

## **Considerations of Management Implications of “Stinky” Gray Whales for the Eastern North Pacific Stock**

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At the 58<sup>th</sup> session of the IWC, the Russian Federation noted that in addition to chemical analysis, toxicological studies would also be carried out and that a full report would be made to the 59<sup>th</sup> session of the IWC. A group of scientists from the Russian Federation, USA, Japan, Norway and Mexico investigated the “stinky” gray whale problem.

Starting in 1998, Chukotka Native hunters have reported a number of hunted whales that exhibited a strong medicinal odor. Whales that exhibited this kind of odor have been characterized at the IWC as “stinky whales”. Tissues from these whales have been deemed inedible by people and sled dogs. Subsequent discussions with hunters showed that the issue of “stinky” whales has existed in Chukotka since about the end of the 1960’s – beginning of the 1970s. The number of these whales has been increasing. This phenomenon has also been noticed in the meat of ringed and Bearded seals, walruses, and cod, and in the eggs of murre. Those who eat “stinky” meat have reported experiencing a numbing of the oral cavity and physiological reactions such as skin rash and stomachache.

Whale hunters state that sometimes they can identify “stinky” whales in the ocean, if the wind blows from the spout toward the whaling boat. In some hunting areas, the hunters have estimated that up to ten percent of the whales are “stinky” in a given year. Skilled hunters do not attempt to kill “stinky whales”. Nevertheless, several “stinky whales” are struck and landed in most years. In some years up to 10 “stinky” whales were harvested. Sometimes the “stinky” whale odor appears only during cutting up the whale or only while cooking whale meat. Chemical studies, using tissue samples from some of these animals have been conducted in Russian Federation and USA laboratories, and conclusions by toxicologists have been received from specialists from Russian Federation, USA, Japan and Norway.

Chemical and toxicological analysis and results are presented in a separate document (IWC/59/CC15).

The reason for the presence of the strong medicinal smell is unclear. Using these very preliminary results and assuming that these compounds are responsible for stinky condition noted in living whales, two hypotheses have been developed to potentially explain the presence of selected high concentrations of predominantly ketones, aldehydes, and alcohols in stinky whale tissues.

Hypothesis 1: The presence of such ketones, aldehydes, and alcohols are a result of altered metabolism in the whales, perhaps due to a limited food supply, new food source of prey consumed, disease, or abnormal metabolic pathway (i.e. genetic anomaly). One possible explanation is that it is due to a change in the types of food these animals eat. For example, all “stinky” whales that have been landed had seaweed in the stomachs. This may indicate a mechanism mediated through the digestion of seaweed or other organism attached to the seaweed. It has also been observed that some “stinky” whales have recently consumed arctic cod, which is unusual for gray whales.

Hypothesis 2: Specific bacteria, fungi, and/or biotoxin may contribute to these elevated levels of specific odiferous compounds found in these whales.

Given the reports by hunters regarding typical reactions of humans following the consumption of meat of “stinky” whales, there is concern that the underlying mechanism may involve a yet to be identified biotoxin. Therefore, the recommendation from toxicologists is that such whales are unfit for human consumption.

Given the uncertainty in the causes or mechanisms leading to this phenomenon, and the observation that species other than the gray whale is involved, it seems reasonable to continue to investigate the factors responsible for the emergence of “stinky” whales and to continue chemical, toxicological and medical research.

“Stinky” whales are not consumed by people and are likely unfit for human consumption. Further, these whales do not satisfy the aboriginal subsistence need. Therefore, the existence of such whales raises several critical issues in terms of aboriginal need, aboriginal quota and management. These issues include the need to discuss and resolve:

- 1) The definition of “stinky” whale in the Schedule of the International Convention for the Regulation of Whaling, 1946 (Paragraph I.1.C. General). Since, “stinky” whales are not whales “lost” (defined as “to either strike or take but not land”), but, rather, a “stinky” whale is a whale that is landed, but “lost” to the needs of the Native people.
- 2) Whether “stinky” whales shall be accounted for in the aboriginal quota and its management. If they should be accounted for, then how? This will be especially pertinent should the gray whale quota language be modified in connection with the aboriginal whaling management procedure (AWMP), specifically the strike limit algorithm (SLA). The loss of these whales to aboriginal needs must be considered by the AWMP and the SLA.

Since the AWMP implementation review will occur in 2009, the definition of "'stinky' whale" for the ICRW Schedule and solution of how "stinky" whales will be considered by the AWMP and SLA need to be adopted by the next IWC session in 2008.