

We hope that the goal of “vigorous, constructive scientific debate” mentioned in Gannon *et al.* (2004) will allow a dispassionate review of the funding structure of marine mammal science. As *Nature Medicine* (Anon. 2001) notes for the medical community, marine mammalogy must “win back crucial public trust before the situation becomes irrevocable,” and we believe a crucial step is to remove the overwhelming position of the U.S. Navy in our field.

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- LINDA WEILGART and HAL WHITEHEAD, Department of Biology, Dalhousie University, Halifax, Nova Scotia B3H 4J1, Canada; e-mail: lweilgar@dal.ca; LUKE RENDELL, Sea Mammal Research Unit, School of Biology, University of St Andrews, Fife, KY16 8ES, United Kingdom; JOHN CALAMBOKIDIS, Cascadia Research, 218 1/2 W 4th Ave., Olympia, Washington 98501, U.S.A. Received 31 January 2005. Accepted 3 May 2005.

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DIFFICULTIES IN PUBLISHING RESEARCH RESULTS FROM SCIENTIFIC WHALING

Recently, we have experienced difficulties publishing our scientific papers on whale reproduction. Editors and reviewers have criticized our work not only on scientific grounds, but also because of legal, methodological, and ethical issues. These criticisms have resulted in the rejection or a delay in publication of our papers. Five international journals have rejected or refused to review our papers submitted for publication, and in one instance we received no final decision by the Editor on a manuscript for over a year. This raises important questions about the role of the scientific review process in cases where the species of concern are the subjects of intense political debate.

All materials used in our research were obtained legally, under the Special Permit in the Antarctic (JARPA) and the Western North Pacific (JARPEN) authorized by the Government of Japan. The JARPA and JARPEN have been conducted by a non-profit research institution whose legal status is authorized by the Government of Japan's Ministry of Agriculture, Forestry and Fisheries. The research is in full compliance with the relevant international treaty, namely the International Convention for the Regulation of Whaling (ICRW). Article

VIII of the ICRW provides that any member may issue special permits for the killing of whales for research purposes and any whales taken under Article VIII must so far as practicable be processed.

Some reviewers and editors criticized the number of whales killed in the JARPA and JARPN. However, our studies are incidental to the JARPA and JARPN, and thus have no influence on the number of whales taken. We have simply used a number of blood, sperm, and ova samples which were essential for our own research purposes. Just as we have learned many things from killed domestic animals, we believe that samples from dead whales killed for other scientific purposes can be used as the basis of further understanding. Moreover, the total number of whales taken in the JARPA and JARPN has been calculated to produce statistically meaningful results related to the main objectives of the research. These numbers have been presented to the International Whaling Commission (IWC) and reviewed by the Scientific Committee of the IWC.

The killing method of whales has also been criticized on ethical grounds. One reviewer claimed that the killing method did not meet normal scientific standards because most harpooned whales are not killed instantly by euthanasia and, thus, undoubtedly suffer considerable pain and distress as they die. However, lethal research of whales should not be compared with laboratory research, because whales are not experimental nor domestic animals but large wild animals. Normal guidelines and regulations on field research of wild animals specify that killing should use appropriate methods and should be done as quickly as possible.

The IWC's Workshop on Human Killing Techniques for Whales held in 1980 recognized that an explosive harpoon was the most humane killing method for whales (IWC/33/15, 1981). The use of the explosive harpoon for whaling operations is a legally binding obligation under the ICRW. While this provision does not apply to catches for research purposes, the methods used in the JARPA and JARPN are appropriate in this context. Furthermore, significant improvements have been made in reducing the time to death in the JARPA and JARPN in recent years. Results of this work have been submitted to the IWC Working Group on Whale Killing Methods on a regular basis. We believe that acceptance of the explosive harpoon by the IWC and its Working Group on Whale Killing Methods should, in this case, be regarded as equivalent to "approval by an appropriate Ethics Committee" which some editors or reviewers requested that we submit. In regard to our studies, the Committee of Welfare Standard for Experimental Animals of Obihiro University of Agriculture and Veterinary Medicine has provided a specification of approval in each case.

In a letter to the editor of an international journal, one reviewer stated the following—"I would hope that the journal and other scientific journals would stop acting as accomplices in this charade and start refusing to publish studies conducted with whales in such a false and inhumane manner." Although some international journals (*e.g.*, *Biology and Reproduction*, *Marine Mammal Science*, *Zygote*, *Cloning and Stem Cells*, *Comparative Biochemistry and Physiology*, *Journal of Reproduction and Development [Japan]*, and *Theriogenology*—all of which have standards for the ethical and humane treatment of animals) have accepted and published our manuscripts on whale reproduction, these recent events are excluding important findings on whale biology from at least some of the international scientific literature. One scientist recently noted the following: "I do not think there is a moratorium against the publication of Japanese scientific findings but individuals acting on their own might be preventing the publication of research results internationally. It would be a pity if good scientific work legally conducted and obviously filling in gaps in our knowledge were to be prevented from publication because of sentiment against the government policy." We agree with this comment. Sentiment against the policy of the Government of Japan to conduct research programs involving the killing of whales should not influence editorial policy.

Rejection of scientific papers on our whale research without sound scientific reasons further politicizes the issue, restricts the dissemination of important scientific findings, and puts at risk the scientific credibility of the editors and journals involved. Therefore, we

expect that editors and reviewers for international journals will consider the scientific values of our research outcomes on whale reproduction.

YUTAKA FUKUI, Laboratory of Animal Reproduction, Obihiro University of Agriculture and Veterinary Medicine, Obihiro 080-8555, Japan; e-mail: fukui@obihiro.ac.jp; **HAJIME ISHIKAWA** and **SEIJI OHSUMI**, Institute of Cetacean Research, Tokyo 104-0055, Japan. Received 29 November 2004. Accepted 21 January 2005.