

STUDY TITLE: North Slope Subsistence Study

REPORT TITLE: North Slope Subsistence Study - Barrow 1987, 1988 and 1989

CONTRACT NUMBER 14-12-0001-30284

SPONSORING OCS REGION: Alaska

APPLICABLE PLANNING AREA(S): Beaufort Sea, **Chukchi** Sea

FISCAL YEAR(S) OF PROJECT FUNDING **FY** 1986- **FY** 1990

COMPLETION DATE OF REPORT April **1993**

CUMULATIVE PROJECT COST \$798,807

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KEY WORDS: North Slope, Barrow, **Inupiat**, subsistence, harvest amounts, harvest locations, marine mammals, terrestrial mammals, birds, fish.

BACKGROUND. The North Slope Subsistence Study entailed three years of research in Barrow and two years in **Wainwright** on residents' subsistence harvests. The major focus of the study was to collect harvest and location data for species used in these communities. This report is the third of three annual reports on the findings of the Barrow research. The first year of Barrow data collection began on April 1, 1987 and continued through March 31, 1988, and is referred to as "Year One." Year Two ran from April 1, 1988 through March 31, 1989, and Year Three ran from April 1, 1989 through March 31, 1990. This report presents Year Three data for the first time as well as updated Year One and Year Two data.

OBJECTIVES: (1) To collect, analyze and report generalizable subsistence harvest data by species for Barrow and (2) to provide accurate mapped harvest location information for Barrow.

DESCRIPTION: The Barrow data are based on a disproportionate stratified probability sample of **101** households that remained in the study for the full three years. Harvest data from these **101** households have been generalized to estimate harvests for the entire community of 3,017 residents in 937 households, based on the 1985 North Slope Borough census, the most current census available at the time of sampling. Through periodic harvest discussions throughout each study year, data were collected on the species harvested, quantity harvested, location and date of harvest. Harvest data were processed to produce numeric output on several aspects of subsistence such as **average** annual household and per capita harvests and monthly harvests by species. This

report also presents a brief history of Barrow subsistence, data on **Inupiat** harvest levels, an analysis of harvest patterns over the three years of the study, an analysis of harvests by harvester level, a comparison of Barrow and Wainwright harvests, an analysis of the status of major **faunal** resources, and a detailed methodology. Data are presented in tables, charts, graphs and maps.

**SIGNIFICANT CONCLUSIONS:** During the three study years, Barrow residents collectively harvested at least 52 different species for an average of approximately 702,660 pounds of usable resource product per year, equal to 750 pounds per household or 233 pounds per capita. Barrow **Inupiat** households harvested an annual average of 1,171 pounds per household or 245 pounds per capita during the study period.

**STUDY RESULTS** In terms of usable pounds harvested, bowhead whale and caribou contributed the most subsistence food to local households. Barrow landed seven whales in Year One, 11 whales in Year Two and 10 whales in Year Three, amounting to an estimated average of 265,196 usable pounds per year or 38 percent of the average yearly harvest. During the study, Barrow residents harvested an average of 1,595 caribou, or 186,575 usable pounds, constituting 27 percent of the total harvest. Walrus was the third most important resource by weight during this study, with an average of 81 walrus yielding 63,285 usable pounds, nine percent of the entire harvest. The fourth most heavily harvested species by weight during the study were whitefish (**spp.**) averaging 61,149 pounds or 8.7 percent of the overall Barrow harvest.

The above four species combined contributed an average of 83 percent by weight of the annual Barrow subsistence harvest during the study. The remaining 17 percent consisted of (in order of importance by weight): bearded seal, moose, **ringed** seal, geese (**spp.**), polar bear, eiders (**spp.**) and less than one percent each of Dan sheep, brown bear, porcupine, ground squirrel, and various other fish and bird species. Barrow residents also harvested wolverine, red fox, and arctic fox for their furs in Years One and Two. (Because these species are not eaten, weights were not calculated for their harvests.)

An average of 93 percent of the annual harvests by weight occurred during the seven month period from April to October. Bowhead whale harvests dominated the months of April, May and June. Whalers harvested occasional seals, birds and polar bears from whaling camps while some families went inland to spring camps to harvest geese, caribou and some fish. May yielded the highest average harvest of spring bowheads by weight and the highest average annual bird harvests. Bowhead whale harvests again represented the major share of June's harvests, while bird harvests declined and fish harvests increased after May. Typically, July was characterized by walrus and seal hunting, as weather and sea ice conditions were favorable for hunting by boat. (However, in Year Two, ice conditions were unfavorable in July and most walrus and bearded seal were harvested in August.) July was also an important month for caribou harvests, as were August, September and October. Caribou was the main species harvested in August, supplemented by large harvests of walrus, bearded seal and fish. Walrus and bearded seal harvests subsided in September, while fall whaling provided the main September harvest in addition to caribou, fish and moose. October was the month in which the peak bowhead whale, caribou and fish harvests occurred as whalers hunted bowheads and families went to fall camps

to stock up on caribou and fish. Consequently, October averaged out to be the peak harvest month for subsistence harvests overall. The remaining five months (November through March) were lean harvest months during which the most active hunters traveled onto the pack ice for seals and inland for caribou and forbearers.

During the study, sample households traveled along the coast in either direction from Barrow, harvesting resources as far west as **Peard** Bay and as far east as the **Colville** River. Marine mammals were harvested over 25 miles offshore. Rivers provided summer travel routes inland, and harvest locations tended to be concentrated along the main waterways the **Inaru, Meade, Usuktuk, Topagoruk, Chipp,** and **Ikpikpuk** rivers.

STUDY PRODUCT(S) **Braund, Stephen R. & Associates and Institute of Social and Economic Research. 1993.** North Slope Subsistence Study - Barrow 1987, 1988 and 1989. Technical Report No. 149. OCS Study MMS 91-0086. Prepared for U.S. Dept. of Interior, Minerals Management Service, Alaska OCS Region. Anchorage, AK.

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