



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

January 15, 2004

Mr. Peter Merryman
President, Cook Inlet Marine Mammal Council
P.O. Box 82009
Tyonek, Alaska 99682

Dear Mr. Merryman:

The National Marine Fisheries Service (NMFS) has developed a proposed long-term harvest plan for Cook Inlet beluga whales. This plan reflects the determinations of Judge Parlan McKenna in his findings relative to an administrative hearing conducted in December 2001, meetings between parties to that proceeding, and NMFS' mutual goals of recovering this depleted stock while retaining reasonable opportunity for Alaska Natives to participate in traditional subsistence harvests. The plan would be set forth in regulations to be promulgated under the Marine Mammal Protection Act, becoming effective for harvest year 2005. Judge McKenna has asked NMFS to submit a proposal for long term harvest management no later than March 15, 2004. Therefore, NMFS is providing this proposed plan (attached) for your review and comment prior to providing our final recommendation to the court.

The proposed plan will be guided by the management goal of recovering the depleted Cook Inlet (CI) beluga whale stock to a population of 780 whales. This figure represents the lower limit of this stock's Optimum Sustainable Population level based on a carrying capacity of 1,300. Subsistence harvest removals will necessarily delay the time required for the stock to recover to this level. An underlying objective of this plan is that harvests should not delay time-to-recovery by more than 25%, with 95% certainty (25-95 criterion). During a meeting in Anchorage on December 7, 2003 the parties agreed to harvest levels for the period 2005-2009, which would alternate between one and two strikes every other year, subject to certain criteria (below). We have adopted this initial harvest level into the proposed plan. NMFS proposes to prosecute this management plan in five (5) year intervals, during which time data would be gathered to monitor growth within the stock. The harvest plan would be assessed after each 5 year interval, and adjusted as necessary to meet the objective.

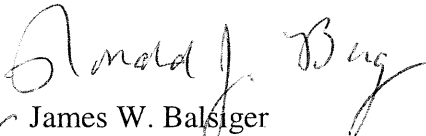
During the recovery period, catastrophic short term events could occur that are unrelated to harvest. Provisions are included for emergency changes to harvests for such events. Periods of limited growth or moderate decline in the CI beluga whales may also occur that are unrelated to harvest. During and subsequent to such periods of decline, this plan provides reasonable opportunity for continued participation in subsistence harvests, up to



a point where such removals present unreasonable risk to the stock's recovery and survival. NMFS proposes harvest limits during these periods of not more than 2% of the population (over the 5 year period). Specific harvest levels will depend on criteria specified in the attached plan.

We look forward to your continued assistance in the management of the Cook Inlet beluga whales. Please provide any comments or recommendations regarding the proposed harvest plan to Kaja Brix at this address no later than February 13, 2004.

Sincerely,


For James W. Balsiger
Administrator, Alaska Region

Attachment

SUBSISTENCE HARVEST MANAGEMENT PLAN FOR THE COOK INLET, ALASKA STOCK OF BELUGA WHALES

The NATIONAL MARINE FISHERIES SERVICE (NMFS) will cooperatively manage the subsistence harvest of Cook Inlet (CI) beluga whales with one or more participating Alaskan Native Organizations. Cooperative Agreements will be developed for 5 year periods. These agreements will include specific limitations regarding the number and allocation of strikes, hunting practices, hunting periods, reporting procedures, mitigating measures, and enforcement. The agreements and the cooperative management of subsistence hunts will be based on the proposed terms and criteria specified below.

Management of the depleted CI beluga stock will include a subsistence harvest by Alaska native hunters consistent with a delay in time-to-recovery to a population of 780 animals of not greater than 25% with 95% certainty (25-95 criterion). NMFS acknowledges that during this recovery period catastrophic short-term events may occur that are unrelated to harvest, resulting in a decline in the CI beluga whales and longer periods of limited growth or moderate decline in the CI belugas. During and subsequent to these periods of decline, a limited harvest may be allowed. Under this limited harvest, strikes totaled over a 5-year period would not exceed 2% of the average estimated population size for that period (see example in 2 below).

Criteria for adjustments to the harvest level depend on

- Annual abundance estimates,
- Maximum rate of increase (R_{max}) as estimated within a population model for the CI beluga whales under development by the Technical Committee (Punt, Goodman, Hobbs),
- Observed annual rate of change during the previous 5 or 10 year period of constant harvest level, (R_{harv}) estimated as the slope of a log-linear regression on the annual abundance estimates, and
- Recorded mortalities within the population as determined from beach cast carcasses and carcasses found floating within a calendar year.

NMFS acknowledges that for planning purposes, the harvest should be set for 5-year periods with a review prior to the beginning of the next 5 period and that either criteria 2 or 3 will not likely be met in 2005. Thus, at the 12/7/03 meeting in Anchorage, the parties agreed that the harvest level could remain at 1.5 whales per year for the period 2005-2009.

NMFS proposes the following criteria for adjustments to the harvest level in 2005 and beyond:

1) The annual strike limitations for the initial planning period, years 2005-2009, are set as follows, provided no unusual mortality or decline event (criterion 3) occurs during this interval: two (2) strikes are allocated for 2005, one (1) for 2006, two for 2007, one for 2008, and two for 2009. The number of allowable strikes will remain unchanged for the next 5 year period if an assessment finds that criteria 2 and 3 are not met.

2) Prior to setting harvest levels for each subsequent (5-year) period NMFS, in consultation with the Parties, will review all existing data. Strike limits may be adjusted up or down, based on the following criteria:

- a. If the population is shown to be recovering ($R_{harv} > 0\%$ at **90%** certainty), calculated from a weighted average of the abundance estimates over the 5 year period, harvest will be increased by $\frac{1}{2}$ - 1 strike per year if the additional harvest is consistent with the stated recovery objective (the 25-95 criterion) for the next five year period.
- b. If the population is shown to be declining ($R_{harv} < 0\%$ at **90%** certainty), calculated from a weighted average of the abundance estimates over the 5 year period, then strike limits for the subsequent 5 year period will be adjusted as follows:

If N_{min} is > 300 and the population is shown to be declining, harvest will be reduced to the greater of either:

- A decrease in the strike limit by $\frac{1}{2}$ strike per year and a new five year period would begin or
 - A total number of strikes not to exceed 2% of N_{min} over the next five year period.
- c. If N_{min} , calculated from a weighted average of the abundance estimates over a 5 year period, is ≤ 300 then strike limits for the subsequent 5 year period will be adjusted as follows:
 - i. If N_{min} is 200- 300, harvest will be set to a total number of strikes not to exceed 2% of N_{min} over the next five year period (i.e. $N_{min} > 250$, 5 strikes in 5 years are allowed, $N_{min} > 200$, 4 strikes in 5 years).
 - ii. If N_{min} is < 200 , no strikes will be allocated for the subsequent 5 year period.

3) **Emergency Restrictions: Unusual mortality or decline events.** If, in any one year, observed mortalities exceed 6% of N_{min} (using the weighted average from the

abundance estimates over the most recent 5 year period), a significant decline of the population will be assumed to have occurred. NMFS will immediately recalculate the abundance estimate for the stock by subtracting the number of mortalities in excess of the 6%. Harvest rates for the remainder of the five year period would be adjusted using the revised abundance estimate and the criteria in section 2 of the plan.

4) Stipulations and background information to this plan:

- a. NMFS intends to conduct annual surveys of the CI beluga whales for at least the next 5 years and continue a survey schedule in future years as necessary to meet the data requirements of this management scheme.
- b. A 5 year period is stipulated to allow for planning within the harvesting groups and for accumulation of sufficient data to determine the current trend of the population and any response to the new harvest level.
- c. A goal of the MMPA is to maintain marine mammal stocks to OSP and recover depleted stocks to OSP. The MMPA also recognizes the importance of marine mammals to Alaskan Natives.
- d. Current data available for the CI beluga whales consist of a series of annual abundance estimates with CVs ranging from 10% to 40% from 1994 to 2003 and annual harvest records.
- e. The primary management tool for recovering and maintaining the CI beluga whale stock is regulation of subsistence harvest. NMFS also recognizes the importance of beluga whale habitat, and will endeavor to take appropriate actions for its protection.
- f. NMFS acknowledges that western science and traditional knowledge contribute to the understanding of the CI beluga whales. NMFS will continue to confer with co-managers to insure both systems of knowledge are considered in the management of the CI beluga whales.
- g. Harvest (strike) levels are to be consistent with the objective of having no more than a 25% delay in time-to-recovery (with 95% certainty). The current harvest level of 1.5 whales/year is consistent with the 25-95 criterion. Data anticipated for the next 5 to 10 years are not likely to be sufficient to show a significant trend in this population. Thus, a population model approach that would set harvest levels under criterion 2 will necessarily assume a positive growth rate (R_{max} between 2% and 6%).
- h. The harvest adjustments would be determined using a population modeling approach using abundance estimates derived from surveys

conducted by NMFS and assuming a reasonable distribution for R_{max} , and distributions for other parameters such as K and Z . This approach is currently under development by the Technical Committee in consultation with the full Committee.

- i. The Emergency Restrictions threshold (6% n_{Min}) represents the 95th percentile of the distribution of observed mortalities in the years 1999-2003. During that period an average of 13.8 mortalities (standard deviation = 3.7) occurred each year. The 95th percentile of this distribution occurs at 21.7 which is 6.0% of 359 (the weighted average population size of the CI beluga whales during those years). NMFS believes this is a reasonable index of excessive mortality, and that the 95th percentile represents a high probability that an event significantly greater than the typical level of mortality has occurred.
- j. Recorded mortalities within the population are beach cast carcasses and carcasses found floating, either reported to NMFS or observed by NMFS personnel. Almost all reported dead beluga whales included in the totals were confirmed by NMFS personnel. Whales were measured and biological samples were taken. Biological samples always include a lower jaw for aging which positively marks whales that have been sampled. In a small number of cases whales were reported by reliable sources that give good descriptions and locations and were able to confirm that the whale had not been previously sampled by NMFS; these mortalities were also included in the total.
- k. The abundance level below which this plan would prohibit harvests (200 whales) represents a point where the approximate *effective* population size may be as few as 100 beluga whales. That is, at a level of 200 animals, as few as 100 reproductively active adults may be in the population. Below this level the risk that further harvest of even one individual could compromise the genetic diversity of the population is significantly increased.
- l. Specific harvest limitations and practices are integral to this plan, and will be included within Cooperative Agreements. These include hunting seasons, prohibitions on the taking of calves, adults accompanied by calves, and juvenile whales, methods to improve efficiency, sample collection and reporting, and enforcement.