

**QUANTIFICATION OF SUBSISTENCE AND CULTURAL NEED  
FOR BOWHEAD WHALES BY ALASKA ESKIMOS**

**2007 Update Based on 2000 U.S. Census Data**

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### **INTRODUCTION**

This document is essentially identical to the previously prepared *2002 Update Based on 2000 U.S. Census Data* (Stephen R. Braund & Associates [SRB&A] 2002) and is resubmitted at this time to provide a current (2007) subsistence and cultural need statement. As in 2002, this needs assessment relies on the 2000 U.S. Census. The quantification of subsistence and cultural need for bowhead whales by Alaska Eskimos has not been updated with 2007 population information because the last U.S. Census was in 2000 and the next U. S. Census will not be conducted until 2010.

In previous subsistence and cultural needs assessments submitted to the International Whaling Commission (IWC) for years between the decennial U.S. Census, the calculation depended on the most current Alaska Department of Labor Data population estimates for the communities multiplied by the percent Native from the 1980 and 1990 U.S. Census. However, the most reliable information for assessing subsistence and cultural need using the IWC accepted method is to rely on the U. S. Census. Thus, the 2007 needs assessment is based on the 2000 U.S. Census and is the same as the 2002 needs calculation.

Like the 2002 report, this document is intended to be an addendum to the *Quantification of Subsistence and Cultural Need for Bowhead Whales by Alaska Eskimos - 1997 Update Based on 1997 Alaska Department of Labor Data* (SRB&A 1997). The 1997 report should be read in conjunction with this document as the former report provides relevant discussion and references for the historic context of this report. That discussion is not repeated in this brief report.

This report provides the seventh (although identical with the sixth) calculation of subsistence and cultural need for bowhead whales by Alaska Eskimos and is based on the same methodology used in the previous six “needs” assessments. The first calculation of subsistence and cultural need submitted to the IWC was undertaken in 1983 (U.S. Government 1983). The second calculation was submitted to the IWC in 1988 (Braund, Stoker and Kruse 1988) when more extensive research provided additional historical whaling and human population data. The 1988

study used the most recent Eskimo population data available at that time, ranging from 1983 to 1987, to calculate current need. The third calculation of need, performed in 1992, was based on 1990 U.S. Census population data. This update was presented to the Alaska Eskimo Whaling Commission (AEWC), but not to the IWC (SRB&A 1992). The fourth calculation of need was conducted in 1994 based on July 1, 1992 population data generated by the State of Alaska, Department of Labor (SRB&A 1994). The fifth calculation (fourth presented to the IWC) was based on July 1, 1997 population data generated by the State of Alaska, Department of Labor (SRB&A 1997). The calculation of need for the 2002 and this report relies on 2000 U.S. Census data. This is the third time since 1983 that U.S. Census data have been used for the Alaska Eskimo needs calculation. All of the calculations of need since 1988 utilize the same method that was accepted by the IWC in 1988.

### **2007 UPDATE BASED ON 2000 U.S. CENSUS DATA**

In preparation for the May 2007 IWC meeting, the Alaska Eskimo Whaling Commission (AEWC) requested an update of cultural and subsistence need for bowhead whales. Because the most reliable population information is from the U.S. census, this update is based on the 2000 U.S. Census data for the 10 Alaska bowhead whaling communities. The 1997 update was based on the five year old 1997 population information. Furthermore, the human population estimates used in 1997 were based on estimates provided by the Alaska State Demographer (ADOL 1997) for each year (e.g., 1991-1997) since the 1990 U.S. Census. The Alaska State Demographer prepares these updates annually and they include the total population (Native and other) in each of the communities and do not contain any information related to race. The Native population then has to be estimated from these total population data. Estimating the Native population in the ten Alaska bowhead whaling communities between decennial censuses is a complex process that relies on the Alaska Department of Labor population estimates and then applies the percent Native American from the latest (e.g., 1990 or 2000) U.S. Census to these annual population estimates (see SRB&A 1997:Tables 2 and 3). However, the 2000 U.S. Census has race information, and the Alaska Native population in each of the whaling communities is reported. For this reason, the 2000 U.S. Census is used for the 2007 needs update.

Applying the IWC accepted method of calculating need (see Braund, Stoker and Kruse 1988), SRB&A updated need based on 2000 U.S. Census data. The only variable that has changed

since 1988 for this calculation is the Alaska Native population for the ten whaling communities. Only the Native population of each community is considered. The 2000 U.S. Census Alaska Native population data represent "American Indian or Alaska Native alone or in combination with one or more other races."

Based on 2000 U.S. Census data, the number of bowheads needed by each community and by the region as a whole (all ten communities) is derived by multiplying the mean number of whales landed per capita over the base time period (1910-1969) by the 2000 Alaska Native population for each community and for the region as a whole. Using this method, the need for each community is shown on Table 1. Based on the 2000 census data, the cultural and subsistence need in the ten Alaska Eskimo communities is 56 landed bowhead whales (58 if rounded up). In 1997 and 2002, it was also 56 landed bowheads. Applying the mean of .008621 bowhead landed per capita for all ten communities for the historical period (1910-1969) to the 2000 regional Native population of 6,633 results in a 2000 **regional** cultural and subsistence need of 57 landed bowhead whales. In 1997, this regional calculation was 56 landed bowhead whales.

**Table 1: Ten Alaska Eskimo Whaling Villages' Subsistence & Cultural Need For Landed Bowhead Whales, 2000.\1**

<b>Community</b>	<b>Number of Observations\2</b>	<b>Total Eskimo Population for ea. yr. of a Bowhead Observation\3</b>	<b>Number of Bowheads Landed 1910-1969\4</b>	<b>Mean Landed Per Capita 1910-1969\5</b>	<b>2000 Alaska Native Population\6</b>	<b>2000 Bowhead Need (Landed)\7</b>	<b>2000 Need (Landed) Rounded\8</b>
Gambell	39	11,883	68	0.005722	622	3.6	4
Savoonga \9	0	----	----	0.005722	614	3.5	4
Wales	42	6,907	5	0.000724	137	0.1	1
Diomede \10	30	3,250	11	0.003678	137	0.5	1
Kivalina	7	926	3	0.003240	364	1.2	1
Point Hope	50	12,467	209	0.016764	686	11.5	12
Wainwright	49	10,723	108	0.010072	508	5.1	5
Barrow	60	44,687	379	0.008481	2,933	24.9	25
Nuiqsut \9	0	----	----	0.008481	386	3.3	3
Kaktovik	<u>3</u>	<u>327</u>	<u>3</u>	0.009174	<u>246</u>	<u>2.3</u>	<u>2</u>
Totals	280	91,170	786		6,633	55.9	58
Region\11	280	91,170	786	0.008621	6,633	57.2	57

- \1 Subsistence and cultural need is based on historic per capita harvest per community multiplied by the 2000 Alaska Native population of each community.
- \2 The number of observations represents the number of years for which data on landed whales were available for each community (See Appendices 1 & 2 of Braund, Stoker & Kruse 1988 & Table 1 of Stephen R. Braund & Assoc. 1991).
- \3 Total Eskimo population represents the sum of the Eskimo population for each year there was an observation of a landed bowhead whale (only includes the 1910-1969 "Base Period;" see Braund, Stoker & Kruse 1988).
- \4 Number of bowheads landed represents the sum of the observed bowheads landed between 1910 and 1969.
- \5 The mean landed bowhead whales per capita is based on the total number of whales landed between 1910 and 1969 for each community divided by the sum of the total Eskimo population for each village for each year landed whale data existed between 1910 and 1969 (See Appendices 1 & 2 in Braund, Stoker & Kruse 1988 and Tables 1 and 3 in Stephen R. Braund & Assoc. 1991). The sum of the total Eskimo population was calculated by adding the Population estimates for each community for each year that there was a landed whale observation. For example, Barrow's 389 landed whales from 1910-1969 was divided by the total Eskimo population sum of 44,687 for this 60 Year period (i.e., 379 divided by 44,687 = .008481).
- \6 2000 Alaska Native population data for each community are from the 2000 U. S. Census. They represent the category "American Indian or Alaska Native alone or in combination with one or more other races."
- \7 The number of bowheads needed is derived by multiplying the mean per capita landed whales (1910-1969) by the 2000 Alaska Native population for each community. The true column total of 55.9 is shown and is less than the sum of its parts because of their being rounded up.
- \8 The number of bowhead whales needed per individual community is rounded to the nearest whole number unless the product was less than .5; such cases were rounded up to one.
- \9 Because there are no landed bowhead data for either Savoonga or Nuiqsut between 1910-1969, the mean per capita landed whales for Gambell was used for Savoonga and the mean for Barrow was used for Nuiqsut.
- \10 Due to uncertainties in the landed whale data for Little Diomede Island, four different calculations of subsistence and cultural need, ranging from .4 to 1.0 bowheads, were presented (see Table 4 Stephen R. Braund & Assoc. 1991). The Little Diomede mean landed whale per capita (1910-1969) in this table represents the mean of these four calculations.
- \11 The mean per capita landed whales for the region represents the total number of whales landed for all ten communities between 1910 and 1969 divided by the sum of the total Native population for all communities for each year landed whale data existed between 1910 and 1969 (i.e., 786 whales divided by 91,170 = .008621).

Stephen R. Braund & Associates, 2007.

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