

Crisis for sperm whales

The International Whaling Commission (IWC) is holding a special meeting in Japan next week. Two major tasks for the meeting will be to set catch limits for sperm whale stocks in the North Pacific and to review the status and catch limits of sperm whales in the Southern Hemisphere. John Beddington, lecturer in population biology at the University of York, explains why he thinks no more sperm whales should be caught in these areas.

AT ITS meeting in Cambridge this summer the scientific committee of the International Whaling Commission identified a number of worrying questions concerning the current state of the world's sperm whale stocks. These questions, which were the subject of further discussions when the committee reconvened in La Jolla in November, pose problems both for the whales and the IWC.

Since the 19th century the sperm whalers have concentrated their hunt on the older males, as there are sound economic reasons for preferring these larger animals. More recently it has been recognised that because the sperm whale is polygamous there is a clear opportunity of obtaining an increased yield from populations with a substantially disturbed sex ratio. However, there is a danger that if too many mature males are taken, pregnancy rates will fall as females fail to find mates. This danger is recognised in the current management model used by the IWC which demands that a reserve of socially mature males should be excluded from exploitation to ensure maximal pregnancy. Unfortunately, in two major sperm whale stocks there have been disturbing falls in the pregnancy rates of the female catch. These changes, in the Australian sector of the Southern Ocean and in the Western division of the North Pacific gave a clear indication that all was not well with these stocks.

This problem was illuminated by other scientific analysis by Beddington, Holt, and Fowler which showed that the way in which the IWC had estimated population abundance seriously masked the extent of the depletion of stocks following exploitation. The mechanism involved is simple. The main measure of population abundance used by the IWC is the catch per unit of fishing effort and the measure of effort that has been used was the number of catcher boat days. However, catching whales takes time and daily catch rates at the start of the fishery were limited not by the population abundance but by the time taken for catching whales. Accordingly as stocks declined there was no corresponding drop in catch rates and hence stocks were thought to be more abundant than was in fact the case.

When data for the Western North Pacific stock were reanalysed in the light of these observations it was found that in the period of the observed fall in pregnancy rates the mature male population had fallen below the reserve level and hence pregnancy rates would have been expected to fall. Similar analysis of the Australian stock was not carried out in Cambridge due to lack of time, but some members of the Scientific Committee were of the view that given the substantial fall in pregnancy rates, a similar effect was occurring and that to set a zero quota would be the appropriate response of the commission. In the event this view was not accepted and the quota for this division was reduced by only 25%. Unfortunately, subsequent analysis submitted to the Australian Whaling Enquiry by Kirkwood, Allen & Bannister vindicates this pessimistic view and indicates that here again mature males were reduced below their reserve level and that pregnancy rates

would be expected to have fallen. The status of both these stocks gives much cause for concern and it should be noted that as comparable data on the pregnancy rates are not available for all stocks the problem may not be restricted to these areas alone.

A final problem highlighted by the sperm whale analysis concerns the inadequacies of the new management procedure used by the IWC to set quotas. This procedure provides for protection of stocks when they fall 10% below their maximum sustainable yield level. In both the cases considered above, strict interpretation of these rules would permit quotas to be taken—females from the Australian division of the Southern Ocean and both sexes from the Western North Pacific stock. However, simple extrapolation of the demographic statistics indicate that even in the absence of exploitation these stocks would continue to decline for decades. If subsequent analysis corroborates these findings the Whaling Commission will thus be faced with the difficult task of deciding whether to interpret its rules legalistically or to protect these whale stocks. □

Cornelia Durrant, Wildlife Campaigner at Friends of the Earth, UK, adds: At the end of last October it seemed that the UK government had taken some action to protect whales when it announced its proposals for the meeting of the Convention on the International Trade in Endangered Species (CITES) to be held next March. CITES aims to control international trade in wildlife and wildlife products. Those species which the 48 member nations agree are 'endangered' are listed on appendix I of the convention and trade in them is normally forbidden. Those which are considered 'threatened' are listed on appendix II. Trade in them is allowed but monitored.

The UK has been proposing a review of cetacea for next year's CITES meeting. It proposes that 11 species of dolphins and porpoises should be put on appendix I and that all cetacea not on appendix I should be listed on appendix II—including the sperm whale.

When this was announced it received a great deal of attention. So much so that the implications of the UK's other proposal to CITES were not fully explained. The convention requires all 'readily recognisable' parts and products of listed species to be controlled, but there is disagreement over what is recognisable, and many members control no products at all. Together with Switzerland and West Germany, the UK has prepared a list of parts and derivatives of several species of animal which it would like to see all parties control.

This list, called the 'minimum list' of parts and products, is surprising in many respects. Most surprising of all it does not include whale products because "whale meat, meat products and oil were not considered to be identifiable without the use of biochemical laboratory equipment". However, the UK has always identified whale products for Customs tariff purposes.

Consequently even if all cetaceans are put on the appendices to CITES only trade in live animals will be controlled—and this is only a few dolphins a year. The trade in their products will continue unchecked.

Recent data on the status of sperm whales shows several populations to be more than just 'threatened', in particular those in the Western division of the North Pacific and those in divisions five and seven of the Southern Hemisphere. Consequently there is a strong case for the UK proposing these populations of sperm whales for appendix I of CITES. If, however, the 'minimum list' is accepted in its present form this would be of little use. As it is clearly impossible to distinguish between the products of whales from different populations the only way to ensure that the endangered ones are not further depleted is to control the products of all sperm whales. □