

MARINE MAMMAL COMMISSION
4340 EAST-WEST HIGHWAY, ROOM 905
BETHESDA, MD 20814

2 January 2003

Mr. Steven Leathery
Chief, Permits Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Re: Permit No. 775-1600 (Northeast Fisheries Science Center)

Dear Mr. Leathery:

On 20 December 2002 representatives of the Northeast Fisheries Science Center, the Permit Office, and the Marine Mammal Commission met to discuss a requested amendment to Permit No. 775-1600. The amendment would allow biopsy sampling of mother-calf pairs of North Atlantic right whales on the breeding grounds (i.e., during the first six months of the calf's life). The meeting focused on two general topics: (1) the potential value of the information that might be obtained by taking such samples, and (2) the development of measures to minimize or prevent any unintended and adverse impact from the research, particularly in view of all the other whale/human interactions that may adversely affect the species.

The collection of biopsy samples from mother-calf pairs may provide information that is important to understanding the potential for population substructure, the mating patterns of the animals, the effective population size, and the extent to which inbreeding may be a concern. Most importantly, the information provides a means for assessing juvenile survival. Information collected from other studies clearly indicates that right whales in the North Atlantic are experiencing low productivity, which may reflect problems associated with reproduction itself or with calf survival in the early stages of life. It therefore, seems prudent to collect the information needed to assess reproduction and survival.

At the same time, the collection of biopsy samples requires that mother-calf pairs are approached during the neonatal period before they have left the reproductive grounds. Some scientists expressed concern that approaching and taking biopsies from mothers and calves may cause reactions that threaten the physical safety of the calf and the mother-calf bond. Although strong reactions may be unlikely, even seemingly small reactions could become significant if compounded by frequent right whale/human interactions during the course of research and other activities (e.g., fishing, shipping, whalewatching). At the meeting, participants agreed that

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representatives from the Northeast Fisheries Science Center would develop measures (attached) to minimize any possible adverse effects from collection of biopsy samples (including approach) and describe a set of studies to detect, to the extent possible, any adverse long-term effects from approaches associated with this research. In addition, it was noted that the Permit Office is completing an environmental assessment to evaluate the cumulative effects of research and other activities.

In view of the need for better information on right whale reproduction and calf survival, the Marine Mammal Commission recommends that the permit amendment be approved contingent upon the incorporation of these measures into the permit.

Please call if you have any questions regarding this recommendation.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cottingham". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

David Cottingham
Executive Director

cc: Richard Merrick, Ph.D.

Attachment

LARGE WHALE BIOPSY PROCEDURES
AND HARASSMENT MITIGATION

1. All approaches to whales for the purpose of biopsy sampling shall be conducted by personnel experienced in such sampling with the species concerned. Such personnel shall include, at a minimum:
 - a) a boat driver with extensive experience¹ driving small vessels around whales, and a clear understanding of how approaches can be made with minimal risk of disturbance to the animal(s);
 - b) a skilled arbalist with extensive experience¹ in large whale biopsy, who can obtain a sample without the need for multiple approaches to the target animal; and
 - c) an individual with extensive experience¹ in photographing whales for the purpose of photo-identification.
2. All target animals shall be photographed for the purpose of individual identification.
3. A maximum of three approaches per animal per attempt, and no more than six approaches in total, shall be made to obtain a biopsy sample from a mother or a calf on the calving ground, subject to the condition set out in Item 5.
4. A maximum of ten approaches shall be made to obtain a biopsy sample from any animal other than a mother or calf on the calving ground, subject to the condition set out in Item 5.
5. Biopsy attempts shall immediately cease in the event that a vessel approach or a biopsy shot elicits a strong reaction, defined as breaching or other high-energy behavior, or rapid evasion.
6. Data shall be recorded for each biopsy attempt to include at least the following: date, time (beginning and ending of activity), locations (latitude and longitude, and general description of the area), animal characteristics (species, number, age class, sex), and response/behavior (before, during, after).

¹Extensive is here defined as 2 or more field seasons of experience in this activity by the individual

INVESTIGATION OF POTENTIAL LONG-TERM IMPACT OF BIOPSY SAMPLING ON INDIVIDUALLY IDENTIFIED HUMPBACK AND RIGHT WHALES

Objective: the intent of this analysis is to examine whether there is any correlation between biopsy sampling and patterns of occurrence, survival or reproductive success (the former would also address the question of diminished use or abandonment of habitat).

1. The investigation shall compare: a) survival rates; b) occurrence rates; and c) (for mature females) calving rates for biopsied versus unbiopsied humpback and right whales. These studies shall utilize long-term sighting and reproductive histories in two extensively studied populations, Gulf of Maine humpback whales and North Atlantic right whales.

2. Categories of animals in this analysis shall include: a) whales biopsied as calves; b) mature females; and c) all other individuals.

3. Survival rates: a comparison shall be made of biopsied versus unbiopsied individuals in terms of their survival, expressed as return (or no return) in subsequent years.

4. Occurrence: a comparison shall be made of the distribution of occurrence (expressed as number of mean analysis days observed per year for each individual) between biopsied and unbiopsied whales, overall and in each of the three categories given in Item 2. For biopsied whales, occurrence data shall derive from years following that in which the biopsy was taken.

5. Reproduction: the reproductive success (expressed as number of calves observed) shall be compared for biopsied versus unbiopsied females, with data from the former deriving from years following that in which the biopsy was taken.

Notes

I. The difference between analyses of survival and occurrence is essentially one of detail. In the former, we are simply looking at whether an animal survived in subsequent years (i.e. a single sighting in a year is sufficient to establish this). In the latter, we would be examining patterns of occurrence in more detail using the full set of sightings of each individual. This would also allow us to look at whether there was any difference in biopsied versus unbiopsied whales in terms of their frequency of use of the habitat. It would also permit an analysis of whether unbiopsied whales are unsampled because they are less likely to be observed in the first place.

II. Statistics to be decided. Rank-sum tests or matched pair analysis are two possibilities, but Richard Pace will decide on the best method.

III. It is important to understand that completion of these analyses is contingent upon the investigators concerned (J. Robbins, Center for Coastal Studies; Scott Kraus, New England Aquarium) agreeing with the proposed design and having the time to either conduct the work or to provide the necessary data to NEFSC.