North Atlantic Marine Mammal Commission
November 2015

PROTOCOL FOR COLLECTION OF TTD DATA IN WHALE HUNTS WITH DECK MOUNTED HARPOON GUN

Dr Egil Ole Øen, Wildlife Management Service Sweden

Collecting TTD data in whaling

Background

Time to death (TTD) or Survival time (ST) and the Instantaneous death rate (IDR) are terms that are used to measure and to quantify the killing efficiency and the state of art of current killing methods and practices used in whaling operations. Collection and analysis of TTD/ST and IDR data in a standardised manner with covariates that may influence TTD/ST and IDR make it possible to compare how rapidly whales are killed using different techniques and gears. Standardised collection methods and analyses of TTD make it possible to calculate impacts on TTD and IDR of new developments, modifications or changes in hunting practices and the impact also on efficiency of systematic training of hunters.

In Norway (1981-2012) TTD of more than 5000 minke whales killed using different types of hunting gears were collected and analysed with the covariates animal size, shooting distance and angle of harpoon gun shot, hit region and detonation area. The results were used to document the need for innovations like development of new and improved weapons, consecutive modifications and testing of gears and hunting techniques and practices, training of hunters etc. During these 21 years IDR increased by 65% from 17% to 82% and the average TTD was reduced from 11.5 min to 1 min.

The NAMMCO Expert Group Meeting on Assessment of Large Whale Killing Data in 2010 underscored the importance of recording TTD/ST/IDR and recommended the use of the Norwegian way of collecting and analysing the all hunts to identify needs for improvements.

Why record TTD

To document killing efficiency
To discover potential ways to improve the killing
To follow improvements on other issues relevant for killing over time

How to sample TTD data – "the Norwegian Way"

It is very important that the personnel collecting data are independent and are able to concentrate on data collection and not have other tasks to attend to in the killing and flensing (butchering) phase.

Who should sample/collect – required qualifications prioritized
1. Veterinarians
2. Large mammal biologist and large whale physiologist
3. Hunt- and fisheries inspectors

The profession of the veterinarians makes them able to better understand and assess the behaviour of the animal when hit, and relate the animal's reaction to the death criteria. Large mammal biologists and physiologist may also have this understanding. Anatomical and pathological knowledge is important when assessing damage to organs and gross (macroscopic) changes in vital organs, which can be studied during flensing.