are represented only by summary statistics (for example mean or median values), without the individual data items from the full data set being provided.

² These data sets are often incomplete. Debate continues regarding obligations to report welfare data to the Commission, however, the Schedule to the ICRW explicitly requires data collection under the logbook in Appendix A of the Schedule.

Recent data on welfare issues presented to the Commission

Resolution 1999-1 encouraged Contracting Government to provide: number of whales killed by each method; number and proportion of whales killed instantaneously; TTD for each animal not killed instantly; number of whales targeted and missed; number of whales struck and lost; calibre of rifle where used and number of bullets used; and methods used to determine unconsciousness/time of death.

Resolution 2004-3 noted that data collection requirements are not being met in some hunts and requested the Secretariat to update the data collection form for the reporting of data in order that Contracting Governments may '*report data for each whale taken, the killing method used and the samples taken*'.

This form was duly updated by the Secretariat, so that data on whale killing could be presented in accordance with Resolution 2004-3 (IWC/57/Rep 7). However, data sets presented by Contracting Governments at the 2005 WKM&AWI Working Group remained incomplete (Table 1).

A review of the information provided on whale killing to the Commission in 2005 revealed the following:

- Despite the request in Resolution 2004-3 to provide data on **each** whale taken, the only Contracting Government to provide a complete data set for each whale killed was the Russian Federation.
- None of the Contracting Governments currently conducting Aboriginal Subsistence Whaling (ASW), commercial, or special permit whaling completed all the relevant data fields in the new reporting form ('Summary of Activities Related to the Action Plan on Whale Killing Methods: Information on whales killed').
- Since resuming special permit whaling, Iceland has failed to provide any data on whales killed during its special permit hunt. Iceland suggested at IWC 57 that the data set was not large enough to provide statistically significant data on whale killing³. However, without full data sets being made available to the Commission for independent scrutiny, it is not possible to determine how these data may be statistically quantified.
- Despite being less well resourced, the data provided by the Russia Federation and Greenland is generally more comprehensive than the data currently provided by Norway, Japan or Iceland from their commercial and special permit hunts. Whilst St Vincent and the Grenadines provide no data. Only some of the Contracting Governments conducting ASW provided data in the format requested by the Secretariat, making it difficult to facilitate comparison between hunts.
- Although Japan provides some data from its special permit operations, to date it has failed to provide any data on struck and lost whales and has never provided any data on the killing of sperm whales under special permit.
- In 2005 Japan reported data on the mean, median and standard deviation of the data set for most species (sperm whale kills being the exception). However, the maximum TTD was not reported (IWC/57/WKM&AWI 11). As with struck and lost individuals, it is the whales that take the longest time to die that may be of the most significance in welfare terms.
- Japan also fails to provide any welfare data on the killing of Baird's beaked whales;
- Denmark fails to report data on pilot whales, bottlenose and Atlantic white sided dolphins and Northern bottlenose whales killed in the Faroe Island hunts.
- The USA provided extensive information on the development of the penthrate projectile for the Alaskan bowhead hunt (IWC57/WKM&AWI 3), but provided no data (other than the number of whales struck and lost) on the TTD for whales killed with these new projectiles; thus inhibiting any independent assessment of their effectiveness.
- In 2005, Norway noted that funding for continued research into whale killing by the Norwegian Research Council concluded in 2003. Norway announced its decision to discontinue research activities on the hunting and killing of whales, noting that it '*will be controlled using periodic or random checks when necessary*' (IWC/57/WKM&AWI 5). No data on TTD were reported for the 2004 season by Norway (Table 1).

³ IWC/57/Rep 7

Verification of data

It has been argued during the RMS negotiations that, to meet international best practice, independent international observers are essential for ensuring both supervision and control over whaling operations and for validating the data collected and reported. However, there is currently no international, independent oversight or verification of any of the data presented to the Commission relating to welfare considerations. Table 1 demonstrates that in many cases, data on whales killed is collected by the hunters and that there is no independent international oversight.

Norway reported that throughout the 2003 and 2004 seasons, during which 34 vessels were used, 25 inspectors from the Directorate of Fisheries were present at sea or on land. Norway noted that during these two seasons 'most inspectors were not veterinarians and were not educated for sampling TTD data' (IWC/57/WKM&AWI 5).

Data collection related to welfare issues in the Norwegian hunt is now, to a large degree, dependent on the 'Blue Box' system. The Fisheries Directorate anticipates that the 'Blue Box' will replace the supervisory role previously held by whaling inspectors during 2006⁴ and that the '*hunting and killing of whales will be controlled using periodic or random checks when necessary*' (IWC/57/Rep7). However, the 'Blue Box' is an inferior means of monitoring welfare issues: data are not reported in real time, and although it can record the interval between the time at which the harpoon was fired and the time at which the whale is hauled aboard for flensing, it cannot measure the time to death using the visual criteria currently employed by hunters or veterinarians, nor can it document the wounding caused to the whale.

The value of independent oversight and validation of data on whale killing was highlighted by an 'Information Note' provided to the 2005 WKM&AWI Working Group, in which the UK reported on independent footage taken during the Norwegian minke whale hunt, which demonstrated that one whale killed during the 2005 season took at least 14 minutes and 28 seconds to die. During this time the rifle had been fired seven times. It is precisely these 'outliers' in the data set that present the most significant case for the evaluation of welfare concerns and, thus, it is these data that should be reported and independently evaluated.

Conclusion

The RMS Working Group has discussed data requirements for evaluating the welfare of hunted whales. These discussions have focused, to a large degree, on the need to ensure compulsory collection of comprehensive and reliable data on each whale killed – including details of behavioural and physiological indicators, environmental factors, information on pursuit and impacts on conspecifics. The current level of data reporting on welfare issues by Contracting Governments (as shown in Table 1) does not meet the criteria identified by many contracting Governments as necessary for any future RMS.

Aside from the data actually presented, both the high incidence of 'struck and lost' whales in whaling operations and independent footage and photographs of hunted whales demonstrate that:

- a) Individual cases of cruelty are important – these cases may go unnoticed where summary statistics are used and may go unreported where independent inspection and international observers are not present;
- b) It is essential to have independent verification of welfare data, with veterinary oversight, which automated data collection such as a 'blue box' cannot provide;
- c) In order to allow an accurate evaluation of the welfare impacts of modern whaling practices, the differences between species killed, and to compare the difference between hunts, comprehensive and standardised data sets need to be provided (as requested under Resolution 2004-3);
- d) Full data sets would also allow assessment of the spread of the data and would provide information on the 'outlier' data points, which may be of the most importance in welfare terms.

⁴ Haraldsen, Ove Ronny. 18 April 2005. <<Vagehvlfangsten i gang>>, NRK at <http://www.nrk.no/nyheter/distrikt/nrk_nordland/4674351.html> and Larsen, Per Marius. 17 March 2005. <<Blaboks erstatter inspektorer>>, Fiskets Gang.

The provision of full data sets on whale killing in a transparent manner, where data are validated by independent international observers, is a fundamental requirement for the accurate assessment of the welfare implications of modern whaling practices.

Table 1. Data presented by Contracting Governments to the 2005 Whale Killing Methods and Associated Welfare Issues Working Group on 2004 and 2004/2005 hunts

	Norway	Japan	Iceland	Russian Federation	Greenland (Denmark)	St Vincent and the Grenadines	USA
Total for which data recorded		√		√	√		
Total estimated TTD to be instant		√			√		
Max TTD				√	√		
Mean TTD		√		√	√		
Median TTD		√			√		
Standard Deviation		√					
Total killed using secondary killing method		√		√			√
Total targeted and missed							
Total struck and Lost	√ ⁵			√	√		√
Data provided for each whale killed				√			
Data collected by	National Inspectors and 'Blue Box'	⁶		Inspectors 100% Scientists c.40% Hunters 100% ⁷	Hunters 100%		Hunters 100%

⁵ Norway reported that during 2003 and 2004 hunting seasons 19 whales were reported lost because the harpoon line broke or the harpoon worked loose. No whales were reported to have escaped wounded.

⁶ Japan did not specify during the 2005 Working Group the percentage of data collected by Inspectors or Scientists.

⁷ Breakdown as provided in IWC/57/WKM&AWI 4.