

IN THE MATTER OF:

PROPOSED REGULATION GOVERNING
THE TAKING OF COOK INLET, ALASKA, BELUGA
WHALES BY ALASKA NATIVES

DOCKET NUMBER 000922272-

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DECLARATION OF ANDRÉ PUNT, PH.D

I, Dr André Punt, declare:

1. Since 2003 I have been advising Cook Inlet Native subsistence users in the matter of Cook Inlet beluga, and the proposed regulation of take thereof by Alaskan natives. I have been a member of the Technical Committee, along with Dr Rod Hobbs and Dr Daniel Goodman and have contributed to the review of data and population models for Cook Inlet beluga. I am presently a Research Associate Professor in the School of Aquatic and Fishery Sciences, University of Washington. Prior to this I was a Senior Research Scientist in the Division of Marine Research of the Commonwealth Scientific and Industrial Research Organization (Australia). My technical experience relates to marine population dynamics and harvesting theory. I have a Ph.D. in Applied Mathematics (University of Cape Town, South Africa) and have published over 90 peer-reviewed papers in this field. I have been a member of the Scientific Committee of the International Whaling Commission since 1989 and participated in the development of the Revised Management Procedure for baleen whales and in the development of the *Strike Limit Algorithms* for the Bering-Chukchi-Beaufort Seas stock of bowhead whales and the Eastern North Pacific stock of gray whales.

2. A key aspect of the Management Plan is the balance between satisfying the need of native peoples and minimizing the delay in recovery to OSP. The need to identify this balance is common to all situations in which harvest plans are developed to regulate the take by subsistence hunters of depleted marine mammal populations. However, there is little scientific guidance that can be given regarding this trade-off because it is primarily a policy decision. An exception to this relates to the need to avoid population sizes at which the risk of extinction (or loss of genetic substructure / social structure) is likely to be noteworthy. NMFS argues that this population size is fewer than 200 individuals in total. NMFS has implicitly adopted a trade-off between satisfying need and minimizing the delay in recovery though its adoption of the 2-6% range for the maximum rate of growth in the future, having different levels of harvest is the population is assessed to be increasing, stable, or declining, and having a population level below which the harvest is set to zero.

3. My experience dealing with regulation of subsistence and commercial harvests suggests that management regimes that allow sustained (but low) harvests to ensure cultural needs are satisfied are preferred by subsistence harvesters to management regimes in which catches are reduced substantially so that the population can recover quickly to OSP, at which time much larger harvests can be taken. In contrast, a near moratorium followed by catches close to those which coincide with maximum sustainable yield are more desirable to commercial harvesters. There are, however, exceptions to this general rule, which is itself an issue largely outside the realm of biological scientific techniques.

4. As noted by Dr Goodman, the plan does not explicitly address the issue that the current rate of increase is likely to be below 2% *per annum*. The calculations upon which the Management Plan are based assume that the growth rate will return to a level between 2 and 6% once it is implemented. The plan implicitly accounts for the possibility of a lack of growth because this would result in harvest levels remaining at current levels or declining. Analyses can, and should, be conducted to evaluate the quantitative implications of applying the harvest rule when the growth rate is not 2% or greater in the future in terms of the extent to which application of the management plan increases the probability of the delay in recovery exceeding 25% as well as that of the size of the population declining to below 200 individuals, noting that population decline will occur irrespective of the size of the harvest if the maximum rate of growth is negative.

5. The Management Plan does not explicitly include regular progress reviews. Such reviews are a standard part of, for example, the Management Plans developed by the International Whaling Commission. They involve evaluating whether the data that have been collected since the Plan was implemented suggest that the basis for the algorithm for setting harvest levels is invalid. Adoption of such reviews recognizes that Management Plans should not be applied automatically. In the context of the Management Plan for Cook Inlet beluga whales, evidence for lack of recovery (e.g. the population having not changed from one range of population sizes to another) for a prolonged period would be evidence for re-evaluating the Plan.

6. Dr Goodman refers to the IUCN Red List Criteria in his submission. As stated in the Red List Documentation *“The quantitative values presented in the various criteria associated with threatened categories were developed through wide consultation, and they are set at what are generally judged to be appropriate levels, even if no formal justification for these values exists. The levels for different criteria within categories were set independently but against a common standard. Broad consistency between them was sought”*

http://www.iucnredlist.org/info/categories_criteria2001.html). The thresholds for the “small population” criterion should therefore be applied with considerable caution in this case. In fact, if a population was facing “a high risk of extinction” if it had fewer than 1000 mature individuals, the Cook Inlet beluga population would be in this situation even at population sizes close to (or even larger than) the value for carrying capacity on which the Management Plan is based. It is, however, clearly the case that the probability of irreversible damage to a population is greatest when it is very small. In situations such as the Cook Inlet beluga therefore, management regimes that have a high probability of recovery from levels at which threats pertinent to small populations may be high and a lower probability of continued increase towards OSP (or any other appropriate target level) thereafter seem worthy of technical examination.

7. Dr Goodman emphasized the need for additional research and monitoring to determine the reasons for the lack of increase in population size in recent years and the negative consequences (for both the ability to satisfy subsistence need and for population recovery) of reduced survey frequency. I strongly endorse these remarks.

8. Pursuant to 28 U.S.C. Section 1746, I swear under perjury that the foregoing is true and correct to the best of my belief.

Dated : 22 July 2004

André E. Punt, Ph.D.