Technical Paper No. 363

Subsistence Harvests in Northwest Alaska Buckland and Kiana, 2003 and 2006

by

James S. Magdanz,
David S. Koster,
Liliana Naves,
and Patricia Fox

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Alaska Department of Fish and Game **Division of Subsistence**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)	
centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)	
cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature	
day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry	
all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General	
Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)	
fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics	
all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	?
harvest per unit effort	HPUE
less than	<
less than or equal to	?
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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James Magdanz
Division of Subsistence, Kotzebue

David S. Koster and Liliana Naves
Division of Subsistence, Anchorage

Patricia Fox
Division of Subsistence, Fairbanks

Alaska Department of Fish and Game
Division of Subsistence
Kotzebue, Alaska

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The Division of Subsistence Technical Paper Series was established in 1979 and represents the most complete collection of information about customary and traditional uses of fish and wildlife resources in Alaska. The papers cover all regions of the state. Some papers were written in response to specific fish and game management issues. Others provide detailed, basic information on the subsistence uses of particular communities which pertain to a large number of scientific and policy questions. Technical Paper Series reports are available through the Alaska State Library and on the Internet: http://www.subsistence.adfg.state.ak.us/geninfo/publctns/techpap.cfm.

James S. Magdanz
Alaska Department of Fish and Game, Division of Subsistence
Box 689, Kotzebue, AK 99752-0689 USA

David S. Koster and Liliana Naves
Alaska Department of Fish and Game, Division of Subsistence,
333 Raspberry Road, Anchorage, AK 99518-1599 USA

Patricia Fox
Alaska Department of Fish and Game, Division of Subsistence
1300 College Road, Fairbanks, AK 99701-1599 USA

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Abstract

This report summarizes results from comprehensive subsistence surveys conducted in Buckland in February 2004 and in Kiana in February 2007. In Buckland, surveys were administered to 83 of 88 households (94%). Expanding for 5 unsurveyed households, Buckland's estimated total harvest of wild foods in 2003 was 226,074 lb (±11%), while average harvests were 2,569 lb per household and 554 lb per person. In Kiana, researchers surveyed 77 of 95 households (81%). Expanding for 18 unsurveyed households, Kiana's estimated total harvest of wild foods in 2006 was 133,553 lb (±14%), with average harvests per household of 1,406 lb and average harvests per person of 348 lb. Average incomes were $41,389 per household in Buckland, and $57,917 per household in Kiana. Approximately two-thirds of the communities' income was from employment. The Alaska Permanent Fund Dividend was the largest source of other income. Households in both communities cooperated extensively in the production and distribution of subsistence foods, but were more likely to be self-sufficient in meeting household cash expenses. At this time, reliable, comprehensive estimates of total community subsistence harvests are available for 7 of 11 Northwest communities. In those communities, subsistence harvests provided approximately 500 lb of wild food per person per year. With a regional population of about 7,000 people, the data suggested that subsistence harvests contributed about 3.5 million lb of wild foods to the Northwest Alaska diet each year.

Key words: subsistence, hunting, fishing, food security, social networks, Buckland, Kiana

1
Introduction

This report summarizes recent results from comprehensive surveys conducted in 2004 in Buckland and 2007 in Kiana. These are the first comprehensive estimates of subsistence harvests for these two communities. Cooperators included the Alaska Department of Fish and Game (ADF&G) Division of Subsistence, the National Park Service, the Native Village of Buckland, and the Native Village of Kiana.

Residents of Northwest Alaska rely substantially on subsistence hunting, fishing, and gathering for nutrition and to support their customary and traditional ways of life. Since in the early 1980s, estimates of average subsistence harvests have ranged from 398 to 940 lb per person per year (Fall and Utermohle 1995; Georgette and Loon 1993; Magdanz et al. 2002; Magdanz et al. 2004; Magdanz et al. 2010). Earlier estimates, although not strictly comparable because of differences in survey methods, exceeded 1,000 lb per person per year (Foote and Williamson 1966; Patterson 1974; Saario and Kessel 1966).

Subsistence harvests of subsistence foods are diverse. Harvests vary from community to community, and harvests vary over time in both amounts and species harvested. Species harvested include, but are not limited to, salmon, inconnu (commonly called sheefish) *Stenodus leucichthys*, Dolly Varden *Salvelinus malma*, whitefishes, caribou *Rangifer tarandus*, moose *Alces alces*, bearded seals *Erignathus barbatus*, beluga whales (white whales) *Berardius bairdi*, other seals, geese, ducks, crabs, clams, wild berries, and wild greens.

In Northwest Alaska, a cooperative group of state and federal agencies, tribes, communities, nongovernmental organizations, and industries is working to monitor subsistence harvests using comprehensive household surveys. The cooperators seek not only to conduct a continuing program of basic subsistence monitoring, but also to integrate other studies of contemporary patterns of subsistence uses of natural resources whenever possible. The program is coordinated by the Alaska Department of Fish and Game (ADF&G) Division of Subsistence.

Background

Northwest Alaska includes all lands and waters that drain into the Chukchi Sea between Cape Espenberg and Point Hope, including marine waters under both state and federal jurisdictions. A variety of similar, but not always identical, political boundaries encompass Northwest Alaska, including:

- The Northwest Arctic Borough (a political subset of the State of Alaska);
- The NANA Region (an Alaska Native corporation);
- The Northwest Arctic Region (a federal subsistence management area);
- The Kotzebue Area (a fishing regulatory area that extends from Cape Prince of Wales to Point Hope); and
- ADF&G Game Management Unit 23 (a hunting regulatory area that extends from Cape Espenberg to Cape Lisburne).

Northwest Alaska comprises about 38,600 mi^2 of land, about the same area as the state of Ohio. The project area includes both state and federally managed waters used for subsistence fishing, such as the Noatak River, Kobuk River, Selawik River, Buckland River, Goodhope River, Kotzebue Sound, nearshore waters of the Chukchi Sea, and numerous coastal lagoons. The area includes portions of the Bering Land Bridge National Preserve and Gates of the Arctic National Park. It also includes the entire Kobuk Valley National Park, Cape Krusenstern National Monument, Noatak National Preserve, and Selawik National Wildlife Refuge.

Within Northwest Alaska are the traditional territories of 11 Iñupiaq Eskimo societies (Burch 1998). During the 20th century, these societies coalesced into 11 small, predominantly Native communities currently ranging in size from 151 people in Kobuk to 3,201 people in Kotzebue, with a total population of 7,523 people (U.S. Census Bureau 2011). These communities include Ambler, Buckland, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, and Shungnak (Figure 1). In the 2000 census, more than 80% of the 7,208 residents of the area were Alaska Native or American Indian, primarily Iñupiaq Eskimo (U. S. Census Bureau 2001). Alaska Natives, including the Iñupiat of Northwest Alaska, are among the very few indigenous peoples of the world who inhabit their traditional territories; who are a majority of the population in their territories; whose territories have been largely unaffected by agriculture, industrial development, or roads; who manage their political and economic affairs through both traditional (tribal) and contemporary (borough and corporate) structures; and who continue to rely substantially on hunting, fishing, and gathering to provide for their sustenance (Burch 1985; Fall and Utermohle 1995; Georgette and Loon 1993; Magdanz et al. 2002; Magdanz et al. 2004; Magdanz et al. 2010).

Alaska is unique in the nation in having both state and federal laws that provide priorities for customary and traditional subsistence hunting and fishing over other consumptive uses, such as commercial fishing. These laws have evolved over several decades. Aboriginal hunting and fishing rights were extinguished by the Alaska Native Claims Settlement Act in 1971. Recognizing the lack of legal protection for Alaska's subsistence traditions, and mindful of the risks to subsistence posed by competing commercial and recreational uses, both the Alaska legislature and the U.S. Congress

Figure 1-1.–Map of Northwest Alaska, showing the two study communities.

adopted laws intended to preserve opportunities for customary and traditional uses of fish and wildlife in Alaska. Under the Marine Mammal Protection Act of 1972, coastal Alaska Natives were granted an exemption which allowed them to continue to hunt for marine mammals for subsistence. In 1978, the Alaska legislature adopted priorities for subsistence over other consumptive uses of fish and game, including a subsistence fishing priority under AS 16.05.251(b) and a subsistence hunting priority under AS 16.05.255(b). In 1987, these were repealed, and the legislature adopted similar priorities under AS 16.05.258, as amended in 1992. Under this law, the Alaska Board of Fisheries and the Alaska Board of Game manage subsistence on state and private lands. In 1980, the U.S. Congress adopted a similar subsistence priority in the Alaska National Interest Lands Conservation Act (ANILCA), under which the Federal Subsistence Board manages subsistence on federal public lands (about 60% of the state).

More changes came in 2003. The Alaska Migratory Bird Co-Management Council adopted regulations establishing spring and summer subsistence hunts for migratory birds by permanent residents of villages within eligible subsistence harvest areas. Also in 2003, the North Pacific Fisheries Management Council adopted regulations recognizing subsistence harvests of Pacific halibut *Hippoglossus stenolepis* by eligible members of Alaska Native tribes and eligible residents of rural Alaska communities.

Alaska also is unique in the nation in having an applied anthropological research group, the ADF&G Division of Subsistence, established by state statute to conduct "policy research" (Trotter II and Schensul 1998:692) regarding customary and traditional uses of fish and wildlife resources. Specifically, Alaska Statute 16.05.094 charges the division to conduct systematic social science research "on all aspects of the role of subsistence hunting and fishing in the lives of the residents of the state."

The duties of the division, as an agency of state government, include assisting the department and regulatory bodies "in determining what uses of fish and game, as well as which users and what methods, should be termed subsistence uses, users, and methods" (AS 16.05.094). The division also conducts research and applies the results of previous research to "evaluate the impact of state and federal laws and regulations on subsistence hunting and fishing," as well as to develop "statewide and regional management plans so that those plans recognized and incorporated the needs of subsistence users of fish and game" (AS 16.05.094).

A planning effort by the Division of Subsistence, Maniiḷaq Association, and the Northwest Arctic Borough found widespread support for harvest survey research during meetings in the 11 Northwest Arctic communities in 2006 and 2007 (Magdanz et al. 2010). Of the 146 meeting participants, 94% thought harvest surveys should be conducted in their communities, and 74% favored a cooperative approach involving tribes and 1 or more regional organizations, usually including a resource management agency. This ongoing harvest monitoring program relies on the continuing public support of the residents of Northwest Alaska and on the continuing financial support of the cooperating organizations.

Research Questions

The principal questions addressed by the harvest monitoring program in Northwest Alaska were 1) how much subsistence food was harvested for subsistence and 2) whether those harvests exceeded the harvestable surpluses of fish stocks and wildlife populations. Related questions involved the role of subsistence foods in Northwest Alaska's economy, the impacts of economic development on subsistence activities, the lands and waters used for subsistence, the impacts of competing, nonsubsistence uses of fish and wildlife, and the impacts of climate changes.

Most fish stocks and wildlife populations, although variable over time, were in natural and healthy conditions in Northwest Alaska at this writing. Both the Alaska Board of Fisheries and the Alaska Board Game had found that harvestable surpluses of all fish and wildlife species were sufficient to provide the amounts necessary for subsistence uses, and to provide for other nonsubsistence uses, except for muskoxen, which were managed for limited subsistence uses only. The status of moose and caribou stocks, however, argued for continued monitoring of harvests of both species. The Western Arctic

caribou herd population appeared to be gradually declining, following 25 years of historically high populations. The highest estimate was for July 2003, when the herd was estimated to include 490,000 caribou (Dau 2009:228). The most recent estimate was 348,000 caribou in July 2009, indicating an annual decline of 4–6% (ADF&G 2011). Moose populations had also declined in northwest Alaska due to extreme winter conditions in the mid-1990s, recovered slightly, and then stabilized at low densities. (Dau 2008:558; C. Westing, Area Wildlife Biologist, ADF&G, Kotzebue, personal communication).

Much like the fish and wildlife populations, neither the environment nor the economy of Northwest Alaska has been static. Supplies of and demand for fish and wildlife changed over time, sometimes dramatically and rapidly. Climate-related changes have occurred and were expected to continue to occur in Northwest Alaska (Grebmeier et al. 2006; Hinzman et al. 2005; Overland and Stabeno 2004). In addition, proposed industrial developments could impact not only renewable natural resources through habitat alteration, but also social and economic systems by providing increased employment and dividend income to residents of the region (Fried and Robinson 2008). Specific examples included proposed expansion of the Red Dog Mine (Tetra Tech Inc. 2008), proposed offshore oil development in the Chukchi Basin, and ongoing mineral exploration in the Ambler and Candle mining districts.

The dynamic environment and economy of Northwest Alaska thus created a need for frequently updated information about subsistence harvests, demographics, employment, and income for the region as a whole, and especially for communities adjacent to proposed developments. In order of increasing scope, research problems included:

- Managing species where demand exceeded supply;
- Sustainably allocating species among competing uses;
- Documenting subsistence economies;
- Assessing and mitigating impacts from development; and
- Monitoring long-term ecological conditions.

To manage species where demand may exceed supply, managers needed timely harvest data for selected species, in some cases on a yearly basis. Fortunately, this involved only a handful of fish and big game species in Northwest Alaska. To sustainably allocate fish and wildlife, regulatory bodies needed periodic harvest data over periods of time sufficient to account for normal variations in harvests, which for some species meant decades.

To better document Alaska's subsistence economy, policymakers needed substantially complete estimates of harvests and better descriptions of subsistence systems. To assess impacts or to monitor long term changes, investigators needed an initial comprehensive survey to collect baseline subsistence

harvest, social, and economic data; they also needed postimpact surveys to measure changes and assess impacts.

Impact assessment and ecological monitoring were more complex than harvest monitoring, because the nature and scope of potential impacts and the course of human adaptations were not known in advance. For example, residents of Northwest Alaska might adapt to persistent and adverse changes in caribou migration patterns by increasing subsistence moose or salmon harvests or by purchasing imported foods. The latter adaptation would imply increased reliance on wage labor or on transfer payments. Fully evaluating the impact of changes in caribou migrations would require information on caribou movements, caribou harvests, caribou harvest locations, other species' harvests, employment, wages, other types of income, and perhaps household spending patterns. Thus, impact assessment and ecological monitoring required a greater range of data than basic harvest monitoring.

General Study Objectives

The objectives of the continuing harvest monitoring program are to:

- Develop a sampling strategy to coordinate data collection in each of the 11 communities in Northwest Alaska on a rotating basis;
- Design a household survey instrument to collect current data about subsistence hunting, fishing, gathering, and other topics that are compatible with information collected in previous rounds of household surveys;
- Identify, obtain, and coordinate funds to conduct the surveys from ADF&G, other State of Alaska agencies, federal agencies, nongovernmental organizations, industry, and other sources;
- Obtain approvals from study communities to conduct comprehensive surveys; and
- Maintain lists of all occupied households in each Northwest Arctic Borough community and update the lists for each community just prior to each administration of the survey.

Within this continuing harvest monitoring program, the Division of Subsistence and cooperating agencies conduct annual harvest monitoring projects in individual communities. Each year, they select study communities, train community residents in administration of the survey instruments, and attempt to administer surveys to occupied households in each study community. Then, they collaboratively review and interpret survey findings, periodically publish reports of survey findings, and communicate study findings to the communities. Summary results are published online at the Community Subsistence Information System (CSIS[1]) website maintained by the ADF&G Division of Subsistence.

1. ADF&G Division of Subsistence, Community Subsistence Information System (CSIS): http://www.subsistence.adfg.state.ak.us/CSIS/.

Rationale and Literature Review

During the past 50 years, 2 different methods have been used to collect subsistence data in Northwest Alaska. Both methods—mandatory reporting and voluntary surveys—have had substantial limitations.

For big game species like moose, ADF&G has relied on a system of mandatory harvest reports and permits since statehood. Before hunting, individual hunters must purchase a hunting license and, for selected species, obtain a report or permit that indicates their intent to hunt that species. After hunting or at the end of the season, hunters are supposed to mail a postage-paid postcard reporting their efforts and harvest, if any. Comparisons of survey and report data in the early 1990s indicated that only about 11% of the caribou harvested in northwest Alaska were being reported, and that reporting rates were variable and unpredictable (Georgette 1994).

For comprehensive estimates of subsistence harvests, ADF&G and other researchers have relied on household surveys. Most early survey efforts were not systematic, population sizes were unknown, sampling rates were not recorded, and data analysis methods were not published. As a result, most early survey results cannot be reliably compared with more recent survey results. Important exceptions are a U.S. Fish and Wildlife Service salmon survey (Raleigh 1958), Project Chariot related research (Saario and Kessel 1966; Foote and Williamson 1966), surveys of Kivalina in the early 1980s (Burch 1985), and a 1986 survey of Kotzebue (Georgette and Loon 1993). These efforts were more systematic, better documented, and provided more reliable estimates.

Beginning in the 1990s, the quality and quantity of survey data improved as a result of a series of unrelated circumstances. In 1991 and 1992, the Division of Subsistence conducted comprehensive harvest surveys in Kotzebue and Kivalina, which were control communities for Exxon Valdez oil spill impact assessment studies. A series of waterfowl harvest surveys were conducted from 1993 through 1997 to support waterfowl treaty negotiations between the United States, Japan, Mexico, Canada, and the former Soviet Union. The Northwest salmon harvest survey project began in 1994, prompted by declining chum salmon stocks in western Alaska, and continued through 2004. The National Park Service funded comprehensive harvest surveys in Deering and Noatak for 1994, in Shungnak for 2002, in Buckland for 2004, and in Kiana for 2006 to provide information for management of Western Arctic Parklands. In 1998, the Western Arctic caribou herd harvest survey program began in selected communities, and contributed big game harvest data for 1 or 2 communities in most subsequent years. The Native Village of Kotzebue conducted harvest surveys of tribal households in 2002, 2003, and 2004.

As of 2007, comprehensive subsistence harvest data had been collected 5 times for Kivalina, 5 times for Kotzebue, 2 times for Noatak, and 1 time each for 5 other communities in the Northwest Arctic Borough (NWAB). Comprehensive data have never been collected for Noorvik, Ambler, or Kobuk. In other words, for a majority of the communities in the Northwest Arctic Borough, comprehensive

estimates of subsistence harvests existed for only a single year, if at all. Harvest data for a limited range of species have been collected more often. Salmon harvests were the most thoroughly documented, with annual estimates of harvests for 6 communities (Ambler, Kiana, Kobuk, Noatak, Noorvik, and Shungnak) from 1994 through 2004. Large land mammals ("big game") surveys were conducted at least once in every NWAB community except Kotzebue since 1998. Waterfowl surveys were conducted at least once in every NWAB community during the 1990s. Of those projects, only the big game surveys were continuing in 2011.

Over the last 50 years, substantial funds have been invested in harvest reporting and survey research in Northwest Alaska. Whether harvest data were collected in comprehensive or limited surveys, subsistence harvest monitoring in Northwest Alaska usually has been driven by the data needs and funding situations of individual agencies rather than by a coordinated strategy. Neither mandatory harvest reporting systems nor voluntary community household surveys provided sufficient data to estimate regionwide subsistence harvest of fish and wildlife with reasonable confidence, nor to monitor trends in subsistence harvests and use patterns. Although mandatory harvest reporting appears to be improving for some big game species, the harvest reporting system does not collect comprehensive harvest data or socioeconomic data. In contrast, household surveys collect a wide range of data, and are best suited to fulfill the multiple data needs of resource management agencies, user communities, and industry. Consequently, this program uses household survey methods.

One of the policy objectives of Alaska subsistence management is determining the amounts reasonably necessary for subsistence uses. This is achieved primarily through reviews of historical harvests, the assumption being that people were able to harvest what they needed. But historical data are not always available and sometimes harvests are limited by factors other than subsistence demand, so subsistence surveys have long included a series of harvest assessment questions (e.g. "Did your household get enough salmon last year for your needs?").

Beginning in Buckland in 2004, the Division's subsistence surveys adopted a food security protocol to assess whether households were able to obtain the food they needed. These food security protocols have been extensively reviewed (Coates 2004; Webb et al. 2006; Wunderlich and Norwood 2006) and have been used around the world.

Relationships with Alaska Native Communities

A majority of the residents of Northwest Alaska are Alaska Native or American Indian who have maintained their subsistence customs and traditions throughout their history. The project is intended to encourage a collaborative, working relationship among state and federal agencies, tribes, communities, nongovernmental organizations, and industries. The ethical conduct of all researchers must meet

or exceed the principles of conduct adopted by the Alaska Federation of Natives in 1993 and the Interagency Arctic Research Policy Committee on June 28, 1990. All personnel are to work in a manner that develops, rather than jeopardizes, relations among the cooperators, and between the cooperators and the public.

2
Methods

Most data for this report were collected by teams of local and non-local researchers administering comprehensive household surveys during face-to-face interviews in respondents' homes. In each study community, 9–10 researchers conducted surveys continuously for 9–10 days. Researchers coordinated the efforts of different organizations and relied on a standard survey instrument to minimize respondent fatigue, maximize organizational efficiencies, and reduce agency costs. This brief, intense, cooperative approach to subsistence survey research evolved from, and built on, earlier efforts in Northwest Alaska, such as the Northwest salmon surveys and the Western Arctic caribou herd (WACH) surveys. The Division has conducted similar research efforts elsewhere in Northwest Alaska and throughout the state. This chapter summarizes the general research design, samples, instruments, limitations, data collection procedures, and data analysis methods.

General Research Design

The ADF&G Division of Subsistence utilizes a number of social science research methods to fulfill its mission, including both quantitative and qualitative methods. As characterized by Trotter and Schensul:

> Applied projects must be designed to create the highest level of confidence in the research results. To provide this confidence, quantitative social sciences have most commonly favored probabilistic (random) sampling techniques that allow for statistical analysis of the data collected. These techniques work well when the universe from which the sample is to be drawn can be identified and where everyone in a population…has an equal chance of being chosen to express their viewpoint. (Trotter II and Schensul 1998:702–703)

The Division's quantitative research typically involves documenting the amount of fish and wildlife resources harvested by a community of users, with the principal unit of analysis being the household. Probabilistic sampling or census approaches are used to develop estimates of harvests for an entire community or a series of communities.

In small communities, sampling designs typically strive for a complete census, surveying each household regarding subsistence resource harvest and use activities. In larger communities, simple random samples or more commonly stratified random samples are used to estimate a community's

harvest and use patterns. Survey results are expanded to the whole community based upon reports from the sample of surveyed households. It is essential that sampled households be representative of the study population.

Confidentiality is maintained with identification codes. Households and individuals are assigned numerical codes before surveys begin. A household code sheet is maintained by principal investigators during survey administration, and remains in their custody after the survey is complete. Except for principal investigators, surveyors have codes only for households they are assigned to survey. Code sheets do not accompany surveys when surveys are submitted for data entry and analysis.

Samples

In both study communities, the goal was to survey 100% of occupied households. In Buckland, researchers identified 88 eligible households and surveyed 83 households with 385 people, for a 94% sample of households. In Kiana, researchers identified 95 eligible households and surveyed 77 households with 311 people, for an 81% sample of households. Eligible households were those with at least one member who had lived in the study community for more than 3 months, or who had lived in Alaska for more than 1 year and thus was considered an Alaska resident for the purposes of hunting and fishing. Samples did include households occupied by certified teachers. Although teachers typically were short-term residents of the community, they often met the criteria for eligibility for the survey, and could hunt and fish under both state and federal subsistence rules.

Variables

From each household, researchers collected information about permanent household residents, amounts of subsistence food harvested, wages earned, and other income received by household members. A demography section included questions about the gender, kin relationships, age, birthplace, education, and ethnicity of each household member. A harvest section asked which subsistence foods were used and harvested, and how much was harvested by the household. The harvest section included approximately 75 locally available species or species groups (e.g. berries), and about 8 non-local species, such as bowhead whale, that might be obtained through sharing, barter, or customary trade. It also included space for respondents to report unanticipated species. An employment section asked respondents to list each job held by each member of the household and, for each job, the months employed, the schedule worked, and the amount earned in the study year. Respondents also were asked to estimate household income from non-employment sources such as the Alaska Permanent Fund dividend, Social Security, and public assistance programs.

To document cooperation among households in subsistence production, the survey included a number of social network questions. Respondents were asked who provided hunting and fishing information to their household, and who made hunting and fishing decisions for their household. They were asked who supported their household in other ways, such as child care and equipment maintenance. After each category of resources, respondents were asked who harvested, processed, or distributed the subsistence foods their household used. Network questions did *not* ask for amounts of foods or services provided. Similar network questions have been asked in previous studies of subsistence food production in the northwest Alaska: Wales and Deering (Magdanz et al. 2002) and Shungnak (Magdanz et al. 2004).

A food security section explored whether households had enough food to eat, both from subsistence sources and from market sources. A subsistence assessments section asked whether households harvested less, more, or the same amount of subsistence foods, and whether or not they got enough of those foods. If harvests changed or were insufficient, respondents were asked why this occurred.

Survey Instruments

This project relied on comprehensive household surveys developed during a series of studies conducted by the Division of Subsistence throughout Alaska in the 1980s and 1990s. The primary purpose of the household survey was to collect information about the harvest and use of edible subsistence foods. The Buckland survey (Appendix 2) resembled instruments used by the Division through the mid 2000s. The Kiana survey (Appendix 3) adopted a more modular approach, added stratification questions from annual salmon surveys, added screening questions to speed survey administration, and was reformatted from landscape to portrait orientation. These changes made it possible for individual survey modules, such as a salmon page, to be administered separately in species-specific surveys. Although the Kiana instrument looks different than the Buckland instrument, the core harvest questions were the same. Adopting a standard, modular design for both comprehensive surveys and limited surveys (e.g. salmon or caribou) allowed the Division of Subsistence to maximize comparability over time and among communities as well as efficiencies in data entry and analysis. A completed and coded page from the Kiana survey appears as Figure 2-1.

The food security module of the household surveys was introduced to the Division's subsistence program by Janell Smith, a researcher with the Institute of Circumpolar Health Studies at the University of Alaska Anchorage who was conducting a separate elder nutrition study in Northwest Alaska. Smith administered comprehensive household surveys as part of the Division's survey team in 2006, and then administered a 98-item food frequency questionnaire to selected elder households shortly after the ADF&G team completed its work. Selected results from the comprehensive survey were shared

OMB FINAL

OTHER FRESH WATER FISH

Do members of your household USUALLY fish for OTHER FRESH WATER FISH for subsistence? ..... (Y) N [1]

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST other fresh water fish? ..... (Y) N [1]

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many OTHER FRESH WATER FISH your household HARVESTED for subsistence use this year, including with a rod and reel. It is important to report ONLY YOUR SHARE of the catch if fishing with others. Include OTHER FRESH WATER FISH you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others fish.

If the household reports harvesting any other kinds of other fresh water fish, please enter the species name and harvest information in a blank row.

	DID YOUR HOUSEHOLD…		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?					HOW MANY WERE JUST FOR DOGS?	UNITS	WERE THERE LESS, SAME, OR MORE (_____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	…USE (_____) IN 2006?	…TRY TO HARVEST (_____) IN 2006?	WITH GILLNET OR SEINE	WITH ROD AND REEL	WITH JIG THRU THE ICE	WITH OTHER GEAR	KEPT FROM COMM FISHING			
	(circle)	*(circle)*	*(number taken by each gear, blank=none)*					*(#)*	*(ind, lbs, etc)*	*(circle one)*
WHITEFISH *Qalupiaq*	(Y) N	(Y) N	400	—	—	—	—	10	ind.	L S (M) ?
126400000	1	1	400	0	0	0	0	10	1	3
SHEEFISH *Sii*	(Y) N	(Y) N	20	-	20	—	—	—	"	L S M ?
125600003	1	1	20	0	0	0	0	0	1	-9
DOLLY VARDEN (TROUT) *Qalukpik*	(Y) N	(Y) N	15	—	—	—	—	—	"	L S M ?
125006013	1	1	15	0	0	0	0	0	1	-9
NORTHERN PIKE *Siulik*	(Y) N	(Y) N	4	—	—	—	—	—	"	L S M ?
125400003	1	1	4	0	0	0	0	0	1	-9
ARCTIC GRAYLING *Sulukpaugaq*	(Y) N	(Y) N	6	6	—	—	—	—	"	L S M ?
125200003	1	1	6	6	0	0	0	0	1	-9
SMELT *Ilhuagniq*	(Y) N	(Y) N	6	—	—	—	—	—	"	L S M ?
120400003	1	1	6	0	0	0	0	0	1	-9
mudshark	(Y) N	(Y) N	50	—	—	—	—	—	"	L S M ?
124800003	1	1	50	0	0	0	0	0	1	-9

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of other fresh water fish? ..... (Y) N [1]
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of other fresh water fish as in the past? X L (S) M [2]
(X="Never Harvest")
…Did your household get ENOUGH other fresh water fish for your needs? ..... (Y) N [1]

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough other fresh water fish for your needs?

	resource	*no.*	*reason*

Figure 2-1.–Completed and coded fresh water fish page from a Kiana survey.

with Smith so she could conduct her nutrition analyses. Results from Smith's study were published in 2009 (Smith et al. 2009a, Smith et al. 2009b).

The food security protocol used in these surveys was a modified version of the 12-month, food-security scale questionnaire developed by the U.S. Department of Agriculture (Bickel et al. 2000). This questionnaire is administered nationwide each year as part of the Current Population Survey (CPS). Although there have been efforts to develop a universal food security measurement protocol (Swindale and Bilinsky 2006), researchers often modify the protocol slightly to respond to community social, cultural, and economic circumstances. For example, as in Brazil (Peréz-Escamilla et al. 2004:1928), the USDA term "balanced meals" was difficult to interpret for indigenous Alaska populations, and was replaced in these surveys with the term "healthy meals" to reflect unique dietary and cultural circumstances in rural Alaska. Several sub-questions were added to determine whether food insecurities, if any, were related to subsistence foods or store-bought foods.

Limitations and Assumptions

The harvest survey collected information on subsistence activities during a single year. This assumed that respondents could remember their important activities during the past year. To minimize recall problems, surveys were conducted with household heads on the assumption that household heads were most likely to be aware of all household members' activities. Respondents' recall bias was not expected to change significantly over time or from community to community or to affect comparisons of data from this study with other studies employing similar methods.

For fish harvested in large quantities such as whitefish and salmon, respondents frequently reported harvests in quantities divisible by 5, 10, 25, and 100—in other words, responses were "heaped." The actual survey data in Figure 2-1 provides an example. In a review of salmon survey results, Magdanz et al. (2011 *In prep*) found that fish harvest quantities divisible by 5 were reported 4 times as often, harvest quantities divisible by 10 were reported 6 times as often, and harvest quantities divisible by 25 were reported 7 times as often as would be expected if quantities were randomly distributed. Especially for whitefish, households that harvest large quantities of fish may report quantities other than individual fish, such as 15-gallon washtubs and 100-lb gunny sacks. The assumption, therefore, was that while household may not have reported precisely how many fish they harvested, they did report the magnitude of their harvests correctly. The assumptions were that these "heaped" responses were valid estimates, that slightly high estimates were as common as slightly low estimates, and that their precision was sufficient for the analyses in this study.

In most small, rural, predominantly Alaska Native communities in Alaska, approximately 30% of the households harvest 70% of the subsistence foods (Wolfe 1987; Wolfe et al. n.d. [2009]). Not

only do a few "super-households" typically account for a majority of the community harvest, but many households report zero harvests of individual species, and some report no subsistence harvests at all. A preponderance of zero-harvest households, heaped responses, and log-normal distribution of harvests are typical features of subsistence harvest data from small, rural, predominantly Alaska Native Alaska communities (Magdanz et al. 2011 *In prep*). These factors, and the relatively small size of the communities, increase the potential for biased samples, so most subsistence survey projects in small communities attempt to survey all eligible households. The survey projects addressed in this paper did the same.

One function of some of the agencies involved in this study was to enforce fish and wildlife regulations. None of the researchers in this project was involved in enforcement activities. Nonetheless, some local researchers and respondents expressed concerns that the survey project could harm local residents by prompting legal actions, and were therefore reluctant to participate or to answer certain questions. Respondents were most reluctant to provide information about personal and household incomes, especially earned income. Some community researchers were personally reluctant to ask respondents about income. As a consequence, employment and income data often were missing.

It was important to standardize data collection procedures because many different people gathered the data. One or more principal investigators were present throughout the administration of the surveys and administered some surveys themselves. Standardization and quality control were accomplished through an initial orientation process, daily reviews of surveys as completed, and post-administration review of all surveys. The principal investigators coded most of the surveys and reviewed all coded surveys before data entry.

Procedures

The Alaska Department of Fish and Game signed two cooperative agreements for subsistence harvest and socio-economic data collection—one in 2003 with the Native Village of Buckland and one in 2006 with the Native Village of Kiana. These agreements supported the selection and training of local research assistants to conduct household surveys, the preparation of survey forms for data processing, key-respondent interviews, and assistance in the preparation and review of reports and technical papers resulting from the analyses of data gathered under the agreement.

ADF&G researchers attended meetings of the Buckland Indian Reorganization Act (IRA) Council in November 2003 and the Kiana IRA Council in December 2006 to discuss the proposed project. They handed out copies of the draft survey instruments and discussed project goals and procedures. Subsequently, researchers worked with the IRA staffs to prepare an updated household-by-household census of the community. The IRAs also began advertising for contractors to administer the survey.

Figure 2-2.–The Buckland survey team.

Researchers returned to the study communities several days before surveys were scheduled to begin. They met with IRA staff to discuss the selection of local researchers. In Buckland, the IRA selected local residents Bessie Barger, Nora Hadley, Eva Dorothy Lee, and Josephine Thomas to work with the project (Figure 2-2). In Kiana, the IRA selected Darrell Brown, Mabel Gooden, Paula Outwater, Dolly Smith, Teresa Stalker, and Kelsey Westlake.

In Buckland, agency and academic members of the survey team included Rachel Mason and Eileen Devinney for the National Park Service, Amy Craver for the Institute of Social and Economic Research at the University of Alaska, and Charlie Gregg and James Magdanz for the Alaska Department of Fish and Game. In Kiana, agency and academic team members again included Devinney and Magdanz, joined by Janell Smith, Sarah Trainor, and Colin West for the University of Alaska. With the research team fully assembled, researchers began a two-day orientation session (Figure 2-3). During the orientation, researchers reviewed the instrument page-by-page, reviewed species lists, reviewed procedures for coding individuals, practiced survey administration on one another, and verified lists of households and residents. At the end of the orientation, each researcher selected a group of households to survey and began making appointments by telephone and in person to conduct the surveys.

Surveys were conducted in person, almost always in a respondent's home, at a time selected by the respondent. Surveys were administered to either the male or female head of household, who was asked to provide information about the household as a whole. Sometimes, both heads of household or other family members would assist the respondent by providing information. In Buckland, survey

Figure 2-3.–The Kiana survey orientation meeting.

administration began on the evening of February 19, 2004 and continued through February 27, 2004. Buckland surveys required from 20 minutes to 4 hours and 18 minutes (in one case) to complete. Average Buckland survey administration time was 1 hour and 18 minutes. In Kiana, survey administration began on the evening of February 23, 2007, and continued through March 1, 2007. Kiana surveys required from 25 minutes to 3 hours and 15 minutes to complete, with an average administration time of 1 hour and 13 minutes.

Each member of the survey crew turned in completed surveys each day. Devinney and Magdanz reviewed them for consistency and completeness. Magdanz maintained a master record of households surveyed, and posted daily survey progress reports at the IRA offices. At the conclusion of survey administration in each community, researchers convened again for project evaluation meetings. They discussed the performance of the instrument, subjectively assessed the quality of the data gathered, and made suggestions to improve future instruments and procedures.

The completed surveys were returned to the Kotzebue Fish and Game office, where Gregg and Magdanz coded them for computer entry (Figure 2-1). The coded Buckland surveys were delivered to ISER and entered into a Microsoft Access[2] database. After data were cleaned, Stephanie Martin exported the data to a series of SPSS data files and calculated a series of summary statistics. Coded surveys

2. Product names are given because they are standards for the State of Alaska, or for scientific completeness; they do not constitute product endorsement.

for Kiana were entered and analyzed by the Division of Subsistence Information Management staff. Final analysis of Buckland data also was conducted by Division of Subsistence staff.

Data Analysis

Survey responses were coded following standardized codebook conventions used by Division of Subsistence to facilitate data entry. Data were stored within a Microsoft SQL[2] Server™ at ADF&G in Anchorage. Database structures included rules, constraints, and referential integrity to insure that data were entered completely and accurately. Data entry screens were available on a secure Internet site. Daily incremental backups of the database occurred, and transaction logs were backed up hourly. Full backups of the database occurred twice weekly. This ensured that no more than 1 hour of data entry would be lost in the unlikely event of a catastrophic failure. All survey data were entered twice and each set compared to minimize data entry errors.

Once data were entered and confirmed, information was processed with the use of the Statistical Package for the Social Sciences™ (SPSS[2]). Initial processing included the performance of standardized logic checks of the data. Logic checks are often needed in complex data sets where rules, constraints, and referential integrity do not capture all of the possible inconsistencies that may appear. Harvest data collected in numbers of animals, gallons, or buckets were converted to pounds usable weight using standard factors (Appendix B).

SPSS™ was also used for analyzing the survey information. Analysis included review of raw data frequencies, cross tabulation, table generation, estimation of population parameters, and calculation of confidence intervals for the estimates. Missing information was dealt with situationally. The Division of Subsistence has standardized practices for dealing with missing information, such as minimal value substitution or use of an average response for similarly characterized households. Typically, missing data are an uncommon, randomly occurring phenomenon in household surveys conducted by the division. In unusual cases where a substantial amount of survey information is missing, the household survey is treated as a "non-response" and not included in community estimates.

Harvest estimates and responses to all questions were calculated based upon the application of weighted means (Cochran 1977). These calculations are standard methods for extrapolating sampled data. As an example, the formula for harvest expansion is

$$H_i = \bar{h}_i S_i \qquad (1)$$

where

$$\overline{h}_i = \frac{h_i}{n_i} \tag{2}$$

H_i = total harvest (numbers or pounds of resource) for the community i,
h_i = total harvest reported in returned surveys,
$\overline{h}_i$ = mean harvest per returned survey,
n_i = number of returned surveys,
S_i = number of households in the community.

As an interim step, the standard deviation (SD) (or variance [V], which is the SD squared) was also calculated with the raw, unexpanded data. The standard error (SE), or SD of the mean, was also calculated for each community. This was used to estimate the relative precision of the mean, or the likelihood that an unknown value falls within a certain distance from the mean. In this study, the relative precision of the mean is shown in the tables as a confidence limit (CL), expressed as a percentage. Once the standard error was calculated, the CL was determined by multiplying the SE by a constant that reflected the level of significance desired, based on a normal distribution. The constant for 95% confidence limits is 1.96. Though there are numerous ways to express the formula below, it contains the components of a SD, V, and SE:

$$CL\%(\pm) = \frac{t_{\alpha/2} \times \frac{s}{\sqrt{n}} \times \sqrt{\frac{N-n}{N-1}}}{\overline{x}} \tag{3}$$

where

S = sample standard deviation,
n = sample size,
N = population size,
$t_{\alpha/2}$ = student's t statistic for alpha level (a=.95) with n – 1 degrees of freedom.

Small CL percentages indicate that an estimate is likely to be very close to the actual mean of the sample. Larger percentages mean that estimates could be further away from the sampled mean.

Food security responses were analyzed following USDA procedures (Bickel et al. 2000), to provide comparability between the Northwest Harvest Monitoring Program results and USDA results for Alaska and the nation. Social network data were entered and prepared in SPSS, exported to Excel, imported to UCINet (Borgatti et al. 2002), analyzed in UCINet, and graphed with NetDraw (Borgatti et al. 2002).

Summaries of results for each study community were added to the Division of Subsistence Community Subsistence Information System (CS This publicly accessible database included community-level findings only, not household-level information.

3
Comprehensive Survey Results Buckland, 2003

In February 2004, researchers surveyed 83 of 88 households (94%) in Buckland. The surveyed households reported harvesting 213,229 edible lb of subsistence foods between January and December, 2003. The average harvest per household was 3,629 lb; the average harvest per person was 567 lb. Expanding for 5 unsurveyed households, Buckland's estimated total harvest of subsistence foods in 2003 was 226,074 lb (±11%).

Three species—caribou (*tuttu*), bearded seal (*ugruk*), and smelt (*ilhaugniq*)—contributed 61% of the total community harvest in 2003 (Figure 3-1). In edible pounds, caribou contributed more than any other single species. An estimated 637 individual caribou were harvested by residents of Buckland in 2003, with an estimated total edible weight of 86,660 lb (±8%), comprising 38% of the total community harvest.

This chapter summarizes findings from the household surveys including demographic characteristics, responses to harvest assessment questions, harvest estimates, employment, income, and food security.

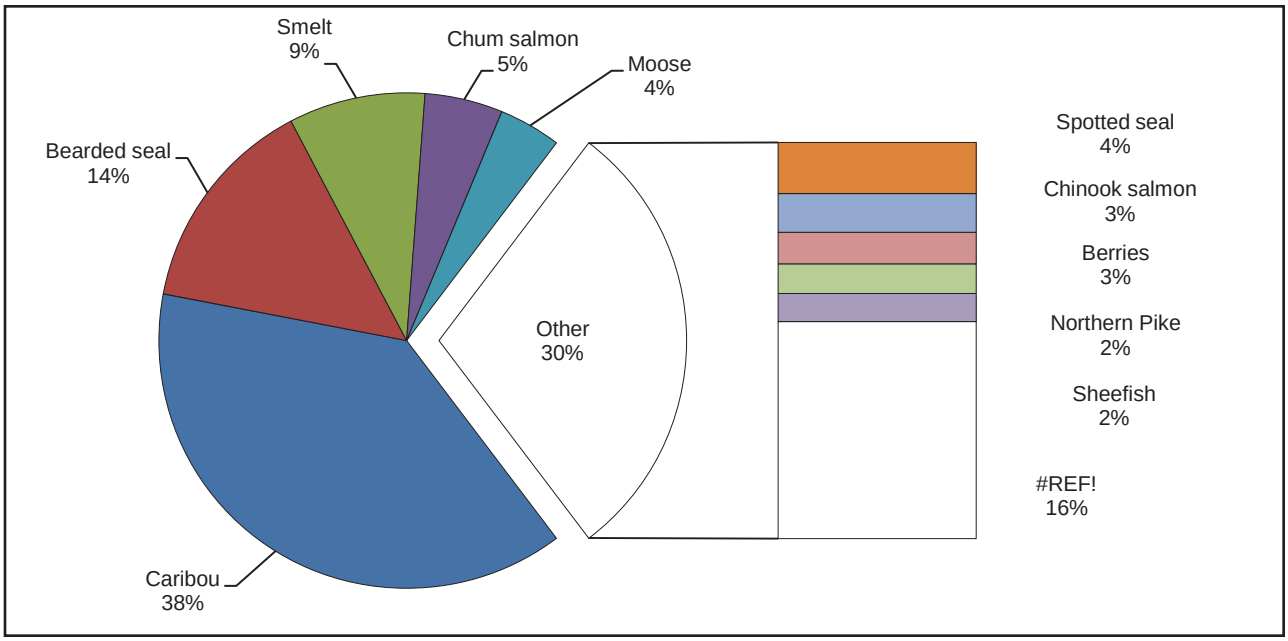


Figure 3-1.–Top 10 species harvests ranked by estimated edible weight, Buckland, 2003.

Figure 3-2.–Aerial view of Buckland, Alaska, looking north northwest towards Escholtz Bay.

Harvest numbers are expanded estimates. Results from this survey are available online in the Division of Subsistence Community Subsistence Information System.

About Buckland

The contemporary community of Buckland is located on the west bank of the Buckland River about 19 river mi upstream of the river's mouth at the head of Escholtz Bay, and about 75 miles by air south southeast of Kotzebue (Figure 3-2). The nearest neighboring communities are Deering, located 45 mi west on the southern shore of Kotzebue Sound, and Selawik, located 53 mi northeast on the Selawik River.

In the 19th century, the Buckland area was inhabited by a traditional Iñupiaq society, the *Kaŋiġmiut*, or "people of the *Kaŋiq"* (Burch 1998). *Kaŋiq* means "bend" in Iñupiaq , and refers to a bend in the Buckland River. The *Kaŋiġmiut* territory included the Buckland, Kiwalik, and Kauk river drainages, as well as the waters of Escholtz Bay into which all three rivers flowed (Figure 3-3). Burch estimated that the *Kaŋiġmiut* population in the first half of the 19th century included about 300 people in 7 settlements. The largest settlement was *Makaksrak*, just downriver from the current community, with

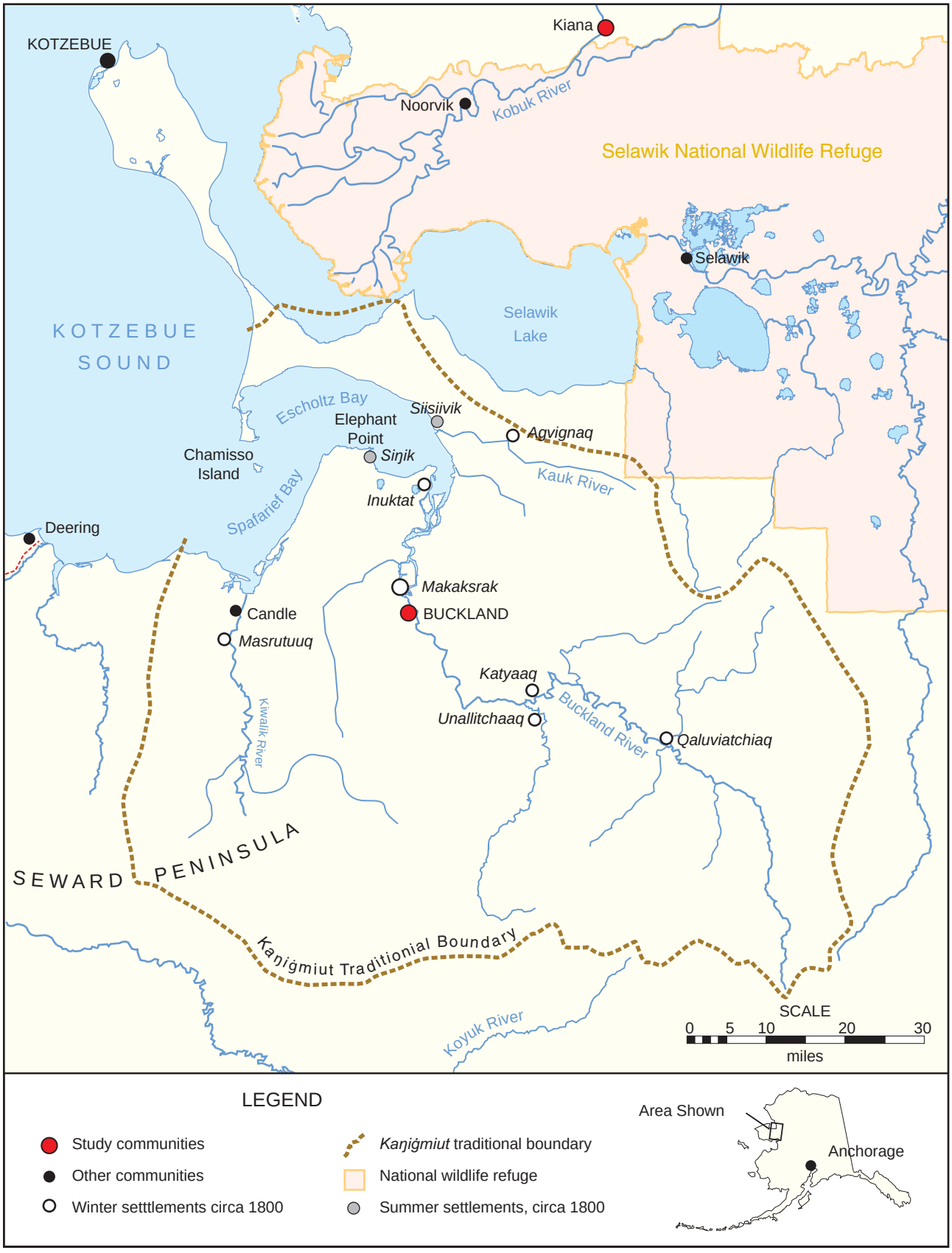


Figure 3-3.–Buckland area.

an estimated 160 people (Burch 1998). The other settlements were essentially family camps of 2 to 4 houses each. By 1860, according to Burch's oral sources, the main settlement had shifted upriver to *Qaluviatchiaq* near the confluences of the South, Middle, and North forks of the Buckland River.

The large settlements were occupied in fall and winter. In spring and summer, the *Kaŋiġmiut* relocated to family fish camps for bird hunting, egg gathering, and smelt fishing, and then—the high point of the seasonal round—to two beluga hunting camps on the shores of Escholtz Bay: one at Elephant Point (*Siŋik*) and the other (*Siisiivik*) across the bay near the mouth of the Kauk River (Burch 1998; Lucier and VanStone 1995; Morseth 1997). Beluga typically entered Escholtz Bay in early to mid-June, and remained for several weeks. Hunts were communal affairs, involving a coordinated drive of the beluga into shallow water on the south side of Escholtz Bay, where individual hunters harpooned the animals from kayaks. By the middle of July, the beluga departed, and the *Kaŋiġmiut* dispersed again for a summer of salmon fishing, berry picking, or—perhaps for most families—trading at the *Sisauliq* trade fair near Kotzebue (Lucier and VanStone 1995). Before freeze-up, families returned to their winter settlements. Once the rivers froze, they built fish traps under the ice for whitefish, northern pike *Esox lucius*, Dolly Varden *S. malma*, and burbot *Lota lota* (Burch 1998). During winter, they hunted caribou or, when sufficient people were available, built corrals from spruce or poles and drove caribou into the corrals where they were snared and killed with spears or arrows. As spring progressed, they hunted seals on the ice of Spafarief Bay and bears as they emerged from their dens.

Because deep water around Chamisso Island in Escholtz Bay provided a natural, sheltered harbor for sailing vessels, the *Kaŋiġmiut* had early and regular contact with Euroamerican explorers and traders during the 19th century. First contact is believed to have been in 1816 by Otto Von Kotzebue, a German navigator commanding a Russian exploration seeking a passage across the Arctic Ocean (Kotzebue et al. 1821). Officers on a subsequent expedition to Escholtz Bay in 1820, led by Mikhail N. Vasiliev, found the *Kaŋiġmiut* to be both aggressive and equipped with firearms and gunpowder, presumably from an American trader who had visited the year before (Ray 1975). Similar conflicts occurred with other Euroamericans through Frederick William Beechey's visit in 1826; then ship traffic apparently ceased until the search for Sir John Franklin in 1848 brought the British back to Escholtz Bay to await Franklin's arrival (Burch 1998).

During the hiatus in ship traffic to Escholtz Bay, Russian traders established a fort and trading post in 1833 in St. Michael, 175 mi south of Buckland. *Kaŋiġmiut*, already engaged in trade with Yup'ik speakers in eastern Norton Sound, soon made contact with the Russians directly. After the small pox epidemic in 1838 decimated the Yup'ik population in eastern Norton Sound, the *Kaŋiġmiut* presence increased substantially, and some settled there permanently (Burch 1998). This created a virtual island of Iñupiaq speakers that persists to this day in contemporary Koyuk, Shaktoolik, and Unalakleet, wedged between Yup'ik speakers in Elim and St. Michael. This dispersal enlarged the *Kaŋiġmiut* territory,

reduced the population of the *Kaŋiġmiut* homeland, and, Burch (Burch 1998) argued, "created the basis for a breakdown of the traditional social system." The arrival of Yankee whalers in the Bering Sea in 1849 and the crash of local caribou populations in the 1870s and 1880s "led to the nearly complete dispersal of the *Kaŋiġmiut* population," with most moving south to Norton Sound (Burch 1998).

The discovery of gold on the Kiwalik River in the 1890s brought an influx of miners to the area, and attracted Iñupiat as well, leading to a gradual repopulation of the area that accelerated during the final decades of the 20th century. In a deliberate attempt to attract Iñupiat away from the corrupting influence of mining communities such as Candle, early educators and missionaries built schools at or near traditional community sites. In 1913, Buckland teacher Iva Taber commented: "Buckland is a fine place for the natives, especially to keep them away from the white men who desire to get them to do wrong" (Berardi 1999). The early 20th century site for Buckland was prone to flooding, however, and in about 1940, the *Kaŋiġmiut* began living year round at Elephant Point (*Siŋik*) in buildings abandoned by the Lomen Brothers reindeer operation (Lucier and VanStone 1995). While living at *Siŋik*, the *Kaŋiġmiut* voted to adopt a constitution for "The Native Village of Buckland," organized under the federal Indian Reorganization Act (IRA) of 1934. The constitution was recognized by the Department of the Interior on December 31, 1951. In the following year, 1952, the *Kaŋiġmiut* moved back upriver to the current community site, across the river from the previous site.

The City of Buckland was incorporated in 1966. After the Alaska Native Claims Settlement Act (ANCSA) of 1971 created both village and regional Native corporations throughout the state, shareholders in Buckland and in 9 of the 10 other Northwest Alaska communities voted to merge their village corporations with NANA Regional Corporation. As a consequence, Buckland does not have a local village Native corporation under ANCSA.

At the time of this study, water for the community came from the Buckland River, was treated by the city, and was stored in a 100,000-gallon tank. Most residents hauled water from the city tank; only 8 homes, the *Nunachiam Sissauni* School, and the *Tigautchiaq Amainiq* Health Clinic had running water. The city also hauled honey buckets and pumped waste tanks (for those households that had them). The city generated and distributed electricity. The IRA operated a fuel project that dispensed gasoline and fuel oil. The Northwest Arctic Borough School District operated a K-12 school, which was a major source of local employment. The state owned and maintained an airport just west of the community with a 3200-ft, lighted, gravel runway. Because Buckland was not connected by road to any other communities in Alaska, the airport served as the principal means of access to the community.

Partly because the *Kaŋiġmiut* and their settlements moved seasonally, early census data were not always reliable. The 1900 census reported 107 *Kaŋiġmiut* living in the Buckland area. The community of Buckland does not appear in the census until 1920 (with 52 people), and from 1930 to 1950 census

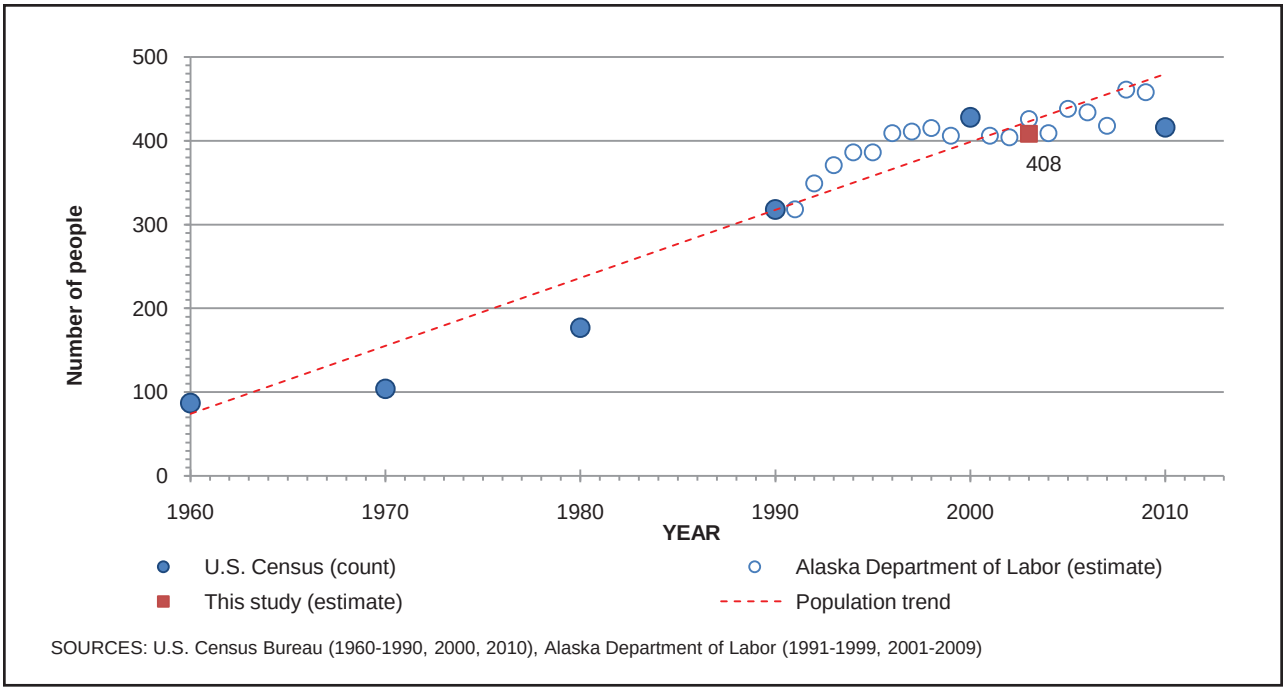


Figure 3-4.–Population history, Buckland, 1960-2010.

counts ranged between 104 and 115 people. Figure 3-4 includes census counts and population estimates for Buckland since 1960. Census counts steadily increased after 1970, reaching a maximum of 428 people in 2000. Although the Alaska Department of Labor estimated as many as 461 residents (in 2008), the census counted 416 people in 2010 (U.S. Census Bureau 2011).

Demographics

The 83 households surveyed in 2003 included 385 people. Household sizes ranged from 1 to 13 people, with an average of 4.6 persons per household. The average age was 24.8 years; the oldest person was 83. On average, residents of surveyed households had lived in Buckland for 17.4 years. Heads of surveyed households had lived in Buckland for an average of 37.6 years.

Expanding for unsurveyed households, the estimated population of 408 included 218 males (53%) and 190 females (47%) (Figure 3-5); 374 were Alaska Natives (92%). For comparison, the U.S. Census Bureau (2001) reported a total population in 2000 of 406 people, including 218 males (54%) and 188 females (46%); 389 were Alaska Natives (96%). For 2003, the Alaska Department of Labor and Workforce Development (ADLWD 2008) estimated 426 people.

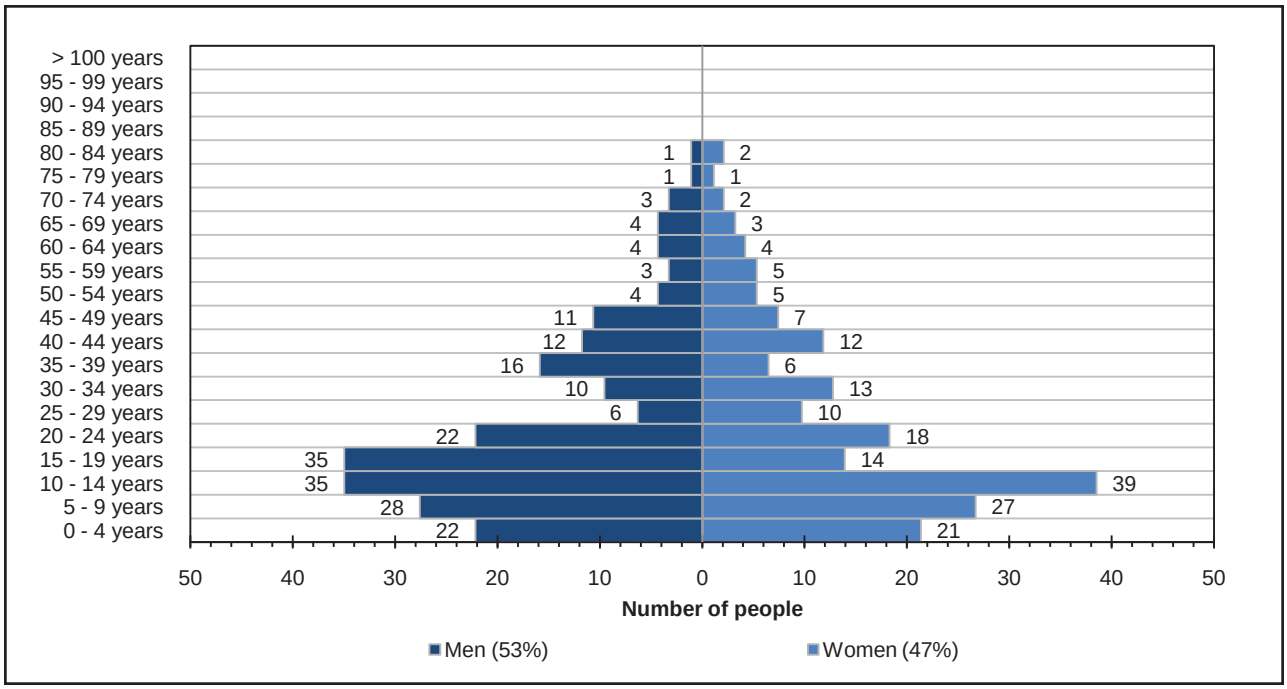


Figure 3-5.–Population profile, Buckland, 2003.

Uses and Harvests of Subsistence Foods

The primary purpose of the household survey was to collect information about the use and harvest of edible subsistence foods. Respondents were asked whether their household used or tried to harvest each resource during the study year. If they tried to harvest a resource, they were asked how much they caught and other details of the harvest such as gear type, sex of the animal, or month of harvest. Tables and figures in this section summarize responses to the harvest questions.

All but one of the households surveyed in Buckland (99%) used at least one kind of subsistence food and 90% of households reported that at least one household member had harvested at least one kind of subsistence food. The subsistence food categories used most frequently were fish (by 95% of households) and plants (93%) (Figure 3-6). The least commonly used food category was shellfish, as was usually the case among Northwest Alaska communities and partly reflected shellfish's limited availability. The percentages of households attempting to harvest and actually harvesting subsistence foods were lower than the percentages of households using foods in every category, especially in the case of marine mammals. Again, this was typical in Northwest Alaska, as subsistence foods were widely shared and not all households were active subsistence harvesters. Hunting marine mammals was a specialized activity that usually required considerable skill; about one-third of the surveyed households (37%) reported harvesting marine mammals. Households that attempted to harvest foods from one of the subsistence food categories usually successfully harvested at least one food from that category.

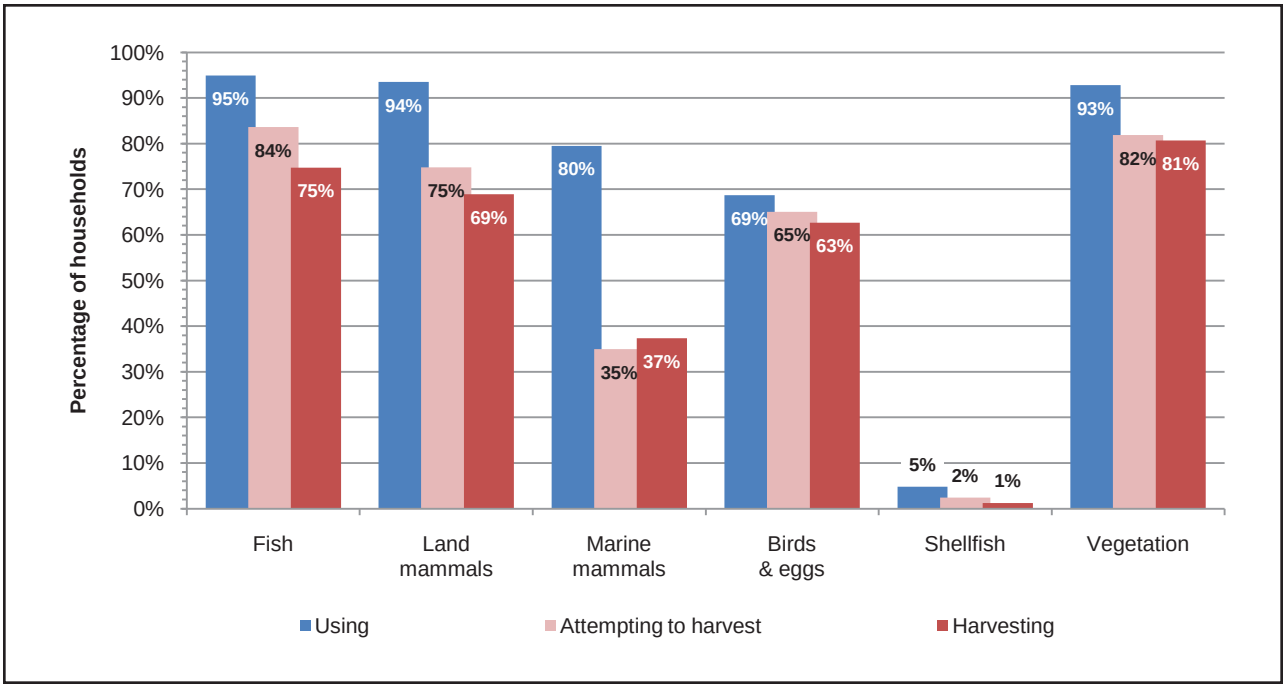


Figure 3-6.–Percentages of households using, attempting to harvest, or harvesting subsistence resources by category, Buckland, 2003.

Figure 3-7 summarizes subsistence harvests by resource category. Reflecting both its inland site and its location on a major migration corridor for the Western Arctic caribou herd, Buckland's land mammal harvest contributed the most to the 2003 subsistence harvest, an estimated 100,433 lb (±15%), or 44% of the total community harvest (Figure 3-7). Fish and marine mammals made substantial contributions—63,061 lb (±9%) and 50,041 lb (±9%), 30% and 22%, respectively, of the total community harvest in 2003.

Tables 3-1 through 3-5 summarize the uses and harvests of all species of animals and plants reported on the survey. In these tables, resources are sorted in descending order of edible pounds harvested within each subcategory, so that the foods harvested in the greatest quantity will appear at the top of each section of the tables. These tables include several species that were not included on the survey, but were reported by respondents when prompted for resources not listed on the survey.

In 2003, residents of Buckland harvested an estimated 63,061 lb (±9%) of salmon and other fish, and 9 lb (±49%) of shellfish (Table 3-1). Ninety-five percent of surveyed households used at least one species of fish; 75% of households harvested fish. Unlike other communities in northwest Alaska that relied primarily on whitefish and salmon fish species, Buckland relied primarily on rainbow smelt. Smelt were taken immediately after breakup as they swam up the river to spawn. Word of their arrival spread quickly by VHF radio and word of mouth. People hurried to the river with seines and dip nets (Figure 3-8). Harvested smelt were spread out on clean gravel bars to dry in the sun, tended

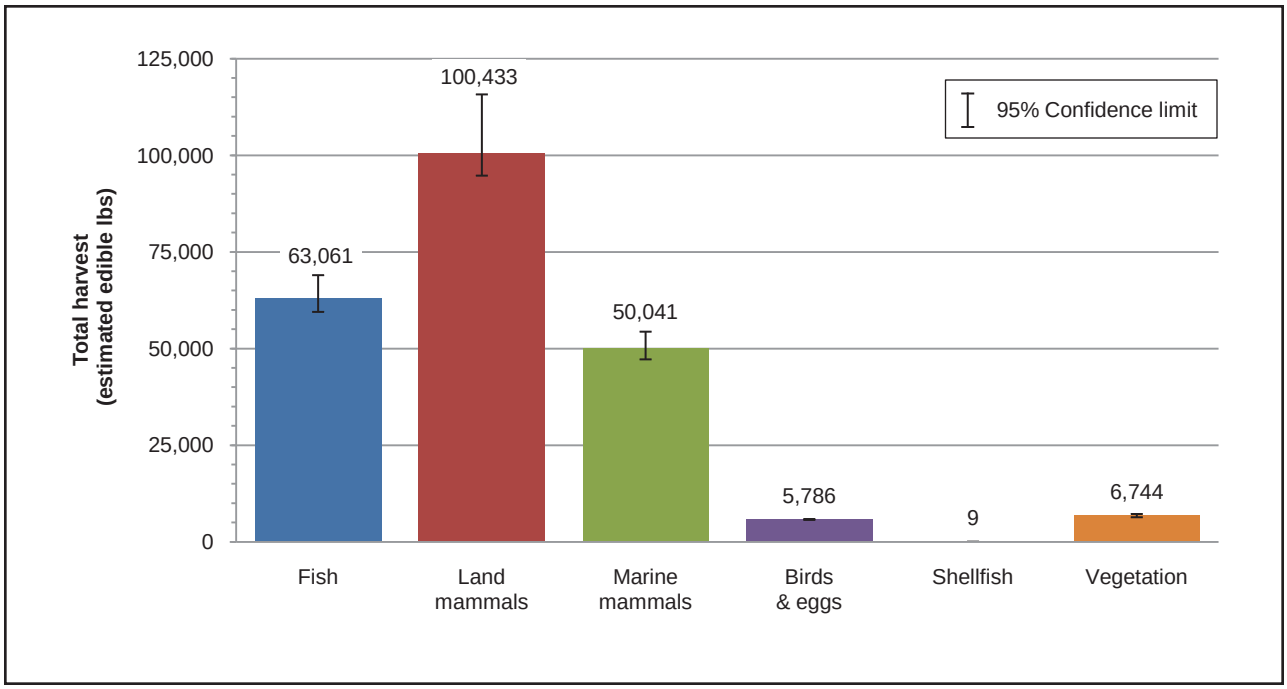


Figure 3-7.–Estimated total edible pounds harvested by resource category, Buckland, 2003.

and turned carefully, and when dried, were bagged and frozen for later consumption. Eighty percent of surveyed households used smelt and 65% of households harvested smelt, for an estimated harvest of 143,603 smelt weighing 20,105 lb (±9%). Smelt comprised 9% of the community's total harvest, twice as much as any other fish species. Smelt contributed about a third of the total fish harvest in edible pounds (32%), all salmon species contributed another third (38%), and all other fish contributed about a third (30%). Although uncommonly harvested elsewhere in northwest Alaska, in Buckland smelt have long been an important part of the seasonal round of subsistence harvests (Burch 1998).

Buckland reported harvests of five Pacific salmon species in 2003; these harvests were composed predominantly of fall chum salmon, but also included substantial numbers of Chinook and coho salmon, and lesser amounts of sockeye and pink salmon with an estimated total edible weight of 23,962 lb (±4%) (Table 3-1). Sixty-five percent of surveyed households used salmon and 39% harvested salmon. Salmon contributed approximately 11% of the total community harvest.

Use of shellfish was reported by only 3 households (5%), and harvest by only 1 household (Table 3-1). King crab were the only shellfish species harvested (they are available in small numbers in western Kotzebue Sound); two households received tanner crab harvested from elsewhere.

Figure 3-8 summarizes fish harvests by gear type. Seines and dip nets, as discussed above, accounted for 89% of the smelt harvest. Other species were taken primarily with subsistence gillnets. For all

Table 3-1. – Estimated use and harvest of fish and shellfish, Buckland, 2003

	Percentage of households					Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Receiving	Giving away	Total for community	Mean per household	Mean per person		
FISH										
Salmon										
Fall chum salmon	55%	31%	30%	43%	25%	11,508 lb	130.8 lb	28.2 lb	1,918 ind.	± 6%
Chinook salmon	25%	18%	16%	16%	12%	5,298 lb	60.2 lb	13.0 lb	427 ind.	± 5%
Coho salmon	22%	20%	17%	7%	11%	4,021 lb	45.2 lb	9.9 lb	773 ind.	± 10%
Unknown salmon	7%	5%	2%	7%	1%	1,368 lb	15.5 lb	3.4 lb	228 ind.	± 8%
Sockeye salmon	6%	7%	5%	5%	2%	901 lb	10.2 lb	2.2 lb	180 ind.	± 13%
Pink salmon	16%	16%	14%	8%	6%	866 lb	10.1 lb	2.1 lb	412 ind.	± 12%
Subtotal	**65%**	**41%**	**39%**	**53%**	**28%**	**23,962 lb**	**272 lb**	**59 lb**	**3,939 ind.**	**± 4%**
Sheefish & Whitefish										
Sheefish	49%	31%	27%	40%	27%	3,785 lb	43.0 lb	9.3 lb	688 ind.	± 14%
Broad whitefish	29%	22%	17%	20%	13%	3,729 lb	42.4 lb	9.1 lb	1,165 ind.	± 19%
Humpback whitefish	18%	18%	17%	7%	10%	3,351 lb	38.1 lb	8.2 lb	1,596 ind.	± 28%
Unknown whitefish	10%	8%	8%	4%	7%	1,052 lb	12.0 lb	2.6 lb	526 ind.	± 31%
Least cisco	11%	6%	4%	8%	4%	308 lb	3.5 lb	0.8 lb	176 ind.	± 27%
Bering cisco	4%	2%	1%	4%	0%	22 lb	0.3 lb	0.1 lb	16 ind.	± 48%
Subtotal	**60%**	**47%**	**42%**	**48%**	**39%**	**12,246 lb**	**139 lb**	**30 lb**	**4,167 ind.**	**± 15%**
Other Fish										
Rainbow smelt	80%	66%	65%	39%	43%	20,105 lb	228.5 lb	49.3 lb	143,603 ind.	± 9%
Burbot	46%	36%	34%	20%	25%	3,033 lb	34.5 lb	7.4 lb	722 ind.	± 14%
Dolly Varden	48%	39%	33%	28%	22%	1,218 lb	13.8 lb	3.0 lb	369 ind.	± 16%
Saffron cod	33%	23%	23%	16%	17%	1,058 lb	12.0 lb	2.6 lb	5,036 ind.	± 15%
Northern pike	19%	18%	13%	11%	7%	626 lb	7.1 lb	1.5 lb	190 ind.	± 18%
Herring	12%	8%	6%	8%	4%	615 lb	7.0 lb	1.5 lb	3,417 ind.	± 28%
Grayling	8%	8%	7%	1%	6%	112 lb	1.3 lb	0.3 lb	124 ind.	± 29%
Arctic cod	2%	1%	1%	1%	0%	47 lb	0.5 lb	0.1 lb	424 ind.	± 47%
Unknown flounder	1%	1%	1%	0%	0%	22 lb	0.3 lb	0.1 lb	20 ind.	± 47%
Round whitefish	4%	2%	1%	4%	2%	19 lb	0.2 lb	0.0 lb	27 ind.	± 47%
Herring roe[b]	1%	0%	0%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Rainbow trout[b]	1%	0%	0%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Unknown sculpin	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Blackfish	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Subtotal	**83%**	**72%**	**72%**	**60%**	**59%**	**26,853 lb**	**305 lb**	**66 lb**	**153,932 ind.**	**± 14%**
TOTAL	**95%**	**84%**	**75%**	**88%**	**71%**	**63,061 lb**	**716 lb**	**155 lb**	**162,038 ind.**	**± 9%**
SHELLFISH										
Unknown king crab	4%	1%	1%	2%	1%	9 lb	0.1 lb	0.02 lb	4 ind.	± 48%
Unknown tanner crab	2%	1%	0%	2%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Unknown clams	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Unknown shrimp	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 gal.	± 0%
TOTAL	**5%**	**2%**	**1%**	**4%**	**1%**	**9 lb**	**0.1 lb**	**0.02 lb**	**4 ind.**	**± 49%**
ALL RESOURCES[c]	**99%**	**90%**	**90%**	**89%**	**82%**	**226,074 lb**	**2,569 lb**	**554 lb**	**226,074 lb**	**± 11%**

Source: Alaska Department of Fish and Game, Division of Subsistence household surveys, 2004. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

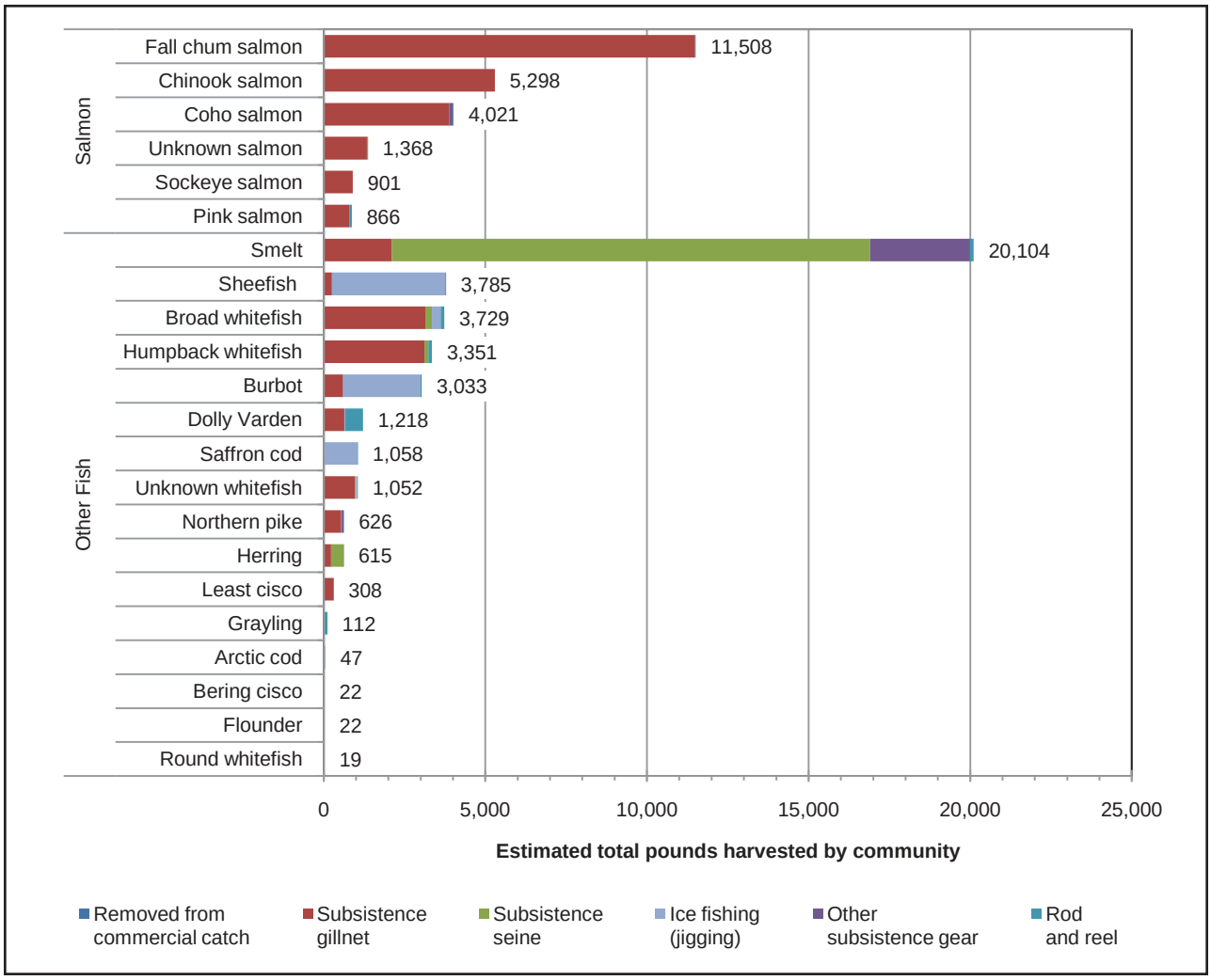


Figure 3-8.–Fish harvests by gear type, Buckland, 2003.

species combined, gillnets accounted for 35,665 lb (57% of the total fish harvest), seines contributed 15,590 lb (25%), ice fishing contributed 7,347 lb (12%), rod and reel contributed 1,191 lb (2%), and other gear accounted for 3,268 lb (5%). Virtually all salmon were taken with gillnets (99.6%), as were most whitefish and northern pike. Ice fishing (jigging) was the principal gear used for sheefish (92% were taken by jigging), burbot *L. lota* (79%), saffron cod *Eleginus gracilis*, Arctic cod *Boreogadus saida*, and Bering cisco *Coregonus laurettae* (100% of all three species were taken by jigging). Rod and reel were important for Dolly Varden *S. malma* (trout) and for Arctic grayling *Thymallus arcticus*, accounting for 46% of the Dolly Varden harvest and 78% of the grayling harvest, although rod and reel accounted for only 2% of the total fish harvest.

Table 3-2 summarizes the uses and harvests of land and marine mammals. Land mammals contributed more subsistence food than any other resource category, 100,433 lb or 44% of the total community harvest. Marine mammals contributed about half as much, 50,041 lb, or 22% of the community total.

Table 3-2. – Estimated use and harvest of land and marine mammals, Buckland, 2003

	Percentage of households					Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Receiving	Giving away	Total for community	Mean per household	Mean per person		
LAND MAMMALS										
Large Land Mammals										
Caribou	86%	61%	58%	54%	48%	86,660 lb	984.8 lb	212.4 lb	637 ind.	± 8%
Moose	43%	17%	13%	30%	22%	9,127 lb	103.7 lb	22.4 lb	17 ind.	± 17%
Muskox	13%	8%	7%	11%	8%	3,772 lb	42.9 lb	9.2 lb	6 ind.	± 19%
Brown bear	1%	1%	1%	0%	1%	91 lb	1.0 lb	0.2 lb	1 ind.	± 49%
Black bear	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Dall sheep	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Subtotal	**90%**	**63%**	**60%**	**22%**	**18%**	**99,650 lb**	**1,132 lb**	**244 lb**	**662 ind.**	**± 5%**
Small Land Mammals										
Beaver	13%	14%	11%	1%	8%	424 lb	4.8 lb	1.0 lb	36 ind.	± 23%
Snowshoe hare	10%	10%	7%	0%	7%	208 lb	2.4 lb	0.5 lb	59 ind.	± 29%
Arctic hare	6%	5%	4%	1%	5%	100 lb	1.1 lb	0.2 lb	16 ind.	± 39%
Porcupine	4%	4%	4%	0%	0%	51 lb	0.6 lb	0.1 lb	7 ind.	± 29%
Wolf	16%	16%	13%	4%	6%	*not usually eaten*			50 ind.	± 22%
Wolverine	10%	13%	8%	1%	4%	*not usually eaten*			16 ind.	± 25%
Land otter	4%	4%	4%	0%	2%	*not usually eaten*			8 ind.	± 32%
Lynx	4%	5%	4%	0%	1%	*not usually eaten*			6 ind.	± 27%
Red fox	2%	2%	2%	1%	1%	*not usually eaten*			5 ind.	± 39%
Muskrat[b]	2%	2%	2%	0%	1%	*not usually eaten*			5 ind.	± 61%
Mink	1%	1%	1%	0%	1%	*not usually eaten*			1 ind.	± 49%
Arctic fox	0%	0%	0%	0%	0%	*not usually eaten*			0 ind.	± 0%
Marmot	0%	0%	0%	0%	0%	*not usually eaten*			0 ind.	± 0%
Arctic ground squirrel	0%	0%	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Subtotal	**33%**	**33%**	**22%**	**5%**	**16%**	**783 lb**	**9 lb**	**2 lb**	**175 ind.**	**± 25%**
TOTAL	**94%**	**75%**	**69%**	**26%**	**31%**	**100,433 lb**	**1,141 lb**	**246 lb**	**873 ind.**	**± 15%**
MARINE MAMMALS										
Bearded seal (adult)	31%	28%	19%	16%	20%	21,820 lb	248.0 lb	53.5 lb	52 ind.	± 12%
Bearded seal (young)	34%	29%	28%	10%	18%	10,450 lb	118.7 lb	25.6 lb	59 ind.	± 10%
Spotted seal	33%	30%	28%	7%	17%	8,624 lb	98.0 lb	21.1 lb	88 ind.	± 11%
Ringed seal	20%	19%	16%	6%	11%	3,688 lb	41.9 lb	9.0 lb	50 ind.	± 14%
Unknown seal	10%	8%	7%	4%	6%	3,465 lb	39.4 lb	8.5 lb	40 ind.	± 25%
Walrus	4%	1%	1%	2%	1%	816 lb	9.3 lb	2.0 lb	1 ind.	± 49%
Polar bear	1%	1%	1%	0%	1%	789 lb	9.0 lb	1.9 lb	2 ind.	± 47%
Ribbon seal	1%	5%	1%	0%	1%	390 lb	4.4 lb	1.0 lb	4 ind.	± 48%
Seal oil (unk. seal)	42%	0%	0%	41%	8%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Bowhead whale	20%	4%	0%	20%	8%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Beluga whale	19%	20%	0%	19%	7%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Gray whale	1%	0%	0%	1%	1%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Minke whale[b]	1%	0%	0%	1%	1%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
TOTAL	**80%**	**35%**	**37%**	**64%**	**18%**	**50,041 lb**	**569 lb**	**123 lb**	**297 ind.**	**± 9%**
ALL RESOURCES[c]	**99%**	**90%**	**90%**	**89%**	**82%**	**226,074 lb**	**2,569 lb**	**554 lb**	**226,074 lb**	**± 11%**

Source: Alaska Department of Fish and Game, Division of Subsistence household surveys, 2004. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

Two mammal species together contributed 52% of the community total harvest—from land, caribou, and from the ocean, bearded seal.

In 2003, caribou contributed more than any other single species to the community total, 86,660 lb (±8%), or about 637 individual caribou, a little more than 7 caribou per household. Caribou accounted for 38% of all resources and 86% of all land mammals. In 2003, moose populations in the Buckland area were low. In some years, moose hunting had been closed by emergency order. These factors may have contributed to the relatively low estimated harvest of moose of 17 individual moose weighing a total estimated 9,127 lb (±17%). Six muskoxen were taken in a Tier II hunt. Several households in Buckland actively sought furbearers; although only 16% of households attempted to harvest wolf and 13% attempted to harvest wolverine, an estimated 50 wolves (±22%) and 16 wolverines (±25%) were taken in 2003. An estimated 119 total beaver, snowshoe hare, Arctic hare, and porcupine were taken for food, generating about 783 lb of food.

For marine mammals, the majority of the harvest was composed of bearded seals. Because of substantial size differences, respondents were asked to report adult and juvenile seals separately to allow for more accurate individual-to-pound conversions. Juveniles typically were taken when feeding in open water near shore and in the lower reaches of the Buckland River in summer and fall. Adults usually were taken on fast ice in spring and from floating ice during break-up. An estimated 111 bearded seals were taken in 2003, accounting for 32,269 lb, 64% of the marine mammal harvest and 14% of the total subsistence harvest. About two thirds, 21,820 lb (±12%), were adults; about one third, 10,450 lb (±10%), were juveniles. An estimated 182 smaller seals – spotted seal *Phoca larga* Pallus, ringed seal *Pusa hispida* Schreber, ribbon seal *Histriophoca fasciata* Zimmermann, and unknown seal –accounted for 16,167 lbs; 1 walrus *Odobenus rosmarus* and 2 polar bears *Ursus maritimus* Phipps were also reported (Table 3-2).

Traditionally, beluga whale (white whale) were a centerpiece of the *Kaŋiġmiut* season round; however, no beluga were harvested in 2003 despite 20% of Buckland households attempting to harvest beluga. Nineteen percent of Buckland households used beluga, received from households in other communities, or, in the case of 7% of households, redistributed within Buckland. Beluga harvest failures are a long-standing problem for Buckland, dating back to the 1920s when the Lomen Brothers took over the traditional site at Elephant Point, displacing *Kaŋiġmiut* with their reindeer handling and processing structures and displacing belugas with their barge traffic (Lucier and VanStone 1991). Although the reindeer industry collapsed in the 1930s, personal boat traffic increased, boat motors grew larger, aircraft traffic increased, and coastal communities' noise levels increased throughout the 20th century. Communal beluga drives with skin boats and kayaks were replaced by more competitive individual hunts with outboard powered skiffs. Many residents and scholars believe that increases in disturbances

Table 3-3. – Estimated use and harvests of birds, Buckland, 2003

	Percentage of households					Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Receiving	Giving away	Total for community	Mean per household	Mean per person		
BIRDS										
Migratory Birds										
White-fronted geese	20%	18%	17%	8%	11%	998 lb	11.3 lb	2.4 lb	235 ind.	± 22%
Canada geese	45%	43%	35%	17%	29%	925 lb	10.5 lb	2.3 lb	270 ind.	± 11%
Northern pintail	18%	19%	16%	5%	11%	495 lb	5.6 lb	1.2 lb	317 ind.	± 26%
Snow geese	8%	8%	7%	1%	4%	199 lb	2.3 lb	0.5 lb	50 ind.	± 32%
Mallard	25%	23%	19%	7%	16%	196 lb	2.2 lb	0.5 lb	101 ind.	± 14%
Emperor geese	5%	6%	5%	0%	4%	187 lb	2.1 lb	0.5 lb	40 ind.	± 29%
Common eider	6%	8%	6%	0%	4%	154 lb	1.8 lb	0.4 lb	37 ind.	± 25%
American wigeon	5%	7%	5%	1%	2%	86 lb	1.0 lb	0.2 lb	66 ind.	± 39%
Tundra swan	2%	2%	2%	0%	2%	71 lb	0.8 lb	0.2 lb	6 ind.	± 40%
Sandhill crane	5%	6%	4%	0%	4%	50 lb	0.6 lb	0.1 lb	7 ind.	± 31%
Brant	7%	6%	6%	1%	5%	39 lb	0.4 lb	0.1 lb	17 ind.	± 26%
Scoter	7%	8%	6%	1%	4%	38 lb	0.4 lb	0.1 lb	22 ind.	± 27%
Green winged teal	2%	5%	2%	0%	1%	25 lb	0.3 lb	0.1 lb	48 ind.	± 34%
Long-tailed duck	5%	6%	4%	1%	2%	13 lb	0.1 lb	0.03 lb	10 ind.	± 28%
Northern shoveler	2%	6%	2%	0%	1%	10 lb	0.1 lb	0.03 lb	10 ind.	± 35%
Scaup	2%	4%	1%	0%	0%	4 lb	0.04 lb	0.01 lb	2 ind.	± 47%
Harlequin	1%	2%	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Merganser	0%	1%	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Cormorant	0%	0%	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Guillemot	0%	0%	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Gull	7%	10%	0%	5%	6%	0 lb	0 lb	0 lb	0 ind.	± 0%
Loon	0%	2%	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Murre	5%	5%	0%	4%	4%	0 lb	0 lb	0 lb	0 ind.	± 0%
Subtotal	**55%**	**51%**	**42%**	**28%**	**36%**	**3,489 lb**	**40 lb**	**9 lb**	**1,238 ind.**	**± 19%**
Resident Birds										
Willow ptarmigan	35%	33%	30%	10%	23%	403 lb	4.6 lb	1.0 lb	403 ind.	± 12%
Spruce grouse	2%	2%	2%	0%	2%	37 lb	0 lb	0 lb	37 ind.	± 41%
Rock ptarmigan	1%	1%	1%	0%	1%	11 lb	0 lb	0 lb	11 ind.	± 47%
Snowy owl	0%	0%	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Subtotal	**36%**	**34%**	**31%**	**10%**	**24%**	**451 lb**	**5 lb**	**1 lb**	**451 ind.**	**± 13%**
TOTAL	**60%**	**55%**	**49%**	**31%**	**43%**	**3,939 lb**	**45 lb**	**10 lb**	**1,689 ind.**	**± 17%**
ALL RESOURCES[c]	**99%**	**90%**	**90%**	**89%**	**82%**	**226,074 lb**	**2,569 lb**	**554 lb**	**226,074 lb**	**± 11%**

Source : Alaska Department of Fish and Game, Division of Subsistence household surveys, 2004. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

and decreases in hunter cooperation discouraged beluga from entering Escholtz Bay (Hazard 1988, Lucier and VanStone 1995, Morseth 1997).

Birds and eggs, although not harvested in large quantities, provided a welcome diversity in the subsistence diet. Sixty percent of surveyed Buckland households reported using birds, including migratory birds like white-fronted geese *Anser albifrons* and resident birds like willow ptarmigan

Table 3-4. – Estimated use and harvests of eggs, Buckland, 2003

	Percentage of households					Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Receiving	Giving away	Total for community	Mean per household	Mean per person		
EGGS										
Geese eggs	19%	18%	18%	8%	10%	684 lb	8 lb	2 lb	2,280 ind.	± 23%
Unknown eggs	17%	17%	17%	5%	11%	556 lb	6.3 lb	1.4 lb	3,704 ind.	± 23%
Murre eggs	12%	12%	11%	5%	11%	214 lb	2.4 lb	0.5 lb	1,190 ind.	± 74%
Puffin eggs	14%	12%	7%	6%	10%	132 lb	1.5 lb	0.3 lb	441 ind.	± 85%
Gull eggs	27%	25%	23%	12%	14%	107 lb	1.2 lb	0.3 lb	355 ind.	± 31%
Duck eggs	11%	10%	8%	2%	6%	83 lb	0.9 lb	0.2 lb	556 ind.	± 31%
Canada geese eggs	16%	16%	16%	8%	10%	57 lb	0.6 lb	0.1 lb	228 ind.	± 84%
Tundra swan eggs	2%	2%	2%	1%	0%	9 lb	0.1 lb	0.0 lb	14 ind.	± 259%
Loon eggs	4%	4%	4%	1%	1%	1 lb	0.0 lb	0.003 lb	6 ind.	± 132%
Sandhill crane eggs	4%	4%	4%	4%	2%	1 lb	0.02 lb	0.003 lb	4 ind.	± 62%
White-frnt. geese eggs	4%	4%	4%	4%	4%	1 lb	0.01 lb	0.002 lb	3 ind.	± 0%
Tundra swan eggs	1%	1%	1%	1%	1%	1 lb	0.01 lb	0.002 lb	1 ind.	± 0%
Northern pintail eggs	5%	5%	5%	4%	4%	1 lb	0.01 lb	0.002 lb	4 ind.	± 0%
Cormorant eggs	1%	1%	1%	0%	0%	1 lb	0.01 lb	0.002 lb	4 ind.	± 0%
Mallard eggs	1%	1%	1%	0%	0%	0.2 lb	0.002 lb	0.0004 lb	1 ind.	± 0%
Northern shoveler eggs	1%	1%	1%	0%	0%	0.2 lb	0.002 lb	0.0004 lb	1 ind.	± 0%
TOTAL	**55%**	**53%**	**51%**	**30%**	**35%**	**1,847 lb**	**21 lb**	**5 lb**	**8,793 ind.**	**± 14%**
BIRDS & EGGS	**69%**	**65%**	**63%**	**43%**	**53%**	**5,786 lb**	**66 lb**	**14 lb**	**10,482 ind.**	**± 2%**
ALL RESOURCES[c]	**99%**	**90%**	**90%**	**89%**	**82%**	**226,074 lb**	**2,569 lb**	**554 lb**	**226,074 lb**	**± 11%**

Source: Alaska Department of Fish and Game, Division of Subsistence household surveys, 2004. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

Lagopus lagopus. In 2003, Buckland hunters took an estimated 613 geese, including white-fronted geese, Canada geese *Branta canadensis*, snow geese *Chen caerulescens*, emperor geese *Chen canagica*, and brant *Branta bernicla*, weighing an estimated 2,347 lb total (Table 3-3). Geese accounted for 60% of the total weight of the bird harvest. An estimated 601 ducks, mostly northern pintails *Anus acuta* and mallards *Anas platyrhynchos* Linnaeus, accounted for an estimated 1,011 lb. In some years, according to one respondent, brant were taken in large numbers by Buckland hunters, but not in 2003, when an estimated 17 brant were taken. Willow ptarmigan accounted for 89% of the resident bird harvest, with a harvest of an estimated 403 individuals weighing 403 lb (±12%).

Buckland has good access to eggs, both in the river deltas around Escholtz Bay and in the seabird colonies on the Choris Peninsula and Chamisso Island. This access was reflected in the diversity of eggs harvested (at least 16 different species are represented), in the percentage of households using eggs, 55%, in the percentage of households harvesting eggs, 51%, and in the estimated total harvest, 8,793 individual eggs, or almost 2 dozen wild eggs per person in 2003 (Table 3-4). Geese provided

Table 3-5. – Estimated use and harvest of vegetation, Buckland, 2003

	Percentage of households					Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Receiving	Giving away	Total for community	Mean per household	Mean per person		
VEGETATION										
Berries	92%	81%	81%	31%	40%	6,478 lb	74 lb	16 lb	997 gal.	± 7%
Roots	22%	19%	19%	4%	12%	166 lb	1.9 lb	0.4 lb	42 gal.	± 13%
Plants/greens/mushrooms	25%	24%	24%	5%	8%	86 lb	1.0 lb	0.2 lb	86 gal.	± 15%
Fireweed[b]	2%	2%	2%	0%	1%	13 lb	0.2 lb	0.03 lb	3 gal.	± 282%
Firewood	7%	7%	7%	0%	5%	*not usually eaten*			25 crds.	± 22%
TOTAL	**93%**	**82%**	**81%**	**33%**	**46%**	**6,744 lb**	**76.6 lb**	**16.5 lb**	**1,128 gal.**	**± 7%**
ALL RESOURCES[c]	**99%**	**90%**	**90%**	**89%**	**82%**	**226,074 lb**	**2,569 lb**	**554 lb**	**226,074 lb**	**± 11%**

Source : Alaska Department of Fish and Game, Division of Subsistence household surveys, 2004. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

741 lb, about a third of the total egg harvest; seabirds such as murres, gulls, and puffins provided about 453 lb; and ducks, cranes, swans, and unknown birds provided the remainder.

The final category of subsistence resources on the survey was vegetation. In Buckland, as in previously surveyed communities, the standard survey asked for harvests of berries, roots, plants/greens/ mushrooms, and firewood. The survey did not ask about individual species such as blueberries, although (like fireweed in Table 3-5) individual species were sometimes reported by respondents. Most of the vegetation harvested in Buckland in 2003 was berries, an estimated 997 gal weighing an estimated total of 6,478 lb (±7%). Ninety-two percent of surveyed households reported using berries and 81% reported harvesting berries. More households reported using and harvesting berries more than any other subsistence resource, although the use and harvest percentages might have been somewhat lower had the survey asked about individual species. Berries accounted for 96% of the edible plant harvest, roots (primarily Eskimo potato) contributed an estimated 166 lb (±12%), and greens contributed 86 lb (±15%). Buckland is located outside the tree line on the Buckland River, which may explain why only 6 households (7%) reported using and harvesting firewood. The harvest for those households was substantial, though—about 24 cords, for an expanded community estimate of 25 cords.

Harvest Assessments

The survey asked respondents to assess their own households' harvests in two ways: (1) whether they got more, less, or about the same amount of six resource categories in 2003 as in past years; and (2) whether they got "enough" of each of the six resource categories. If harvests changed or were

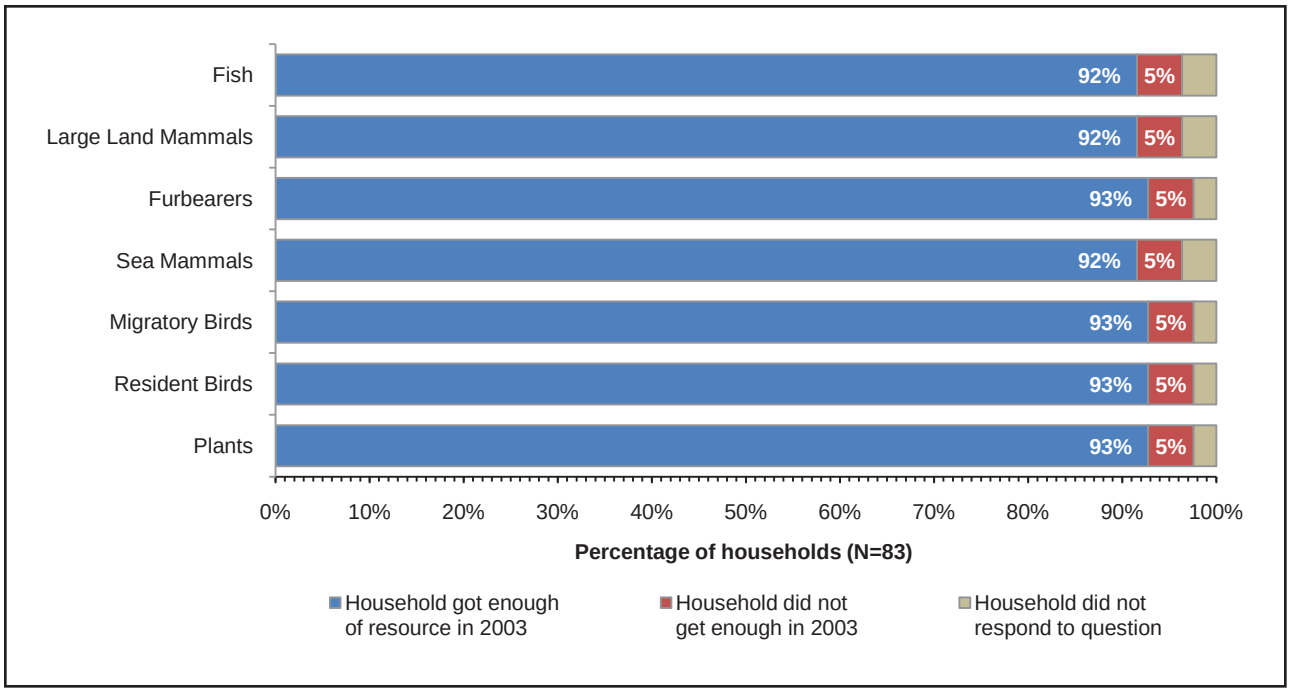


Figure 3-9.–Harvest assessments, Buckland, 2003. Responses to the question: "Last year, did your household get enough (resource) for subsistence?"

insufficient, respondents were asked why this occurred. This section discusses responses to those questions.

A high proportion of Buckland households, from 92% to 93% in every category, reported that they got enough for subsistence (Figure 3-9). This was an unusually high proportion of positive responses for this question (see the responses to similar questions asked in Kiana, summarized in Figures 4-9 and 4-10 in this report). Also typical were the responses from Kivalina (69% to 83% got enough) and Noatak (53% to 85% got enough) (Magdanz et al. 2010). While most households reported getting "enough," from 10% to 23% of households reported that they had harvested less in 2003 than in the past (Figure 3-10). The highest proportion of "less" responses was for large land mammals, which may have reflected the limited availability of moose in 2003. From 0% to 17% said they harvested "more" in 2003. By far the most common response, though, was "the same" harvest in 2003 as in the past, by 48% to 67% of households.

Abundance was the most frequently named reasons for harvesting less (by 18 households, 22%), most commonly for marine mammals (by 9 households, 11%); respondents commented "no beluga last year," "no beluga came in our bay," etc. Five households (6%) noted a low abundance of berries in 2003. It was a "low year for cranberries and blackberries," said one. Fourteen households (27%) said they got less because they made no attempt for any resources in the category. Weather was a factor for 12 households (14%) that reported harvesting less, mostly of fish and plants. Equipment problems

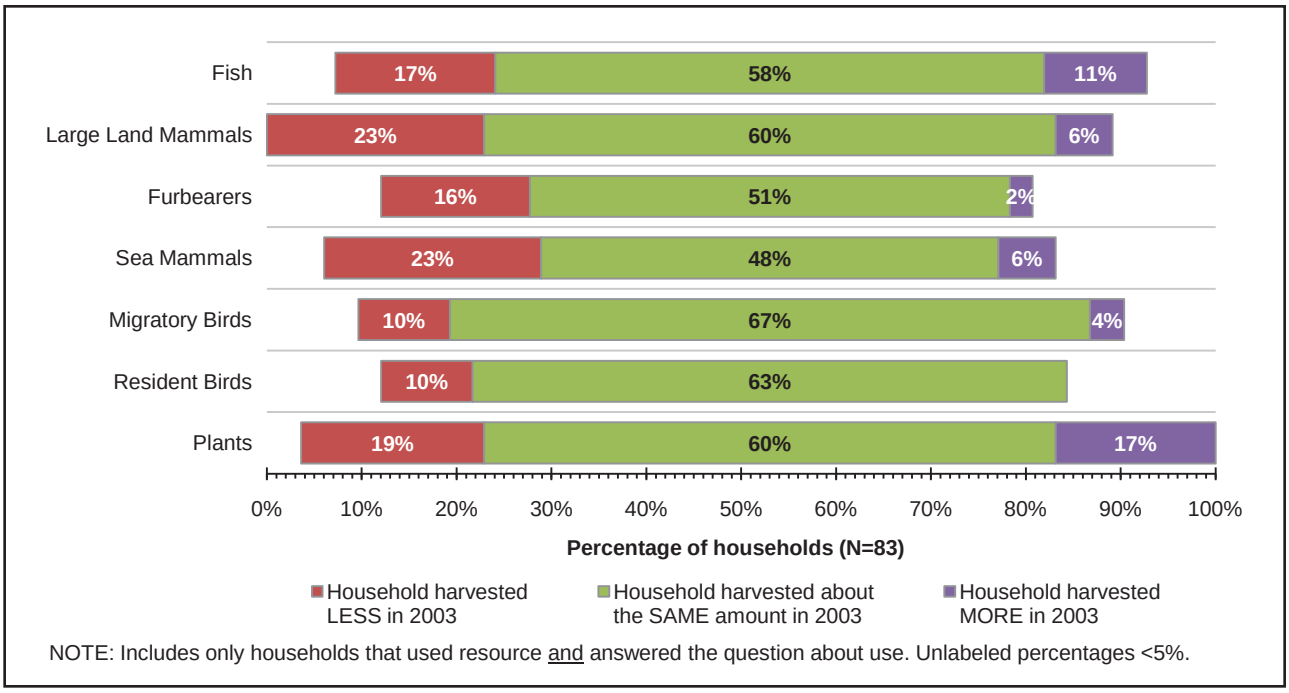


Figure 3-10.–Harvest assessments, Buckland, 2003. Responses to the question: "Last year, did your household harvest less, more, or about the same amount of [resource] as in the past?"

were listed by 9 households (10%), and lack of time by 6 households (7%). Two households (2%) named competition as an issue for large land mammals. "Airplanes and sport hunters near the village scared caribou," said one.

Households who reported harvesting "more" than in the past (20 households, or 24%) almost always credited the difference to an increase in effort. Typical responses were "Going out more than usual," "starting to hunt more," "went out more than last year," and "went to Kotzebue to pick salmonberries." Only 4 households (5%) cited abundance as a reason for harvesting more—1 household for caribou, 2 households for fish, and 1 household for berries. New equipment and increasing in sharing and cooperation each were cited by 3 households (4%).

Jobs and Income

Respondents were asked about both earned income (jobs held and wages earned by all household members 16 years old and older) and unearned income (Alaska Permanent Fund Dividend, social security, public assistance, etc). For 2003, Buckland households earned or received an estimated $3.6 million, of which $2.5 million (67%) was from wage employment and $1.2 million (33%) was from other sources (Table 3-6). The average household income was $41,389; the median household income was $37,980. For comparisons, the American Community Survey ACS reported a median household

Table 3-6. – Estimated earned and other income, Buckland, 2003

Income source	Estimated number		Estimated income[a]		
	People	Households	Total for community	Mean per household[b]	Percentage of total
EARNED INCOME					
Local government	64	54	$1,236,625	$22,870	34%
Services	25	22	$435,990	$19,582	12%
Mining	11	10	$317,481	$33,271	9%
Transportation communication & utilities	21	17	$207,797	$12,249	6%
Construction	11	10	$188,686	$19,774	5%
Federal government	3	3	*	*	*
State government	4	4	*	*	*
Earned Income Subtotal	**114**	**74**	**$2,457,007**	**$27,921**	**67%**
OTHER INCOME					
Alaska Permanent Fund dividend		83	$404,901	$4,896	11%
Unemployment		28	$160,152	$5,810	4%
Food stamps		28	$148,750	$5,396	4%
Social Security		18	$94,437	$5,239	3%
Native corporation dividend		73	$65,112	$890	2%
Pension/retirement		10	$57,317	$6,007	2%
Energy assistance		31	$50,929	$1,656	1%
Supplemental Security income		6	$35,336	$5,555	1%
Aid to families with dependent children		8	$28,300	$3,337	1%
Longevity bonus		10	$21,952	$2,301	1%
Adult public assistance		5	$14,055	$2,651	0.4%
Child support		7	$9,850	$1,327	0.3%
Source not specified		6	$94,118	$14,795	3%
Other Income Subtotal		**88**	**$1,185,205**	**$13,468**	**33%**
TOTAL COMMUNITY INCOME			**$3,642,212**	**$41,389**	**100%**

Source ADF&G Division of Subsistence household surveys, 2004.

[a] For confidentiality, income amounts are not listed for sources reported by fewer than 4 persons or households.

[b] Means are based on all households in the community, not on the number of households in the income category.

income of $44,688 (±$7,484) for the years 2005-2009. The ACS estimated a per capita income of $10,478 (±$1,933); this study estimated $8,921.

Sixteen percent of Buckland households reported no employment. Unemployed households had an average income of $18,638, compared with employed households' average income of $45,613. Need-based transfer payments, such as food stamps and adult public assistance, accounted for $191,104, or 5%, of all income.

The top 10 sources of earned and other income appear in Figure 3-11. The largest single source of income in Buckland was local government, employing 64 people in 54 households and accounting for $1.2 million (34%) of all community income. The largest portion of this was from the Northwest Arctic Borough School District; education accounted for 38% of earned income and 25% of all income. This category included 19 certified teachers, who comprised 5% of the community population but

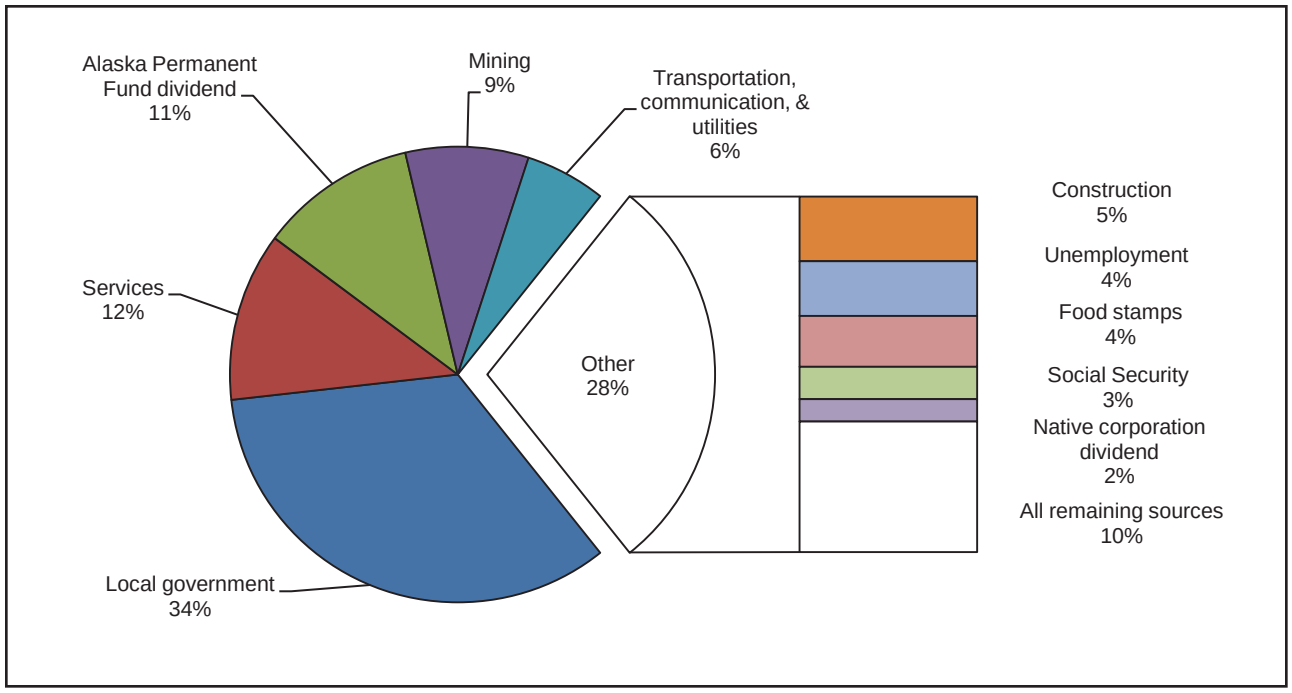


Figure 3-11.–Top 10 income sources ranked by estimated amount, Buckland, 2003.

accounted for 23% of the earned income in Buckland. Teacher households not only had high earned incomes, but also tended to be small households of 1 or 2 members each. Households of this size accounted for 10% of Buckland's population, but 30% of Buckland's income. The average income per person for small households (1-2 members) was $26,731; the average income per person for all other households was $6,915.

Service industries—primarily health care services—were the second largest source of income, employing 25 people in 22 households and providing $435,990 (12%) of the total. The largest source of unearned income was the Alaska permanent fund, providing $404,901 (11%) of all income.

Food Security

Respondents were asked a short series of questions intended to assess their household's food security, that is, "access by all people at all times to enough food for an active, healthy life" (Nord et al. 2008:2). The food security questions were modeled on questions developed by the U.S. Department of Agriculture (USDA) and modified by ADF&G to account for cultural and economic differences in rural Alaska's subsistence-based communities. Buckland was the first test of ADF&G's modified food security module. Because the Buckland survey did not include all 10 USDA core questions, it could not be scored exactly by the USDA protocol.

Core questions and Buckland's responses are summarized in Figure 3-12. Based on their responses

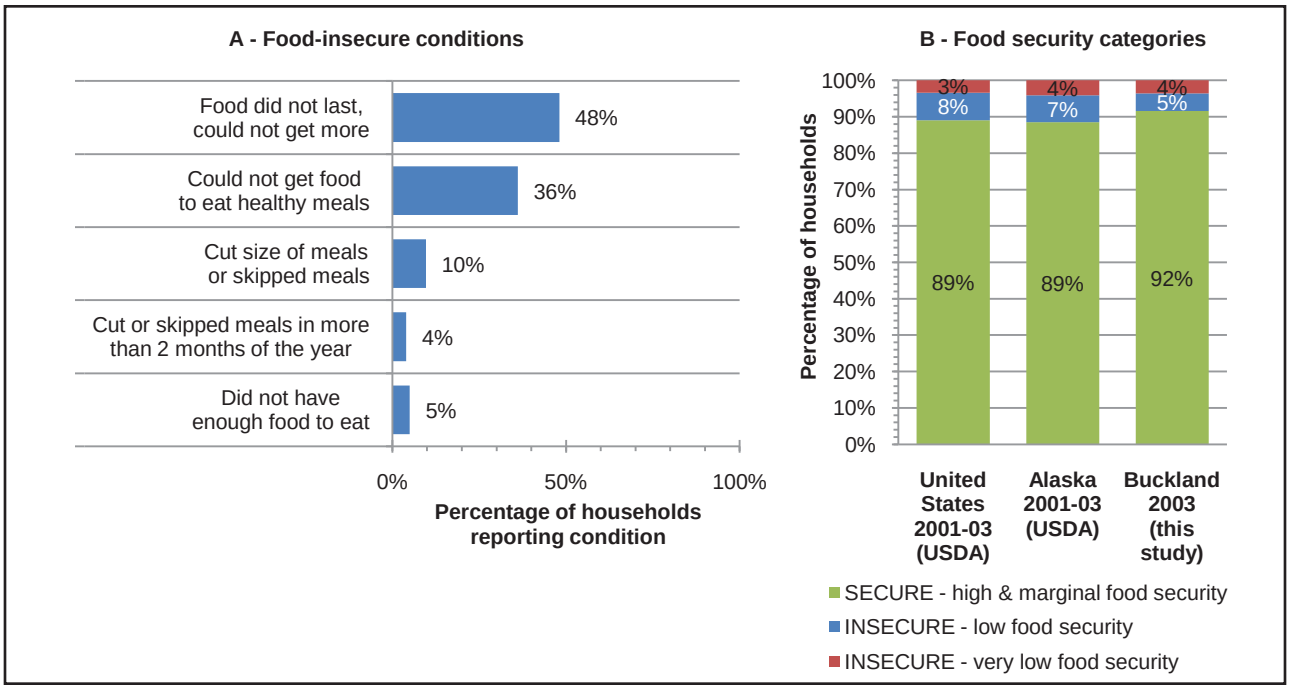


Figure 3-12.–Food security results, Buckland, 2003.

to these questions, households were categorized as having *high*, *marginal*, *low,* or *very low* food security following a USDA protocol (Bickel et al. 2000). In Buckland in 2003, 64% of the surveyed households had high food security and 28% had marginal food security; USDA considers households in both categories to be "food secure." Of the remaining households, 4.8% had low food security and 3.6% had very low food security. Had the complete USDA protocol been used, it is possible that twice as many households, 16% instead of 8%, would have been categorized as food insecure. Even so, levels of food security in Buckland were comparable to those in the nation as a whole and in Alaska (Figure 3-12). In the United States and in Alaska in 2001–2003, 89% of households were food secure. In Buckland in 2003, from 84% to 92% of households were food secure.

Social Networks

The survey asked households who harvested and processed the subsistence foods used by their household in 2003, regardless of whether that person lived in the respondent's household, in Buckland, or elsewhere. The survey also asked who made decisions for the household or provided information to the household about hunting, fishing, and financial matters. It also asked a series of non-subsistence social network questions, such as who paid the household fuel bills, bought the household's groceries, and repaired the household's equipment. The full set of social network questions can be reviewed in the Buckland survey, Appendix 1.

The 83 surveyed households in Buckland reported 4,549 sources of support, including 1,205 harvesters,

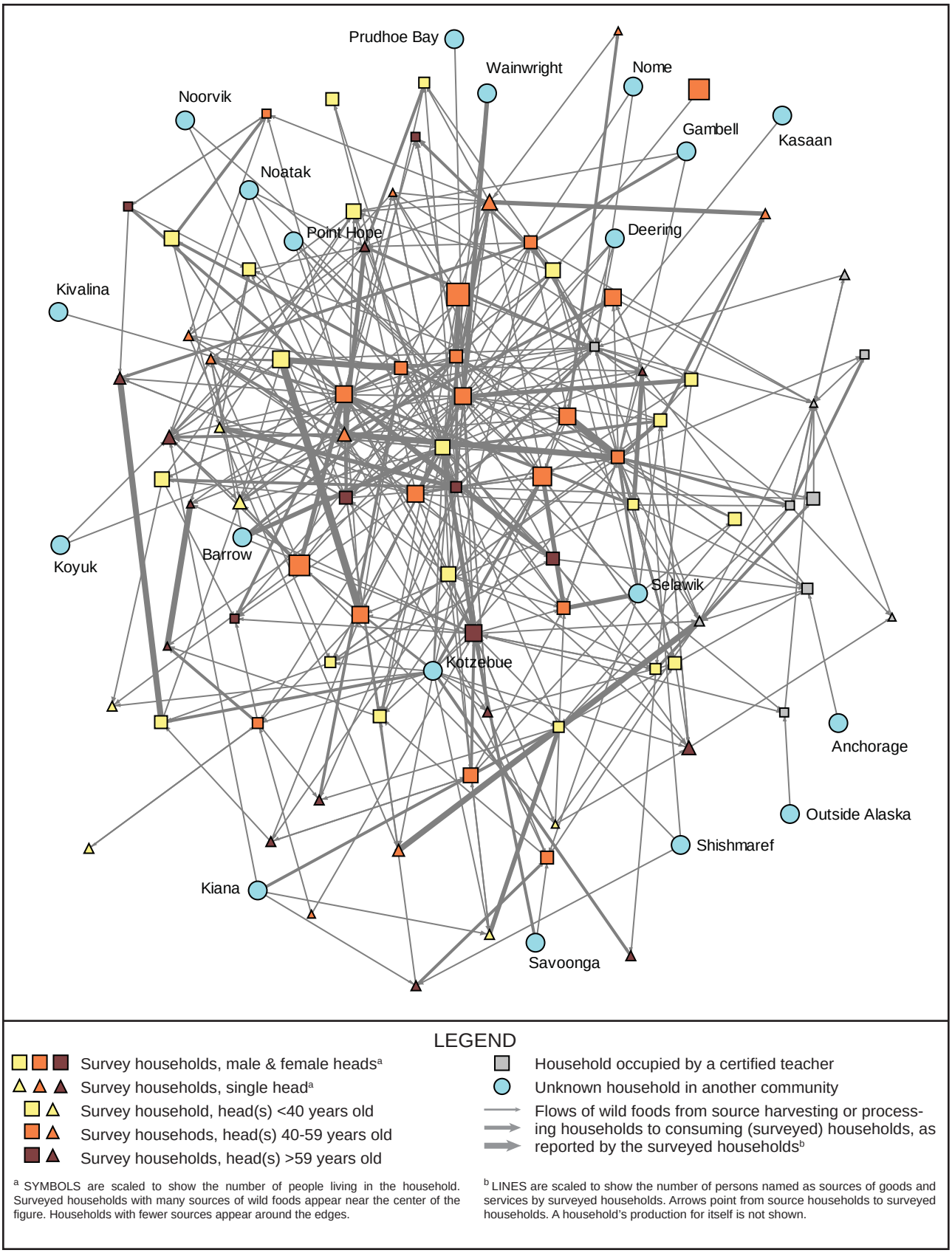


Figure 3-13.–Harvesting, processing, and distribution of country food, Buckland, 2003.

941 processors, and 299 distributors of subsistence foods. Most sources (93%) lived in Buckland, and most of the remainder lived in other Northwest Alaska communities. Kotzebue was named 42 times, including 33 times as a source of a wide variety of subsistence foods ranging from salmon to beluga whale to berries. Barrow was named 17 times, 14 of which were for beluga and bowhead whale. Selawik was named 16 times, of which 11 were for whitefish.

On average, households named 55 sources per household, of whom 34 (62%) were members of the respondent's household. The remaining sources lived in other households or communities, and these are summarized in Figure 3-13, a graph drawn in Netdraw (Borgatti et al. 2002). Households whose members received and/or provided many goods and services to other households or communities appear near the core of this graph, while households with relatively few such relationships drift to the edges. The core of the Buckland diagram is occupied by relatively large households with mature (30–59 year old) or elder (>59 year old) heads.

A notable feature of Figure 3-13 is the clustering of the teacher households (shaded grey), who appear in a peripheral group on the right side of the graph, except for an Alaska Native teacher household much nearer to the core. Except for the Alaska Native teacher household, teachers were tied to the community primarily through their own reports of receiving subsistence food from community members. Most teacher households were not named as sources by other non-teacher households in the community. The exceptions were the Alaska Native teacher household and one teacher household which frequently loaned or gave money to other households in the community (to finance a boat, for example).

Every surveyed household in the community named at least one other household as a source of support, making the community a single, large unit in which every household was reachable from every other household (i.e. a "large central component"). Household 1 might share seal with household 2, who processed salmon with household 3, and so on, until every household, including the teacher households, was connected. Figure 3-14 compares patterns of cooperation for four selected groups of relationships: 11 fish relations, 11 land mammal relations, 9 marine mammal relations, and 11 financial relations. The contrast between the subsistence relations and the financial relations is substantial. In the subsistence relationships, a majority of the households in the community cooperate in one single, large component. A minority of households (14 for fish, 9 for land mammals, and 31 for marine mammal were self sufficient. Only a few dyads and triads were observed (2 or 3 cooperating households disconnected from others). The financial network of Buckland was very different; 46 of 83 surveyed households (55%) reported no sources of financial support other than household members. Those households who did report extra-household financial sources tended to be in small isolated groups, dyads, triads, and 1 relatively small central component. Therefore, compared with the dense networks of subsistence relations, households were very weakly connected by financial relations (Figure 3-14).

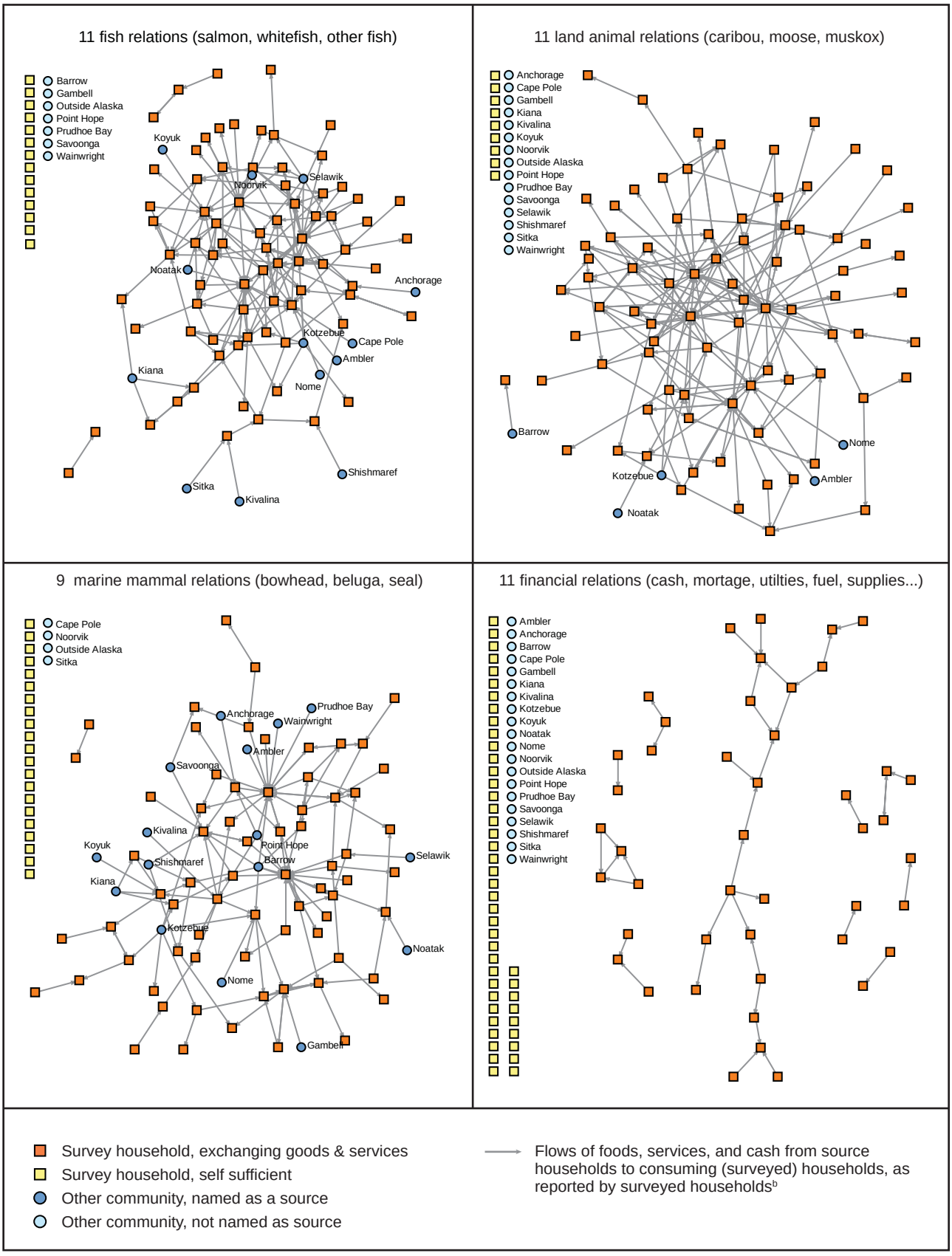


Figure 3-14.–Relationships by resource category, Buckland, 2003.

4
Comprehensive Survey Results Kiana, 2006

In February 2007, researchers surveyed 77 of 95 households (81%) in Kiana. The surveyed households reported harvesting an estimated 108,248 edible lb of subsistence foods between January and December, 2006. The average harvest per household was 1,406 lb; the average harvest per person was 348 lb. Expanding for 18 unsurveyed households, Kiana's estimated total harvest of subsistence foods in 2006 was 133,553 lb (±14%).

Figure 4-1 includes the top 10 species in the subsistence harvest, in descending order by estimated edible weight. Caribou (*tuttu*) was the top-ranking species harvested, in terms of edible weight; respondents reported taking 248 caribou for an expanded total community estimate of 306 caribou weighing approximately 41,612 lb (±13%). Chum salmon (*qalugruaq*) and whitefish (*qalupiaq*) were ranked 2nd and 3rd, contributing an estimated 27,630 lb (±20%) and 22,178 lb (±19%), respectively. The top 5 resources, caribou, chum salmon, whitefish, moose (*tinniika*) (8,629, ±13%), and sheefish (*sii*) (7,141 lb, ±15%), contributed 80% of the total community harvest. The top 10 resources contributed 122,576 lb or 92% of the total.

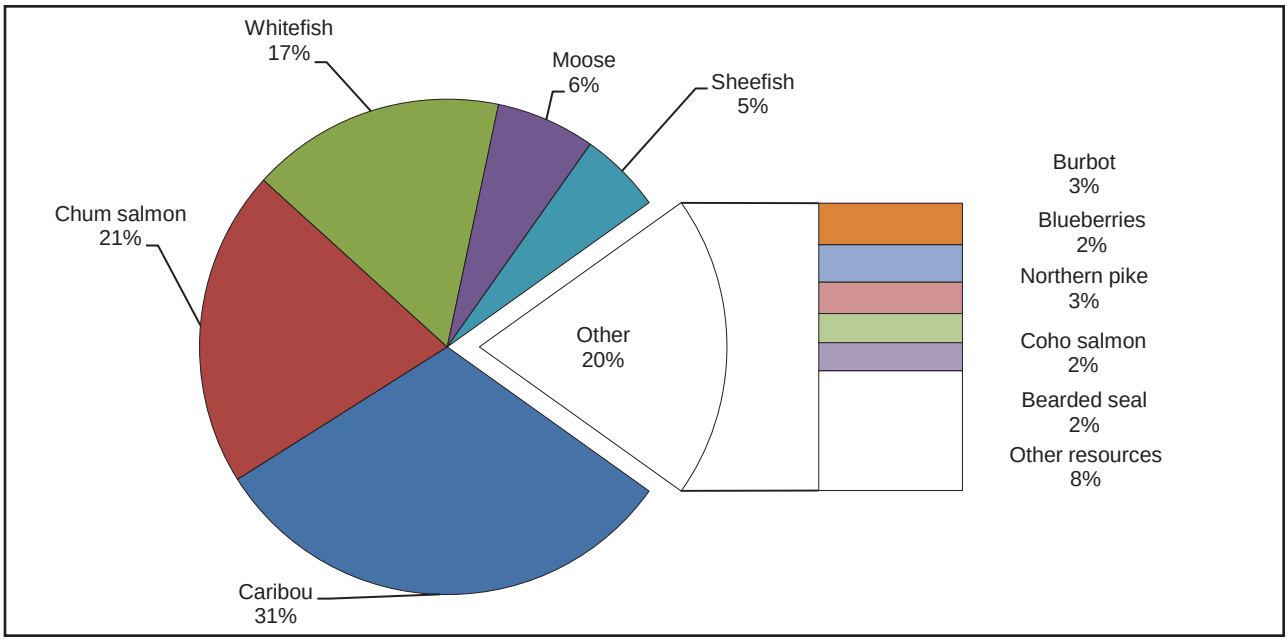


Figure 4-1.–Top 10 species harvests ranked by estimated edible weight, Kiana, 2006.

Figure 4-2.–Aerial view of Kiana, Alaska, looking southwest.

This chapter summarizes findings from the household surveys, including demographic characteristics, responses to harvest assessment questions, harvest estimates, employment and income data, and data regarding food security. Harvest numbers are expanded estimates. Results from this survey were available online in the Division of Subsistence Community Subsistence Information System.

About Kiana

Situated on a high bluff near the eastern end of the Kiana Hills at the confluence of the Squirrel and Kobuk rivers, Kiana looks out over the lower Kobuk River valley and Waring Mountains (Figure 4-2). The Kobuk River empties into Hotham Inlet (Kobuk Lake) about 40 miles southwest of Kiana; the regional center of Kotzebue is about 60 miles west by air. Kiana lies between the Kobuk River communities of Noorvik, 19 miles west southwest, and Ambler, 70 miles east. Selawik is 28 miles south, on the Selawik River.

In the 19th century, the traditional Iñupiaq society in the Kiana area was the *Akunigmiut,* also known as *Amilgaqtuyaat, Kiitaagmiit, or Atvagmiut*. *Akuniq* means "in between" two other things. "The other 'things' it was between were the *Kuuŋmiut* nation of the [Kobuk] delta and the *Kuuvaum Kaŋianiigmiut*

Figure 4-3.–Kiana area.

nation of the upper Kobuk" (Burch 1998). Early explorers did not discern these three different Kobuk River societies, which makes reconstruction of traditional societal boundaries more difficult. The *Akuniġmiut* territory may have included all the watersheds of the middle Kobuk River beginning near the 19th century settlement of *Aksik*, at the head of the Kobuk River delta, and ending at the mouth of the Redstone River above the contemporary community of Ambler. Figure 4-3 shows past winter settlements. With the exception of *Aksik* and *Qayanna*, all were located upstream of contemporary Kiana, in the vicinity of the Salmon and Hunt rivers at the approximate center of their traditional territory. These were, no doubt, productive sites for subsistence. The aptly named Salmon River supports

a large stock of fall chum salmon; the equally aptly named Hunt River lies along one of the more dependable fall migration corridors for the Western Arctic caribou herd. Burch (1998) estimated that about 550 people lived in the *Akunigmiut* territory in the 1870s; the largest communities were *Aksik* (~80 people), *Qayaana* (~112 people), *Kuugruaq* (~80–96 people), and *Tuutaksraw* (~80 people).

Archeological evidence from Onion Portage, near the eastern boundary of the *Akunigmiut* territory, provides a record of human habitation in the area going back at least 8,500 years (Anderson 1968). For the most part, tool assemblages at Onion Portage suggest both relationships with Bering and Chukchi sea cultures and long periods of isolation from those cultures. There is also evidence from 6,000 to 4,000 years B.P. of immigration of people or their technologies from central and northwestern Canada and central Alaska to this area. During the past 4,000 years, Onion Portage has been inhabited by a succession of Eskimo cultures; "many students of Arctic archeology consider them to be the direct ancestors of today's Eskimos" (Anderson 1968:36).

Beyond the reach of Russian traders in the 18th century and Yankee whalers in the 19th century, the Kobuk River was one of the last regions of Alaska explored by Euroamericans. In 1884 and 1885, John Cantwell (1887, 1889) and George Stoney (1900) led expeditions up the Kobuk River. Cantwell eventually reached Walker Lake, the headwaters of the Kobuk River, before returning to Kotzebue Sound. Stoney and his party spent the winter of 1885–1886 living in a log cabin about 10 miles below the contemporary community of Shungnak, traveling by dog team in winter with Iñupiaq companions to places as distant as Barrow.

The culture and economy of the *Kuuvaŋmiut* ("Kobuk River people") has been described by Giddings 1952, 1956, 1961), by Burch (1998), and especially by a National Park Service study (Anderson et al. 1977). In summer, *Akunigmiut* women operated fish camps along the main river, harvesting and drying salmon and whitefish. Also in summer, able-bodied *Akunigmiut* men walked north into the Baird Mountains to hunt caribou and sheep, staying there for several months before rafting back to the Kobuk River with skins for clothing and dried fat and meat. Reunited at the end of summer, families moved to caribou crossings on the Kobuk River. They waited for migrating caribou to swim the wide river, and dispatched the swimming animals from kayaks and canoes. Before freeze-up, they traveled to their winter settlement areas, where they built new semi-subterranean homes of wood and sod each year. The size and location of winter settlements varied from year to year. After freeze-up, they built fish traps, snared caribou and small game, repaired and prepared equipment for the coming summer, and participated in regional festivals featuring dances, feasts and games.

After the discovery of gold at Nome in August 1898, prospectors flooded northwest Alaska. Hundreds of men made their way up the Kobuk River where they spent the winter of 1898–1899 (e.g., Grinnell 1901). Not finding appreciable quantities of gold, most miners left the following summer. Several

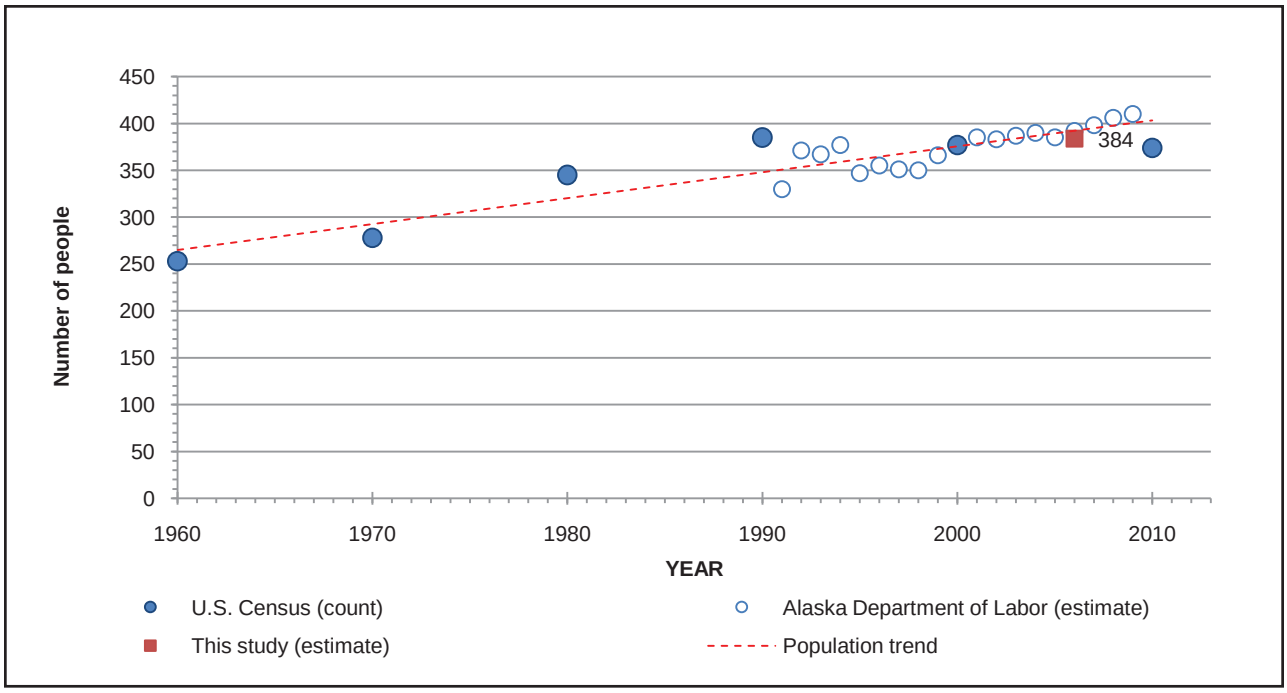


Figure 4-4.–Population history, Buckland, 1960-2010.

settled at a site across the river from the point called *Qayaana*. They built log cabins, continued to prospect and, in some cases, married into the *Akunigmiut* society. Prospecting on the Squirrel River in 1909, Andy Garbin and "Spanish Jack" discovered gold at Klery Creek (Bain 1915:590), which spurred mining activity in the Kiana area. Fueled by this new industry, Kiana prospered during the first decades of the 20th century and saw the construction of a post office, hotel, saloon, jail, and restaurant. Iñupiat were attracted to the new settlement, and the old winter settlements were gradually abandoned in favor of life in the new town. Virtually all Iñupiat continued their subsistence pursuits, but some also worked in the mines, sold food and building materials to the miners, or filed claims themselves. Gold production was sufficient to support a dredge which operated into the 1960s. Interest in gold mining in the Kiana area continues to the present day, but development has been limited.

Kiana first appears in the U.S. Census in 1920 with 98 people, and, for the next 70 years, grew steadily at about 2% a year until 1990 when the population reached 385 people. After 1990, Kiana's population growth essentially stopped. The population in 2000 was 388 people and in 2010, 374 people (Figure 4-4). At the same time, nearby communities like Selawik have continued to grow rapidly. Hamilton and Mitiguy (2009) reviewed Northwest Alaska demographies, noting that

> [S]eemingly comparable places within the same borough have taken widely divergent paths. Birth rates generally exceed death rates, although both are high. Year-to-year and place-to-place variations are dominated not by natural increase, but by differences in net migration.

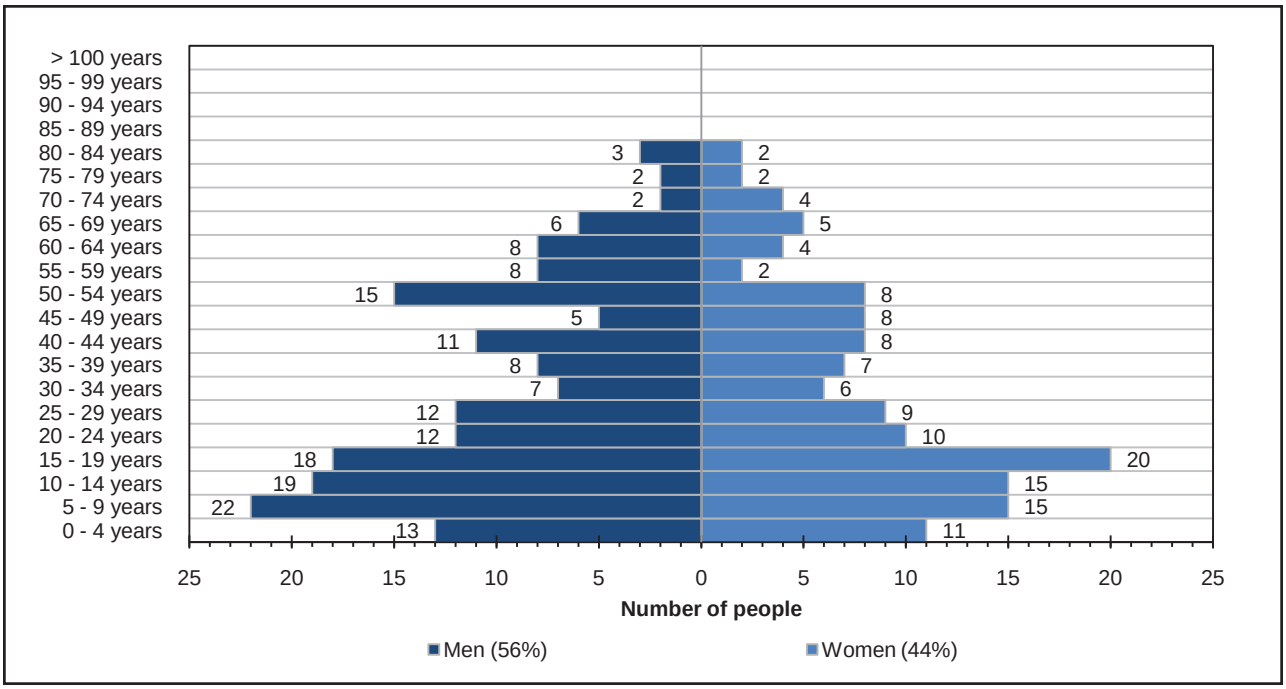


Figure 4-5.–Population profile, Kiana, 2006.

Demographics

The 77 households surveyed for 2006 included 311 people. Household sizes ranged from 1 to 11 people, with an average of 4.0 persons per household. The average age was 29.8 years; the oldest person was 83. On average, residents of Kiana had lived in the community for 23.5 years, while heads of households had lived there for 37.5 years.

Expanding for unsurveyed households, the estimated population of 384 included 215 males (56%) and 169 females (44%) (Figure 4-5); 359 (94%) were Alaska Natives. For comparison, the U.S. Census Bureau (2011) estimated a total population of 361 people, including 192 males (53%) and 169 females (47%); 336 (93%) were Alaska Natives. For 2006, the Alaska Department of Labor and Workforce Development (2008) estimated 392 people.

Figure 4-5 supports Hamilton's and Mitiguy's (2009) observations that net migration, rather than births and deaths, determined population trends. Forty-three percent of the population in 2006 was younger than 20 years old, while the 20 to 39 year old cohort comprised only 23% of the population and the 40 to 59 year old cohort comprised 21%. This suggested that young people were leaving Kiana shortly after finishing school and not returning, nor being replaced by immigrants to the community.

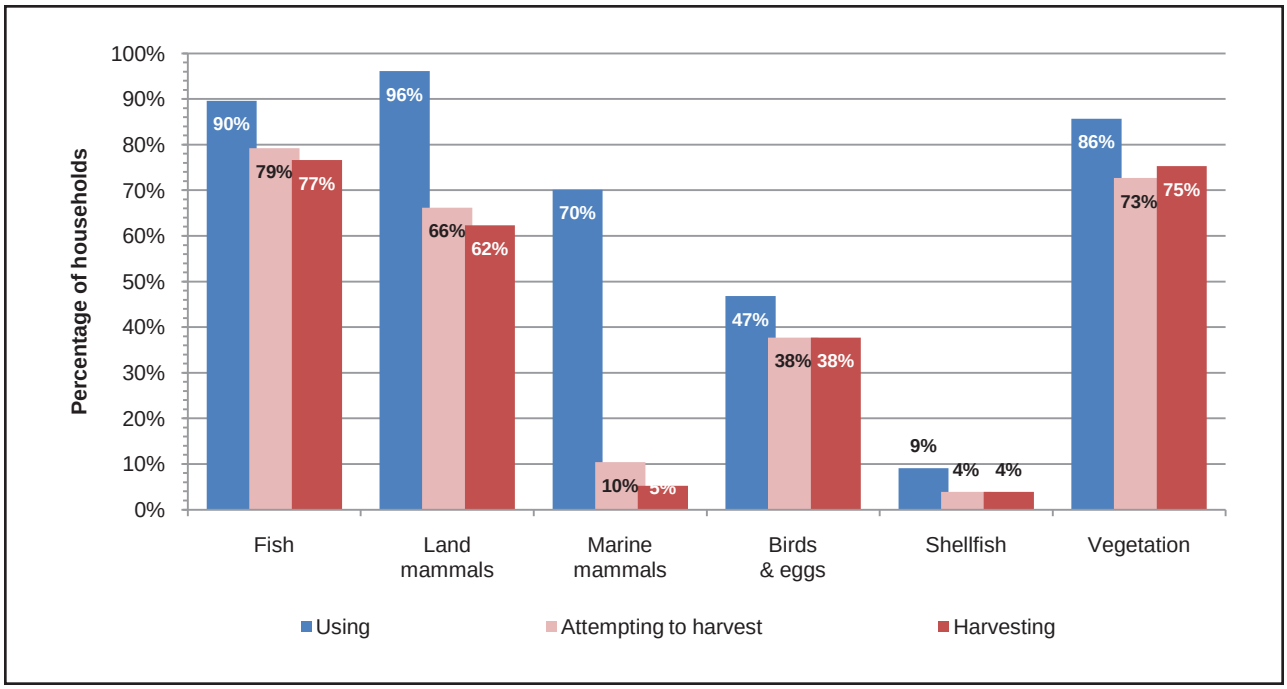


Figure 4-6.–Percentages of households using, attempting to harvest, or harvesting subsistence resources by category, Kiana, 2006.

Uses and Harvests of Subsistence Foods

The primary purpose of the household survey was to collect information about the harvest and use of edible subsistence foods. Respondents were asked whether their household used or tried to harvest each resource during the study year. If they tried to harvest a resource, they were asked how much they caught and for other details of the harvest such as gear type, sex of the animal, or month of harvest. Tables and figures in this section summarize responses to the harvest questions.

Only one surveyed household in Kiana did *not* use subsistence foods in 2006; 99% of the households used at least one kind of subsistence food, and 92% attempted to harvest and did harvest at least one kind of subsistence food. The most frequently used categories were land mammals by 96% of households, fish by 90% of households, and vegetation by 86% of households (Figure 4-6). Although Kiana as an inland community does not have ready access to marine mammals, 70% of households used marine mammals obtained through sharing and trading networks. Ten percent of Kiana households reported attempts to harvest marine mammals in 2006, and 5% were successful—a few Kiana hunters took their own boats to the coast to hunt, while others flew to join relatives living in coastal communities like Kotzebue. In every category of resources, households that attempted harvests almost always were successful in that.

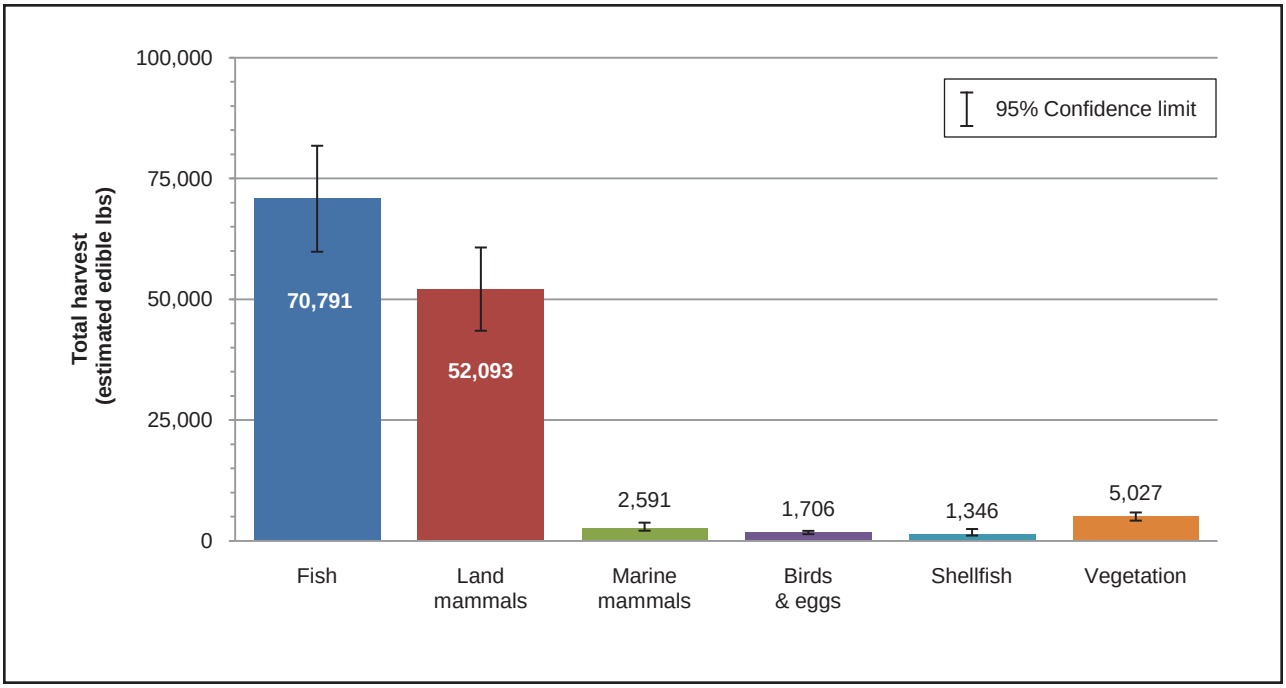


Figure 4-7.–Estimated total edible pounds harvested by resource category, Kiana, 2006.

Figure 4-7 summarizes subsistence harvests by resource category. Ninety-two percent of the total harvest came from fish and land mammals. Fish provided 70,791 lb (±15%), 53% of the total harvest. Land mammals provided 52,093 lb (±17%), 39% of the total harvest. Vegetation, mostly berries, contributed 5,027 (±17%), about 4% of the total harvest, while marine mammals, shellfish, and birds and eggs combined contributed 5,643 lb, about 4% of the total harvest.

The fish harvest was nearly equally divided among salmon, 32,524 lb (±21%), and other fish, 38,268 (±17%), with shellfish contributing an additional 1,347 lb (±82%). Most salmon (85%) were taken with gill nets and seines (subsistence nets); 13% were taken with rods and reels (Figure 4-8). At least 85% of the salmon harvest was fall chum, 27,630 lb (±17%), in contrast to 10 years of subsistence salmon surveys from 1994 through 2004, when 98% of the salmon reported by residents of Kiana were chum salmon. Also, similar proportions of chum were reported by other communities, and 99.9% of the salmon taken from the same stocks in a commercial fishery in Kotzebue were chum (Soong et al. 2008:41). The uncharacteristically high reports of coho, sockeye, and Chinook salmon in 2007 were intriguing. There are two explanations for this shift in harvest composition. First, not all the salmon reported by Kiana residents were taken in northwest Alaska. One teaching couple, for example, reported taking 40 sockeye salmon from the Kenai and Kasilof rivers during the summer. Second, although surveyors in this project used species identification sheets, it is possible that some of the reported "coho" and "sockeye" were bright chum salmon. Reports of Chinook salmon were plausible, however, because

Table 4-1. – Estimated use and harvest of fish and shellfish, Kiana, 2006

	Percentage of households			Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Total for community	Mean per household	Mean per person		
FISH								
Salmon								
Fall chum salmon	73%	61%	57%	27,630 lb	290.8 lb	72.0 lb	4,605 ind.	± 20%
Coho salmon	21%	14%	16%	2,657 lb	28.0 lb	6.9 lb	511 ind.	± 63%
Sockeye salmon	10%	8%	9%	1,350 lb	14.2 lb	3.5 lb	270 ind.	± 63%
Chinook salmon	18%	4%	9%	535 lb	5.6 lb	1.4 lb	43 ind.	± 43%
Pink salmon	21%	14%	14%	189 lb	2.0 lb	0.5 lb	90 ind.	± 35%
Unknown salmon	5%	3%	1%	163 lb	1.7 lb	0.4 lb	27 ind.	± 87%
Spawning falll chum[b]	1%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Subtotal	**86%**	**66%**	**62%**	**32,524 lb**	**342 lb**	**85 lb**	**5,546 ind.**	**± 21%**
Other Fish								
Whitefish	60%	44%	42%	22,178 lb	233.5 lb	57.8 lb	10,819 ind.	± 19%
Sheefish	64%	55%	53%	7,141 lb	75.2 lb	18.6 lb	1,298 ind.	± 15%
Burbot[b]	30%	25%	27%	3,819 lb	40.2 lb	10.0 lb	909 ind.	± 27%
Northern pike	25%	21%	19%	3,444 lb	36.3 lb	9.0 lb	1,044 ind.	± 43%
Dolly Varden	35%	27%	25%	1,364 lb	14.4 lb	3.6 lb	413 ind.	± 38%
Smelt	14%	6%	5%	122 lb	1.3 lb	0.3 lb	871 ind.	± 64%
Arctic grayling	12%	9%	12%	102 lb	1.1 lb	0.3 lb	114 ind.	± 32%
Herring	6%	1%	1%	85 lb	0.9 lb	0.2 lb	475 ind.	± 87%
Least cisco[b]	1%	1%	1%	11 lb	0.1 lb	0.0 lb	15 ind.	± 87%
Saffron cod	10%	1%	1%	1 lb	0.0 lb	0.0 lb	5 ind.	± 87%
Halibut	3%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Subtotal	**79%**	**68%**	**65%**	**38,268 lb**	**403 lb**	**100 lb**	**15,963 ind.**	**± 17%**
TOTAL	**90%**	**79%**	**77%**	**70,792 lb**	**745 lb**	**184 lb**	**21,509 ind.**	**± 15%**
SHELLFISH								
Clams	4%	1%	1%	1,234 lb	13.0 lb	3.22 lb	617 ind.	± 87%
King crab	5%	3%	3%	88 lb	0.9 lb	0.2 lb	42 ind.	± 66%
Butter clams[b]	1%	1%	1%	25 lb	0.3 lb	0.1 lb	12 ind.	± 87%
TOTAL	**9%**	**4%**	**4%**	**1,347 lb**	**14 lb**	**4 lb**	**671 ind.**	**± 82%**
ALL RESOURCES[c]	**99%**	**92%**	**92%**	**133,553 lb**	**1,406 lb**	**348 lb**	**133,553 lb**	**± 14%**

Source : Alaska Department of Fish and Game, Division of Subsistence household surveys, 2007. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

Chinook are hard to mistake for chum, because the number of Chinook reported was appropriately small and, again, because some Kiana residents were taking salmon elsewhere in Alaska.

Whitefish—including humpback whitefish, broad whitefish, round whitefish, and least cisco—contributed 22,178 lb (±19%). After harvests of chum salmon and whitefish, sheefish accounted for the third largest fish harvest, contributing 7,141 lb (±15%). Whereas the majority of salmon and other finfish were taken with subsistence nets, 68% of sheefish were taken with rods and reels (Figure 4-8), more than any other species. Viewed another way, sheefish accounted for 51% of the rod and reel

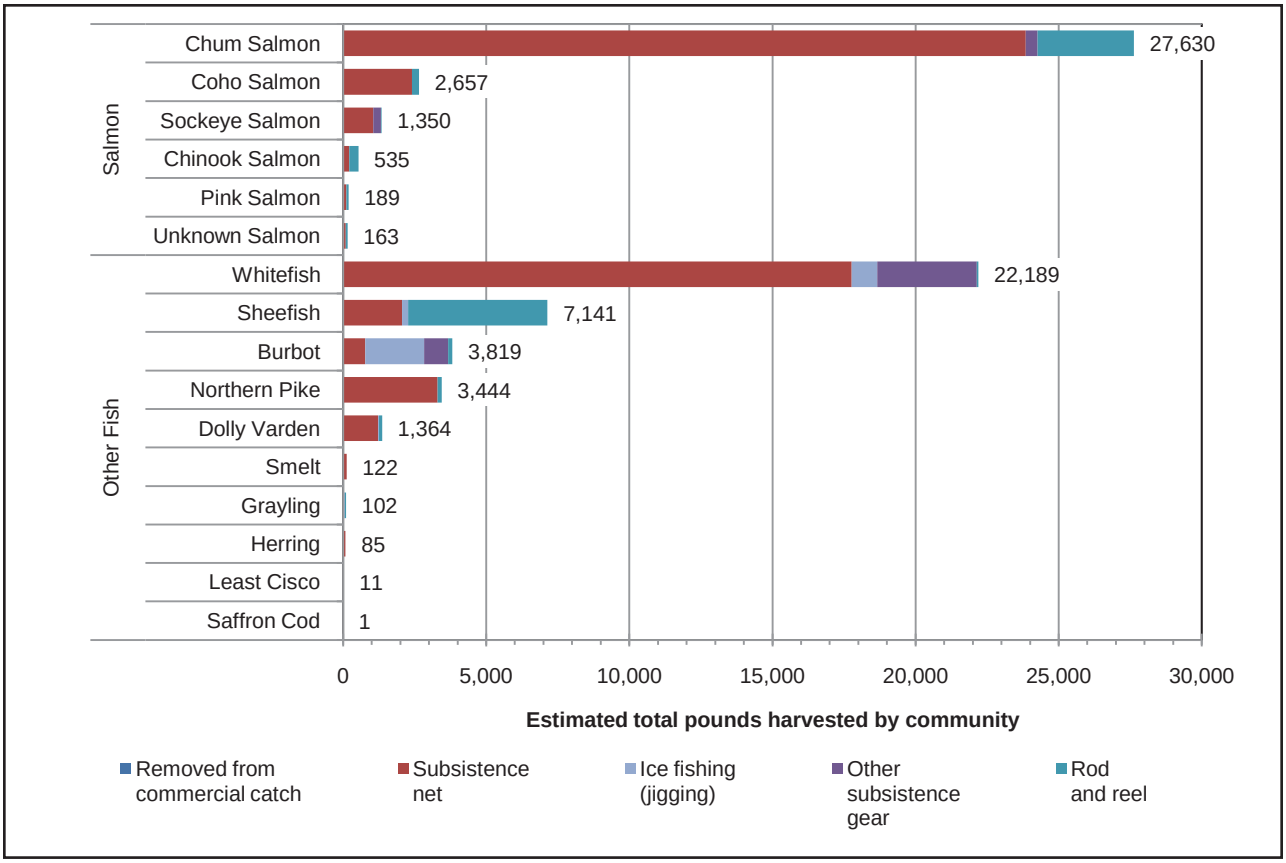


Figure 4-8.–Fish harvests by gear type, Kiana, 2006.

harvest, followed by chum salmon (36%). Grayling, pink salmon, and Chinook salmon were also often taken with rod and reel, but catches were small.

Kiana residents harvested an estimated 1,347 lb (±82%) of shellfish, including unknown clams, butter clams, and king crab. As with some of the salmon, most of the clams were taken in Southcentral Alaska, near Clam Gulch and Ninilchik. Although surveyors did not record harvest locations for crab, the crab probably were harvested elsewhere in Alaska.

Table 4-2 summarizes uses and harvests of land and marine mammals. Although recent caribou migrations have been late and caribou have not been as available as in the past, in most years the largest portion of the Western Arctic caribou herd has moved south through the middle Kobuk River valley and down the Squirrel, Salmon, and Hunt river valleys to Kiana hunters waiting along the Kobuk River. Kiana also has good access to moose both in the Squirrel River drainage and in the Kobuk River delta, one of the most productive moose habitats in game management unit 23. This access to both moose and caribou was evident in the contributions each species to Kiana's total harvest.

Kiana residents harvested an estimated 306 individual caribou in 2006, with an estimated edible weight of 41,612 lb. Caribou contributed 31% of the total community harvest of all species with a harvest

Table 4-2. – Estimated use and harvest of land and marine mammals, Kiana, 2006

	Percentage of households			Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Total for community	Mean per household	Mean per person		
LAND MAMMALS								
Large Land Mammals								
Caribou	94%	62%	57%	41,612 lb	438.0 lb	108.5 lb	306 ind.	± 13%
Moose	40%	21%	14%	8,629 lb	90.8 lb	22.5 lb	16 ind.	± 28%
Black bear	3%	5%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Brown bear	0%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Muskox	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Dall sheep	0%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Subtotal	**95%**	**64%**	**60%**	**50,241 lb**	**529 lb**	**131 lb**	**662 ind.**	**± 13%**
Small Land Mammals								
Beaver	23%	23%	22%	1,777 lb	18.7 lb	4.6 lb	89 ind.	± 31%
Snowshoe hare	6%	8%	5%	65 lb	0.7 lb	0.2 lb	26 ind.	± 51%
Porcupine	1%	3%	1%	10 lb	0.1 lb	0.0 lb	1 ind.	± 87%
Arctic fox	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Muskrat	9%	14%	9%		*not usually eaten*		81 ind.	± 49%
Marten	4%	5%	1%		*not usually eaten*		37 ind.	± 87%
Red fox	3%	3%	3%		*not usually eaten*		32 ind.	± 70%
Land otter	4%	5%	3%		*not usually eaten*		2 ind.	± 61%
Wolf	1%	5%	1%		*not usually eaten*		1 ind.	± 87%
Wolverine	3%	4%	1%		*not usually eaten*		1 ind.	± 87%
Lynx	1%	4%	1%		*not usually eaten*		1 ind.	± 87%
Coyote[b]	1%	0%	0%		*not usually eaten*		0 ind.	± 0%
Arctic hare	0%	3%	0%		*not usually eaten*		0 ind.	± 0%
Mink	0%	0%	0%		*not usually eaten*		0 ind.	± 0%
Subtotal	**30%**	**31%**	**27%**	**1,851 lb**	**19 lb**	**5 lb**	**273 ind.**	**± 29%**
TOTAL	**96%**	**66%**	**62%**	**52,093 lb**	**548 lb**	**136 lb**	**595 ind.**	**± 17%**
MARINE MAMMALS								
Bearded seal (adult)	14%	6%	5%	2,591 lb	27.3 lb	6.8 lb	6 ind.	± 45%
Seal oil (unknown seal)	51%	6%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Bowhead whale	39%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Belukha whale	10%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Unknown whale	5%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Ringed seal	4%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Bearded seal (young)	3%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Spotted seal	1%	1%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Unknown seal	1%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Polar bear	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
Walrus	0%	0%	0%	0 lb	0.0 lb	0.0 lb	0 ind.	± 0%
TOTAL	**70%**	**10%**	**5%**	**2,591 lb**	**27 lb**	**7 lb**	**6 ind.**	**± 45%**
ALL RESOURCES[c]	**99%**	**92%**	**92%**	**133,553 lb**	**1,406 lb**	**348 lb**	**133,553 lb**	**± 14%**

Source: Alaska Department of Fish and Game, Division of Subsistence household surveys, 2007. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

Table 4-3. – Estimated use and harvests of birds and eggs, Kiana, 2006

	Percentage of households			Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Total for community	Mean per household	Mean per person		
BIRDS								
Migratory Birds								
Canada geese	39%	34%	31%	667 lb	7 lb	2 lb	195 ind.	± 19%
Ducks	27%	25%	23%	571 lb	6 lb	1 lb	304 ind.	± 32%
White-fronted geese	22%	19%	17%	408 lb	4 lb	1 lb	96 ind.	± 27%
Snow geese	1%	1%	1%	15 lb	0.2 lb	0.04 lb	4 ind.	± 87%
Brant	1%	3%	1%	3 lb	0.03 lb	0.01 lb	1 ind.	± 87%
Tundra swan	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Sandhill crane	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Subtotal	**47%**	**38%**	**38%**	**1,664 lb**	**18 lb**	**4 lb**	**600 ind.**	**± 21%**
Resident Birds								
Ptarmigan	5%	8%	4%	37 lb	0.4 lb	0.1 lb	37 ind.	± 61%
Spruce grouse	4%	1%	3%	6 lb	0.1 lb	0.02 lb	6 ind.	± 72%
Subtotal	**7%**	**8%**	**5%**	**43 lb**	**0.5 lb**	**0.1 lb**	**451 ind.**	**± 54%**
Eggs								
Duck eggs	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Geese eggs	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Swan eggs[b]	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Crane eggs[b]	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Gull eggs	1%	1%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Murre eggs	0%	0%	0%	0 lb	0 lb	0 lb	0 ind.	± 0%
Subtotal	**1%**	**1%**	**0%**	**0 lb**	**0 lb**	**0 lb**	**0 ind.**	**± 0%**
TOTAL	**47%**	**38%**	**38%**	**1,706 lb**	**18 lb**	**4 lb**	**643 ind.**	**± 21%**
ALL RESOURCES[c]	**99%**	**92%**	**92%**	**133,553 lb**	**1,406 lb**	**348 lb**	**133,553 lb**	**± 14%**

Source: Alaska Department of Fish and Game, Division of Subsistence household surveys, 2007. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

of 108.5 lb per person, almost one caribou each. Ninety-four percent of households used caribou, a higher level than any other single species, including berries (which are often the most widely-used resource) and fish. Moose contributed 8,629 lb (±13%), and were used by half as many households, 40%. Fifty-seven percent of households harvested caribou; only 14% of households harvested moose.

Although 70% of Kiana households reported using five different kinds of marine mammals (not counting unknown whales and unknown seals), bearded seal was the only marine mammal actually harvested. Three Kiana households reported taking 1 bearded seal each, and 1 household reported taking 2 bearded seals, for a reported harvest of 5 seals and an expanded community harvest of 6 seals, with an edible weight of 2,591 lb (±45%).

Table 4-4. – Estimated use and harvest of vegetation, Kiana, 2006

	Percentage of households			Estimated lb harvested			Total estimated amount[a] harvested by community	95% conf. limit
	Using	Attempting harvest	Harvesting	Total for community	Mean per household	Mean per person		
VEGETATION								
Blueberry	83%	70%	71%	2,874 lb	30 lb	7 lb	442 gal.	± 22%
Cloudberry	49%	36%	36%	1,343 lb	14 lb	3 lb	207 gal.	± 20%
Low-bush cranberry	32%	29%	27%	420 lb	4 lb	1 lb	65 gal.	± 20%
Crowberry	18%	14%	14%	251 lb	3 lb	1 lb	39 gal.	± 39%
Eskimo potato	9%	8%	8%	65 lb	0.7 lb	0.2 lb	16 gal.	± 41%
Wild rhubarb	12%	9%	9%	51 lb	0.5 lb	0.1 lb	51 gal.	± 45%
Sourdock	5%	4%	4%	22 lb	0.2 lb	0.1 lb	22 gal.	± 65%
Willow leaves	1%	1%	1%	1 lb	0.01 lb	0.003 lb	1 gal.	± 87%
TOTAL	**86%**	**73%**	**75%**	**5,027 lb**	**53 lb**	**13 lb**	**842 gal.**	**± 17%**
ALL RESOURCES[c]	**99%**	**92%**	**92%**	**133,553 lb**	**1,406 lb**	**348 lb**	**133,553 lb**	**± 14%**

Source: Alaska Department of Fish and Game, Division of Subsistence household surveys, 2007. [a] Amount of resource harvested is individual units, unless otherwise specified. [b] Species not included on survey, report volunteered by at least 1 household in study community. [c] All resources includes percentages of households in community reporting use, harvest attempts, harvests, gifts, or receipts of at least one resource, and sums of all harvests of fish, wildlife, and plants reported on the survey (see other tables).

Birds accounted for only 1% of the total community harvest. Sixty-four percent of the bird harvest was geese, primarily Canada and white-fronted geese. Only 1 Kiana household reported using eggs, and no household reported harvesting eggs.

Comprehensive surveys conducted in Northwest Alaska prior to this Kiana survey asked for harvests of berries, roots, plants/greens/mushrooms, and firewood, but not for individual species such as blueberries or fireweed. Local Northwest Alaska survey crews strongly believed that the survey should include individual plant species. So, beginning with Kiana, individual species of berries, greens, and roots were added to the survey instrument (Table 4-3). Results show that berries accounted for 4% of the total harvest. Blueberries alone accounted for 2.2% of the total community harvest and cloudberries accounted for 1.0%. All the rest of the berries and greens—cranberry, crowberry, wild rhubarb, Eskimo potato, sourdock, and willow leaves—accounted for less than 1% of the total. Nonetheless, the per capita harvest was 13 lb, or more than 2 gal per person.

Harvest Assessments

The survey asked respondents to assess their own harvests in two ways: whether they harvested more, less, or about the same amount of 16 resource categories in 2008 as in past years, and whether they got "enough" of each of the 16 categories. This section discusses responses to those questions.

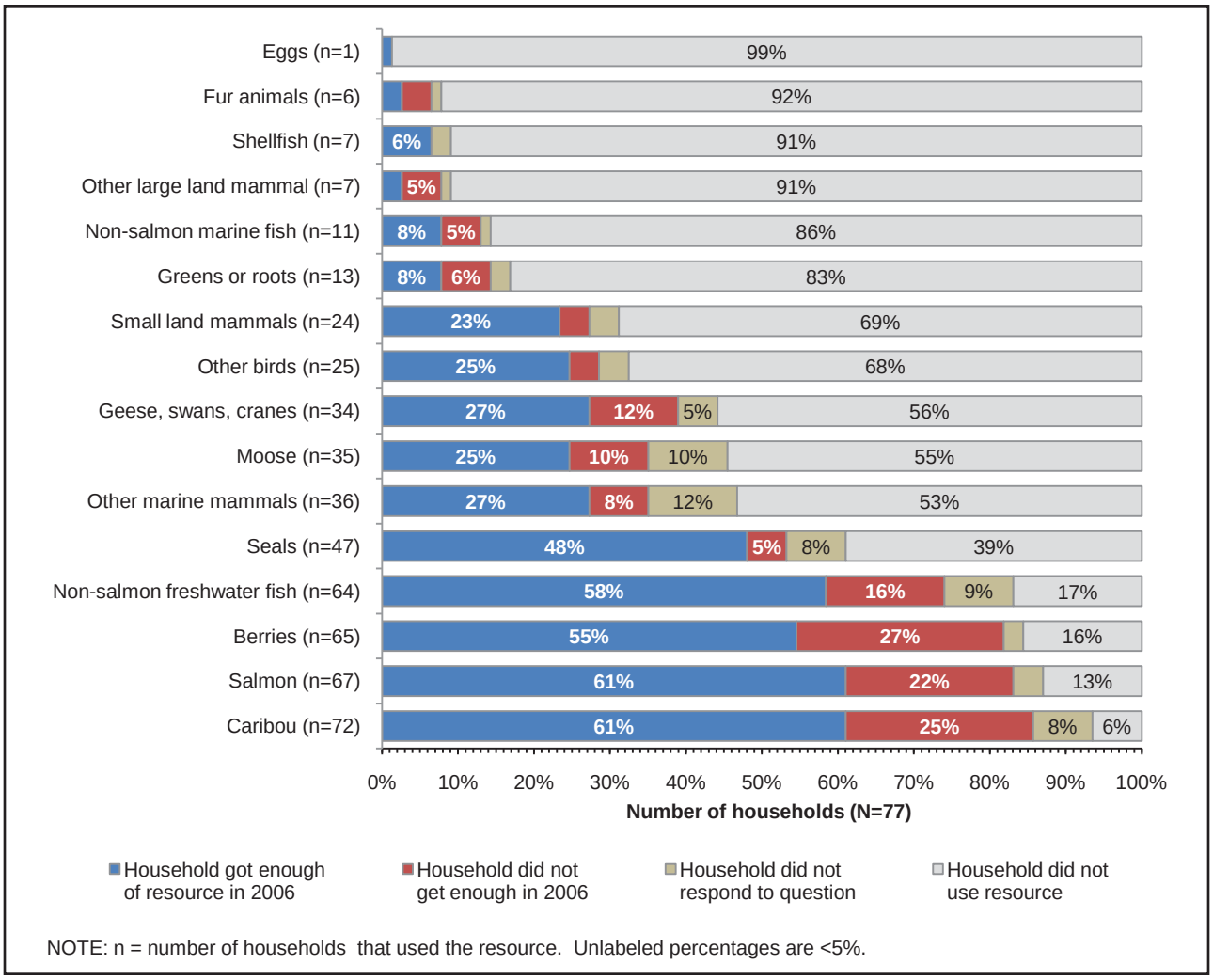


Figure 4-9.–Harvest assessments, Kiana, 2006. Responses to the question: "In 2006, did your household get enough [resource] for your needs?"

With two minor exceptions, the most common response from households using resources was that the household "got enough" of each resource category in 2006 (Figure 4-9). The exceptions were fur animals and large land mammals other than caribou and moose, which were used by fewer than 10% of the households. For fur animals, 2 households said they "got enough" while 3 households said they did "not get enough." For large land animals other than caribou and moose, 2 households said they got enough, while 4 households said they did not. Otherwise, households that got enough substantially outnumbered those who did not. For the five most commonly used resources—caribou, salmon, berries, fish other than salmon, and seals—households that "got enough" outnumbered households that did "not get enough" by an average of 3 to 1. Sixty-one percent of households got enough caribou and salmon, compared with 25% and 22%, respectively, that did not.

When asked to compare their harvests of subsistence foods in 2006 with their harvests in the past,

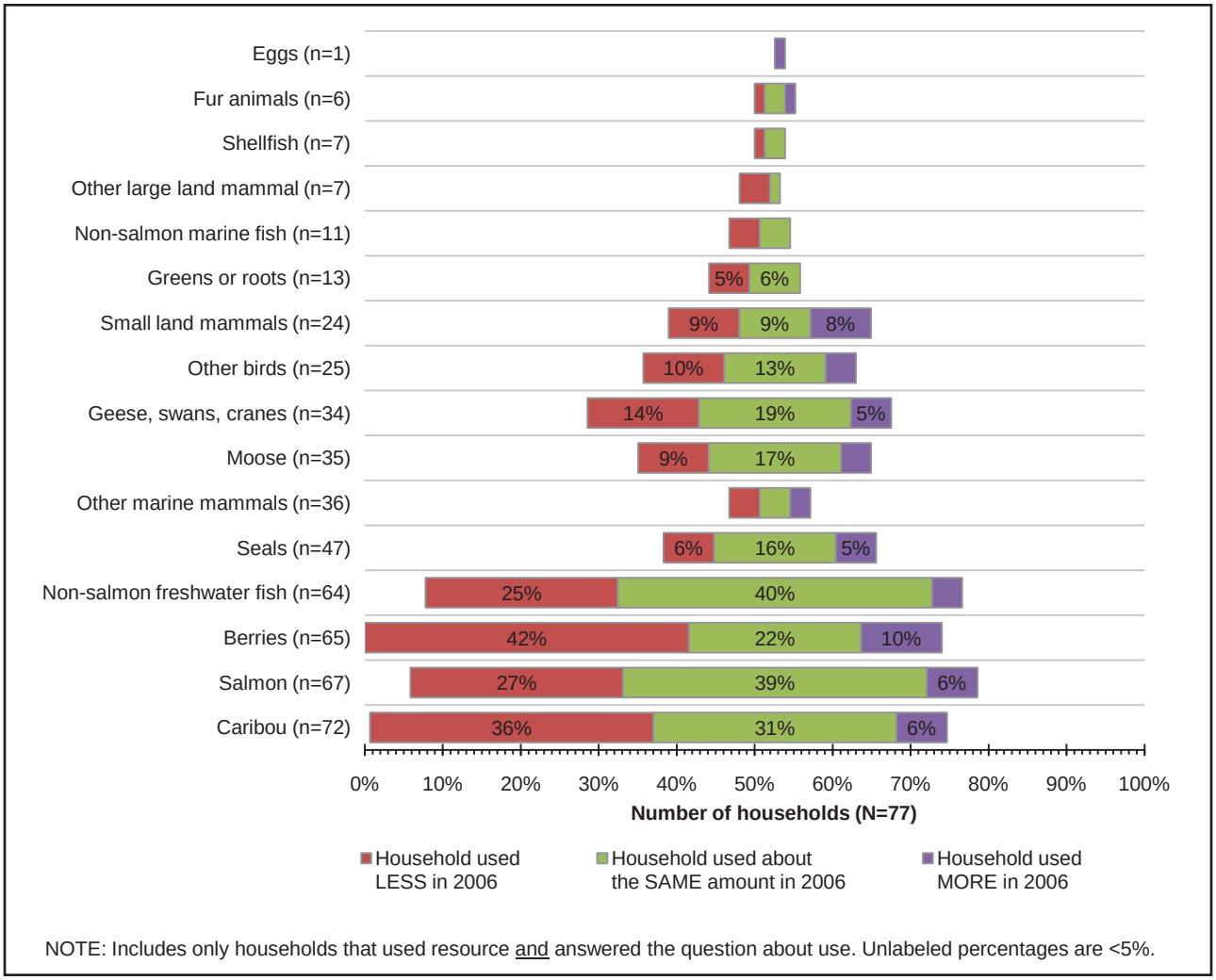


Figure 4-10.–Harvest assessments, Kiana, 2006. Responses to the question: "In 2006, did your household harvest less, more, or about the same amount of [resource] as in the past?"

though, households were almost evenly divided between the "less" and "about the same" categories, with relatively few households reporting "more" (Figure 4-10). For the same five commonly used resources, on average, 27% harvested less, 30% harvested about the same, and only 6% harvested more.

Jobs and Income

Respondents were asked about both earned income (jobs held and wages earned by all household members 16 years old and older) and unearned income (Alaska Permanent Fund Dividend, social security, public assistance, etc). For 2008, Kiana households earned or received an estimated $5.5 million, of which $3.6 million (65%) was from wage employment and $1.9 million (35%) was from other sources (Table 3-6). For comparison, the American Community Survey (ACS 2011) estimated

Table 4-5. – Estimated earned and other income, Kiana, 2006

Income source	Estimated number		Estimated income[a]		
	People	Households	Total for community	Mean per household[b]	Percentage of total
EARNED INCOME					
Local government	86	63	$1,461,286	$15,382	27%
Mining	25	23	$996,189	$10,486	18%
Services	19	16	$484,711	$5,102	9%
Federal government	23	23	$182,772	$1,924	3%
Finance, insurance, & real estate	5	4	$172,727	$1,818	3%
Transportation, communication & utilities	5	4	$101,725	$1,071	2%
Construction	9	9	$65,390	$688	1%
Retail trade	5	5	$47,912	$504	1%
Manufacturing	2	5	*	*	*
State government	1	2	*	*	*
Industry unknown	4	4	$48,642	$512	1%
Earned income subtotal	**154**	**70**	**$3,583,489**	**$37,721**	**65%**
OTHER INCOME					
Social Security		30	$375,842	$3,956	7%
Alaska Permanent Fund dividend		86	$374,296	$3,940	7%
Pension, retirement		20	$354,338	$3,730	6%
Native corporation dividend		86	$323,706	$3,407	6%
Food stamps		32	$270,407	$2,846	5%
Energy assistance		46	$76,280	$803	1%
Unemployment		15	$54,220	$571	1%
Adult public assistance		9	$38,941	$410	1%
Child support		9	$21,922	$231	0.4%
Supplemental security income		5	$16,952	$178	0.3%
Disability		1	*	*	*
Weatherization		1	*	*	*
Workmen's compensation, insurance		2	*	*	*
Inheritance		1	*	*	*
Other		2	*	*	*
Other income subtotal		**93**	**$1,918,655**	**$20,196**	**35%**
COMMUNITY INCOME TOTAL			**$5,502,145**	**$57,917**	**100%**

Source ADF&G Division of Subsistence household surveys, 2007.

[a] For confidentiality, income amounts are not listed for sources reported by fewer than 4 persons or households.

[b] Means are based on all households in the community, not on the number of households in the income category.

an average income of $15,581 per person or an estimated $5.4 million for the community for the period 2005–2009.

An estimated 154 adults in the community (69%) held at least one job during the study year. Periods of employment ranged from less than a month to 12 months, with an average of 10 months per year for all employed adults. Men were slightly more likely to be employed than women (74% of men versus 64% of women). On the average, men worked 1 month less than women (8 months for men versus 9 months for women) yet earned slightly more than women from employment (an estimated $17,446 per year for men, $14,986 for women). Men were more likely to be employed in temporary but higher

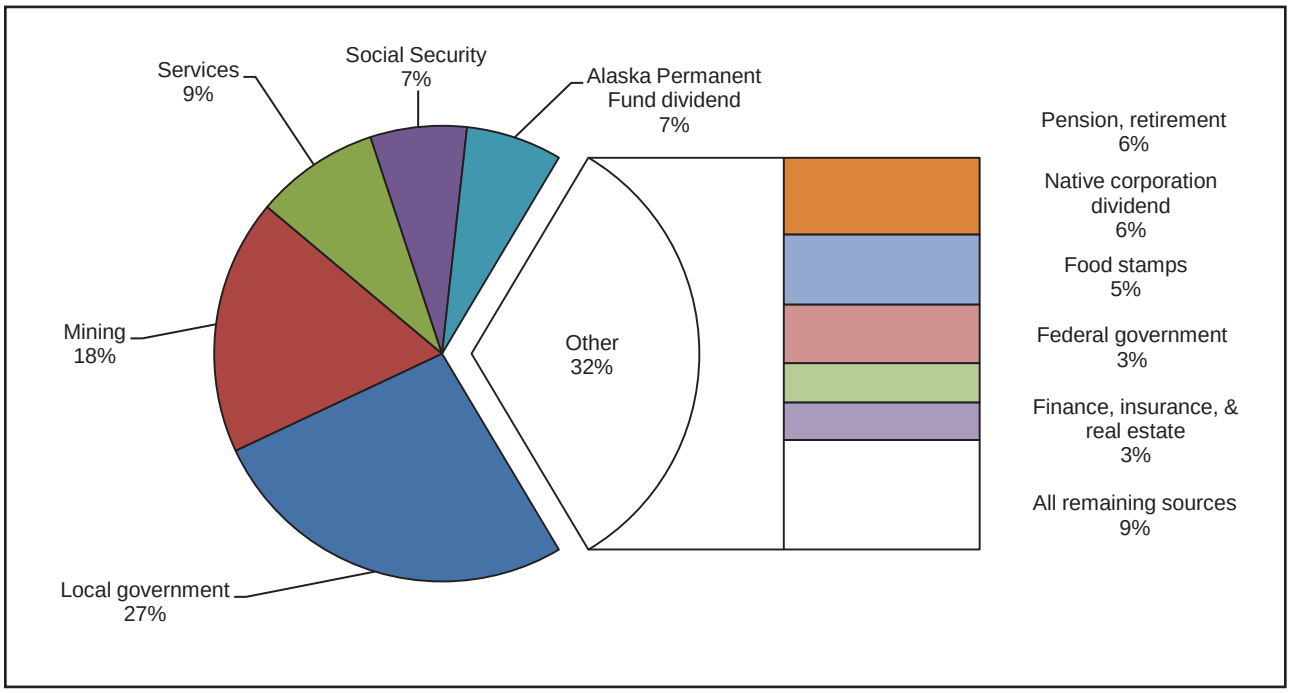


Figure 4-11.–Top 10 income sources ranked by estimated amount, Kiana, 2006.

paying jobs such as construction, while women were more likely to be employed in permanent jobs with more modest salaries such as health aides and teacher aides.

Figure 4-11 gives the top 10 sources of income, both earned and unearned, in Kiana in 2006. As in most Northwest Alaska communities, local government was the single largest income source, providing $1.4 million, 27% of the total community income. Mining employment, virtually all from NANA Regional Corporation's Red Dog Mine, contributed 18%. Most of the local government income was from education, which was in turn largely financed by Red Dog Mine through the Northwest Arctic Borough. In addition, Native corporation dividends contributed 6% of the community income and derived substantially from Red Dog Mine profits, Native corporation employment was counted in the real estate income category, which contributed 3% to the total. In short, the contributions of Red Dog Mine and NANA Regional Corporation to the economy of Kiana were substantial.

Food Security

Respondents were asked a short series of questions intended to assess their household's food security, that is, "access by all people at all times to enough food for an active, healthy life" (Nord et al. 2008:2). The food security questions were modeled on questions developed by the U.S. Department of Agriculture (USDA) and modified by ADF&G to account for differences in access to subsistence and store-bought foods. Based on their responses to these questions, households were categorized as

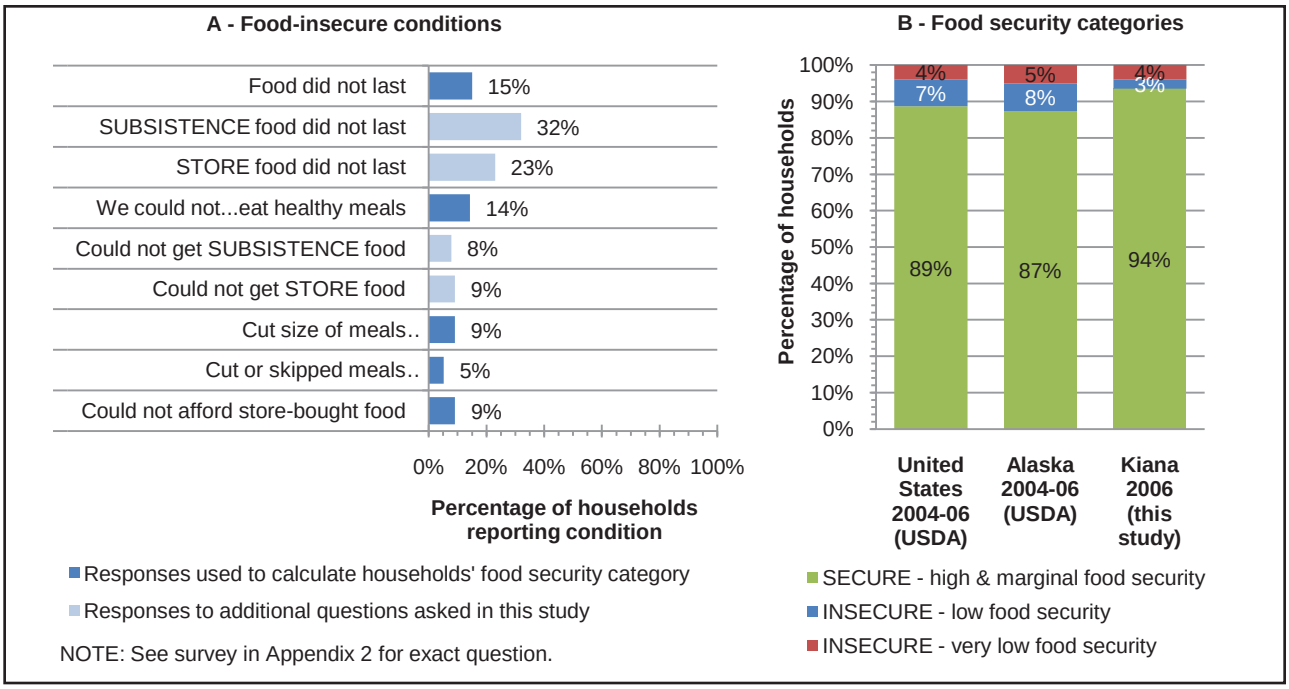


Figure 4-12.–Food security results, Kiana, 2006.

having *high*, *marginal*, *low,* or *very low* food security following a USDA protocol (Bickel et al. 2000). As in Buckland, the Kiana survey did not include all 10 USDA core questions, so it could not be scored exactly by the USDA protocol. Very few households scored as "food insecure," but had the full USDA protocol been used, a few additional households might have been categorized as food insecure.

Core questions and Kiana households' responses are summarized in Figure 4-12. Questions were asked in order of increasing food insecurity, and are displayed in the same order in Figure 4-12. Fifteen percent of households said that "food did not last" in their households, indicating some level of food insecurity; 32% reported that subsistence food did not last, compared with 23% who said store food did not last. A similar percentage, 14%, said they could not get the food they needed to eat healthy meals. Fewer than 10% reported higher levels of food insecurity, i.e., they could not afford to buy food, they cut the size of meals, or they skipped meals. When the responses were scored and categorized, 84% of the surveyed households had high food security scores and 9% had marginal food security scores; USDA considers households in both categories to be "food secure." Of the remaining households, 2.6% had low food security scores and 3.9% had very low food security scores. While these results may not be strictly comparable with USDA's calculations, levels of food security in Kiana in 2006 seemed to be similar to those in Alaska and the United States (Figure 4-12).

Cooperation in Food Production

The survey asked households who harvested and processed the subsistence foods used by their household in 2006, regardless of whether that person lived in the respondent's household, in another household in Kiana, or outside the community. The survey also asked who made decisions for the household or provided information to the household about hunting, fishing, and financial matters. It also asked a series of non-subsistence social network questions, such as who paid the household fuel bills, bought the household's groceries, and repaired the household's equipment. The full set of social network questions can be reviewed in the Kiana survey, Appendix 2.

The 77 surveyed Kiana households reported 2,912 sources of support. On average, households reported 38 different sources of support, such as harvesting caribou, processing salmon, or purchasing subsistence supplies for the household. Households reported from 6 to 96 sources. The reports included 595 harvesters, 506 processors, and 217 distributors of subsistence food. Sixty-five percent of the sources lived in the respondents' households. The remainder lived in other households in Kiana, or in other communities. These extra-household sources of support are the basis for Figure 4-13, which shows the flow of goods and services among the 77 households in Kiana and between Kiana and other communities. Figure 4-13 is drawn by a computer algorithm that clusters well-connected households in the core of the graph and allows less well connected households to drift to the edges. In this case, households and communities that provided or received the most goods and services cluster in the center. The two households in the upper left were not reported as sources of goods and services by other households in Kiana; they are isolates and presumably self-sufficient. Household symbols are shaded to indicate the age of household heads, and shaped to indicate household structure. The size of households symbols reflects the number of people living in the household.

In Buckland (Figure 3-13), most of the certified teachers clustered together on the edge of the graph, indicating close ties among one another and relatively weak ties with the rest of the community. In Kiana, teacher households still drifted to edge, but were widely scattered around the edge, meaning they were not only weakly connected to the community, but were also weakly connected to one another.

An interesting feature of the Kiana graph is the position of two communities, Kotzebue and Barrow, near the center of the graph, meaning individuals in those two communities were strongly connected with households in Kiana. In similar analyses of subsistence cooperation networks in Northwest Alaska, households relied primarily on other local households for subsistence goods and services. Sources in other communities drifted to the edge. The explanation for Barrow and Kotzebue's position lies in the lower left graph in Figure 3-14: marine mammals. Kiana lacks ready access to the sea, thus most households relied on sharing and trade networks to get seal oil, whale muktuk, and other marine

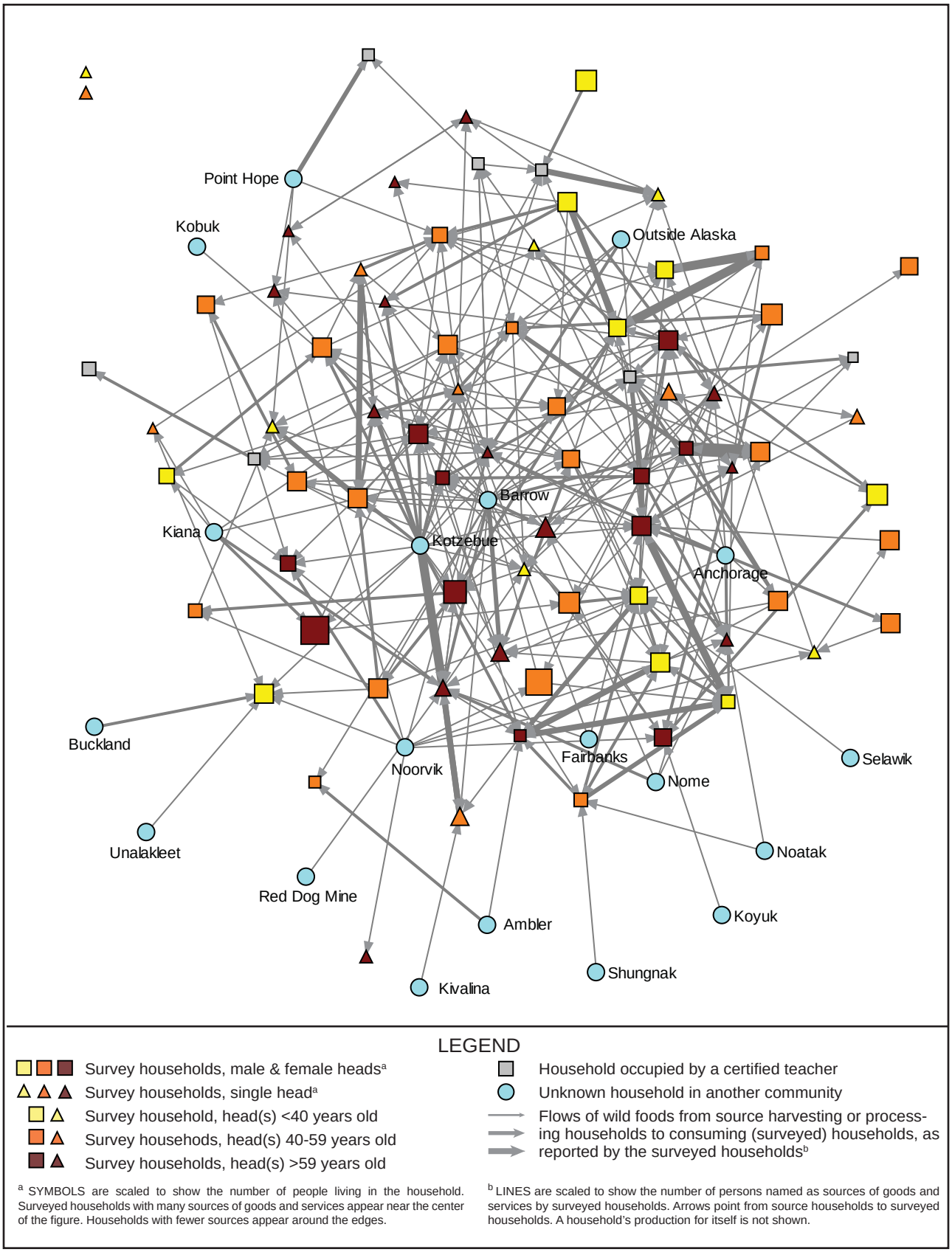


Figure 4-13.–Harvesting, processing, and distribution of subsistence food, Kiana, 2006.

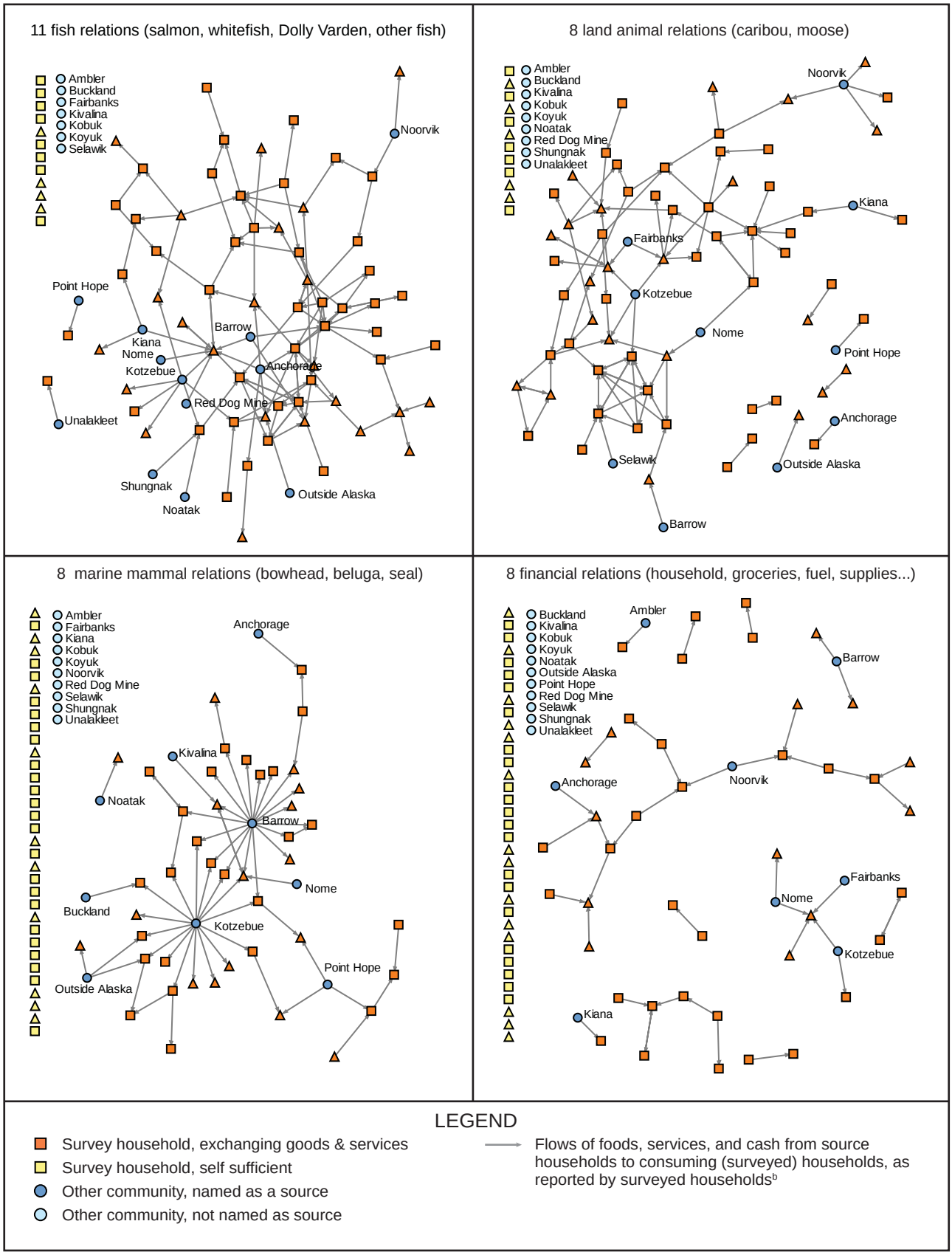


Figure 4-14.–Relationships by resource category, Kiana, 2006.

mammals products. Most frequently, those products came to Kiana from Barrow and Kotzebue, but also from Point Hope

Figure 3-14 compares the relationships among households and communities for four different categories of resources: fish, land mammals, marine mammals, and financial resources. Relationships based on subsistence foods are relatively dense, meaning many households relied on other households for some portion of their subsistence production. While some households in each category were self-sufficient (or at least were not named as a source by any other households in the sample and did not name any households themselves), most households in Kiana were connected by cooperative food production. Whereas in Buckland the subsistence networks formed a single large component, in Kiana there was a single large component of households all connected by food relationships, but also pairs of households that cooperated with one another but were not named as sources or recipients by other households in the sample.

The contrast between the subsistence relations and the financial relations, though, was quite similar in Kiana and Buckland. In the financial realm, 46 of 77 households (60%) reported no sources of financial support outside the household. Those that did report extra-household financial support usually reported a single external source. This demonstrates a marked contrast between the cooperative subsistence network and the self-sufficient cash network.

5
Discussion

By many measures—social, cultural, economic, nutritional, and even emotional—subsistence harvests of wild foods make major contributions to Arctic life (Ballew et al. [2004]; Goldsmith 2007; Heller and Scott 1967; Johnson et al. 2009; Kruse et al. 2008; McGrath-Hanna et al. 2003; Receveur et al. 1998; Richmond and Ross 2008). Throughout Northwest Alaska, the harvesting, processing, and distribution of wild foods structure human relationships, while sustaining and continuing indigenous traditions (Bodenhorn 2000; Burch 1975a; Langdon and Worl 1981; Magdanz et al. 2002; Wolfe et al. n.d. [2009]). Unfortunately, conventional economic indicators do not measure subsistence's contributions (Goldsmith 2008).

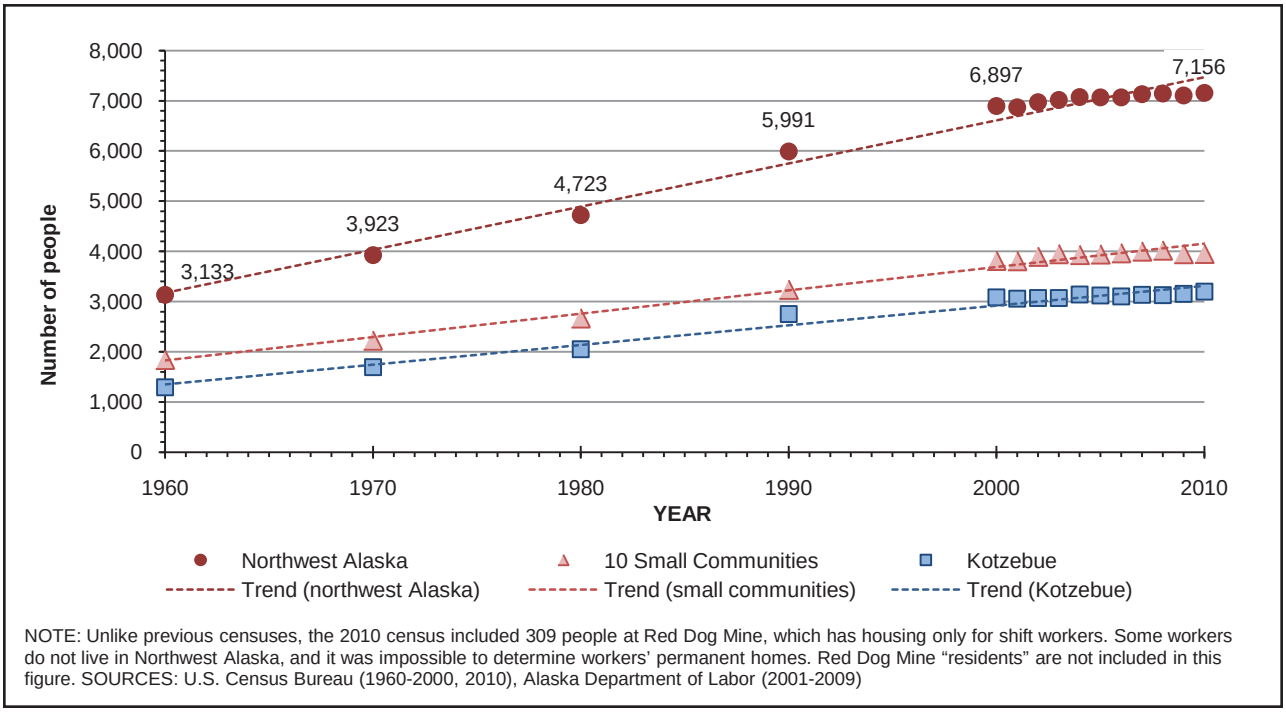
Where reliable, comprehensive estimates were available—at the time of writing, for 7 of 11 Northwest Alaska communities—subsistence harvests provided approximately 500 lb of wild food per person per year. With a regional population of about 7,000 people, the data suggested that subsistence contributed about 3.5 million lb of natural, nutritious food to the Northwest Alaska diet each year. Most of that food was unprocessed or processed in traditional ways. It was high in protein, low in saturated fats, and low in sugars (Innis and Kuhnlein 1987, Kuhnlein 1995, Lambden et al. 2007, Nobmann 1992, Nobmann 1997, Receveur and Kuhnlein 1998).

This chapter summarizes and reviews subsistence harvest monitoring efforts in Northwest Alaska. The focus is on comprehensive community estimates—comparable to and including the estimates for Buckland and Kiana—although estimates from other survey efforts are incorporated into the discussion.

A Review of Subsistence Harvest Estimates

Since 1980, most subsistence harvest monitoring efforts in Alaska have used standardized methods that provided comparable estimates. In Northwest Alaska, at least 1 community has been surveyed every year since 1991, except in 2005. Counting just subsistence surveys that used ADF&G methods, 14 surveys were comprehensive (researchers asked about every species used by the study communities in the study year) and more than 80 other surveys focused on 1 species group (e.g., salmon, large land mammals, or birds).

Although the harvest monitoring program does not yet produce an estimate of total subsistence harvests on an annual basis, the data do provide an increasingly complete assessment of subsistence harvest. In



NOTE: Unlike previous censuses, the 2010 census included 309 people at Red Dog Mine, which has housing only for shift workers. Some workers do not live in Northwest Alaska, and it was impossible to determine workers' permanent homes. Red Dog Mine "residents" are not included in this figure. SOURCES: U.S. Census Bureau (1960-2000, 2010), Alaska Department of Labor (2001-2009)

Figure 5-1.–Populations in northwest Alaska, 1960-2010.

addition to the 7 communities with comprehensive data, each of the 11 Northwest communities has at least 1 year of big game estimates, and 6 communities have at least 10 years of annual fish harvest estimates.

From 1980 to 2010, community populations in Northwest Alaska increased by 52% (Figure 5-1), while Alaska as a whole increased in population by 77%. In 2010, the 11 Northwest communities had an estimated population of 7,156 people (U. S. Census Bureau 2011). Of those, 3,201 (45%) lived in Kotzebue, while 3,955 (55%) lived in 1 of the 10 smaller communities.

The 7 study communities with comprehensive subsistence estimates included 5,250 people, or 73% of the population of Northwest Alaska communities. The study communities include Kotzebue, the largest community in the group, and 6 of the 10 smaller communities. The 6 smaller study communities averaged 342 people in 2010, ranging in size from 122 in Deering to 514 in Noatak. They included 2,049 people, 52% of the small community population in Northwest Alaska and 27% of the total community population of the region.

For the 7 communities with at least 1 year of comprehensive data, the combined Northwest data set includes 14 comprehensive surveys, 61 salmon surveys, 13 bird surveys, and 9 Western Arctic caribou herd (WACH) surveys. From the combined data, researchers calculated the average annual harvest (in edible pounds) for each species in each community, in some cases from 12 annual estimates. Then the

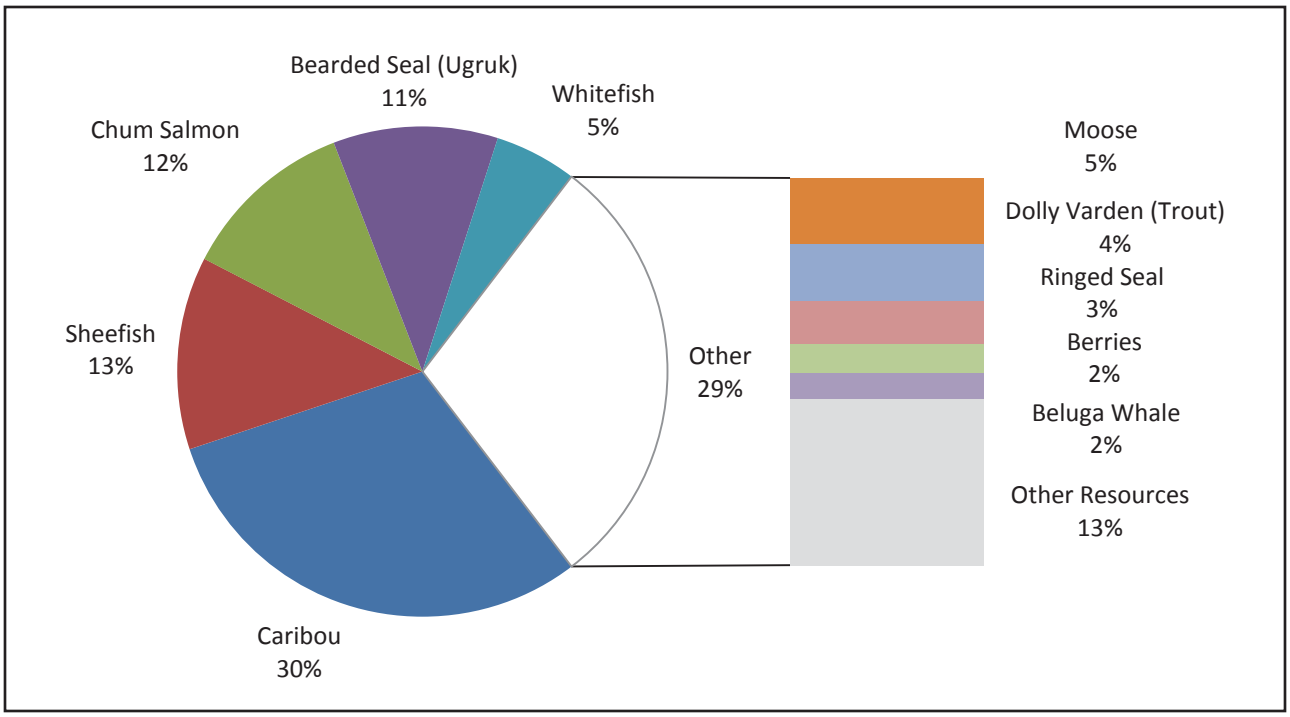


Figure 5-2.–Top 10 resources havested for subsistence, northwest Alaska.

averages for each species in each community were summed to create regional estimates by individual species, and ranked in descending order.

Figure 5-2 shows the 10 wild fish and game species that contributed the most to the subsistence diet in the 7 communities for which comprehensive data are available. In the 7 communities, 10 species provided 87% of the annual harvest in edible pounds. Although not shown in Figure 5-2, 20 species provided 95% of the harvest, and 30 species provided 97% of the harvest.

The importance of caribou is evident, contributing almost a third of the estimated total harvest. A dramatic decline in the caribou population—as happened most recently in the 1970s—would have a major impact on the subsistence diet in Northwest Alaska. Sheefish, chum salmon, and whitefish contributed another 30%. Bearded seals, ringed seals, and beluga whales contributed 16%. Other than caribou, no single resource contributed more than 13% to the estimated total, a diversity of harvests that reduced the region's vulnerability to food scarcity caused by a decline in a single species.

The following discussion compares the results of comprehensive subsistence surveys in these same 7 Northwest Alaska communities, in 2 parts. The first part summarizes 12 comprehensive harvest estimates for the 6 smaller communities from 1964 through 2007. The second part summarizes 2 comprehensive and 3 tribal harvest estimates for the regional center of Kotzebue.

In the 6 smaller communities, total subsistence harvest estimates have ranged from 99,120 lb in Deering in 1994 to 271,338 lb in Kivalina in 1965 (Figure 5-3). Of the 12 estimates in Figure 5-3,

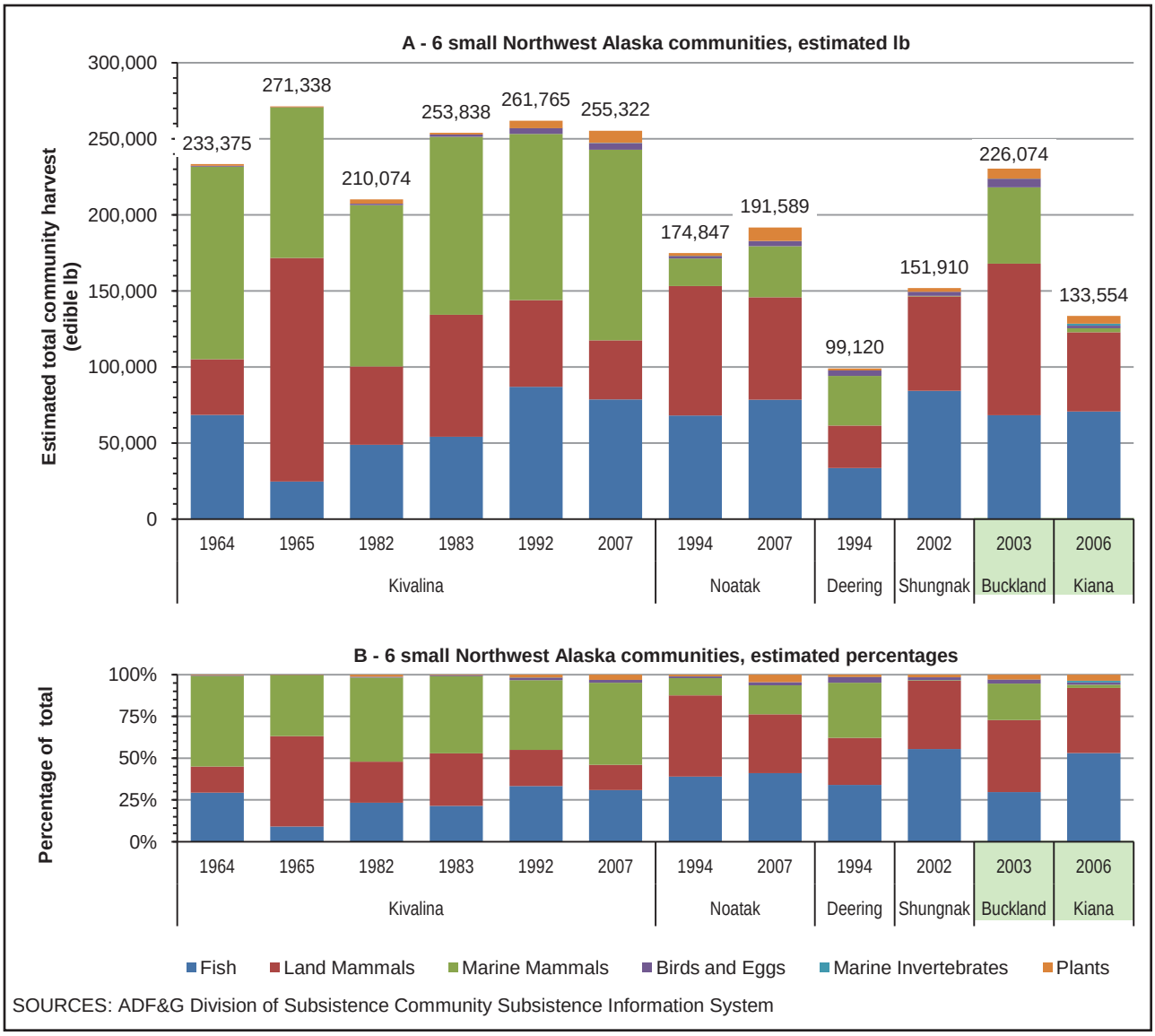


Figure 5-3.–Subsistence harvest estimates for 6 small communities, Northwest Alaska, 1964-2007.

six estimates are for Kivalina and 2 estimates are for Noatak. Kivalina's total estimated harvests have been remarkably stable over time. Noatak's harvests appear to have been stable as well, although there were insufficient data to identify any trends. The differences among the community estimates can be explained primarily by differences in community sizes and available resources, as discussed below. The smallest estimate was for Deering, the smallest community in the sample. Shungnak and Kiana are inland communities; subsistence marine mammal harvests were not visible at the scale used in Figure 5-3.

For Kotzebue, 2 comprehensive estimates and 3 tribal estimates were available. The comprehensive surveys were conducted by the ADF&G Division of Subsistence (Georgette and Loon 1993; Fall and

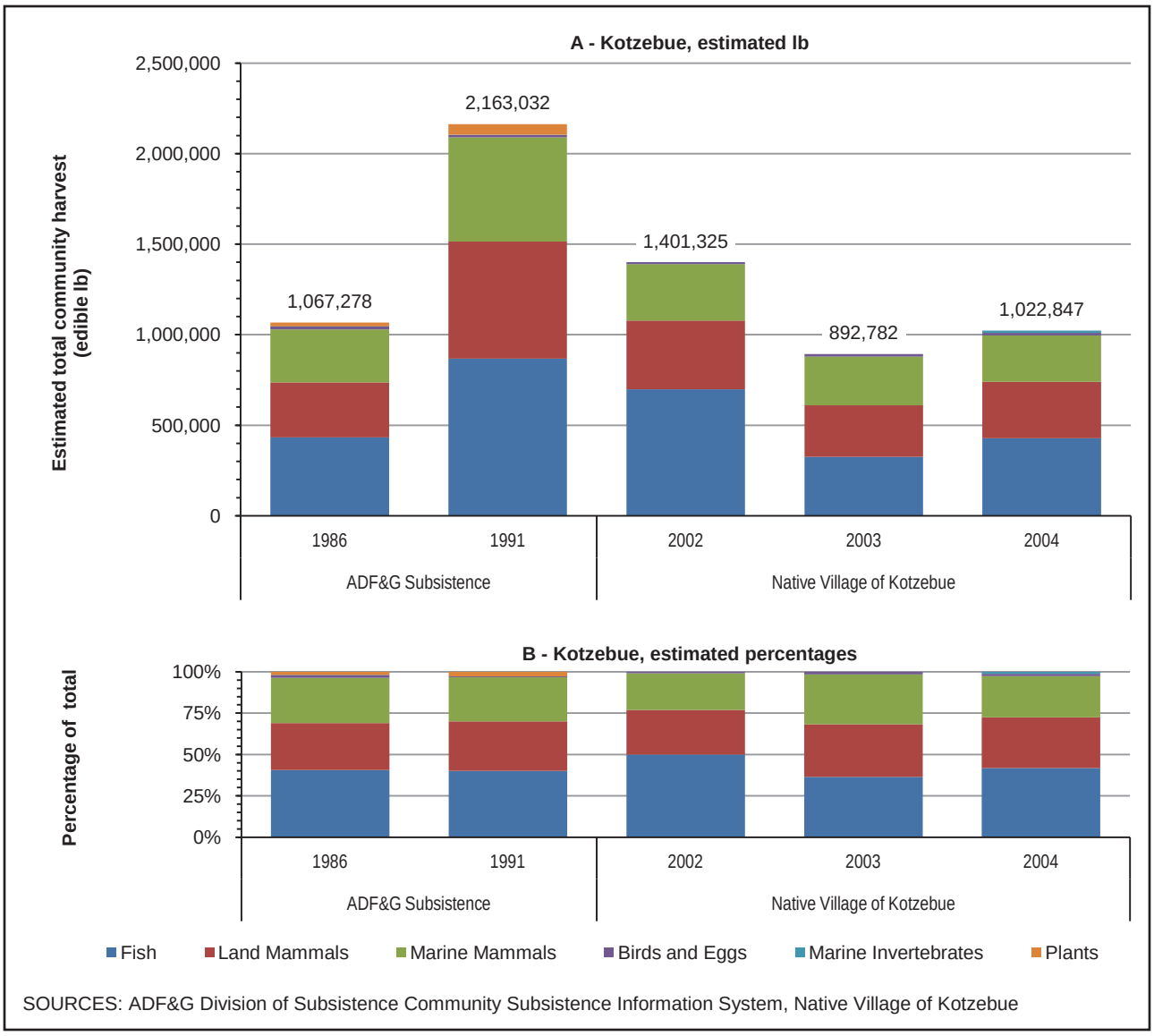


Figure 5-4.–Subsistence harvest estimates, Kotzebue, 1986-2004.

Utermohle 1995). The tribal surveys were conducted by the Native Village of Kotzebue (Whiting 2006). Figure 5-4 includes all 5 estimates for Kotzebue.

Of the 5 estimates, the 1991 ADF&G estimate was by far the largest, twice the ADF&G estimate for 1986 and almost twice the average tribal estimates for 2002–2004, which merits comment. Four of the surveys (1986, 2002, 2003, and 2004) relied on random samples of occupied households in 3 strata (low-, medium-, and high-harvesting households). The 1991 survey employed a different sampling strategy. The funding agency, the U.S. Minerals Management Survey, directed that the 1991 sample re-visit households previously surveyed (rather than selecting random households) for a "Social Indicators" study. As a result, the 1991 sample was biased towards less transient and more stable households (Fall and Utermohle 1995:XIX–7). Moreover, 1 of the long term households

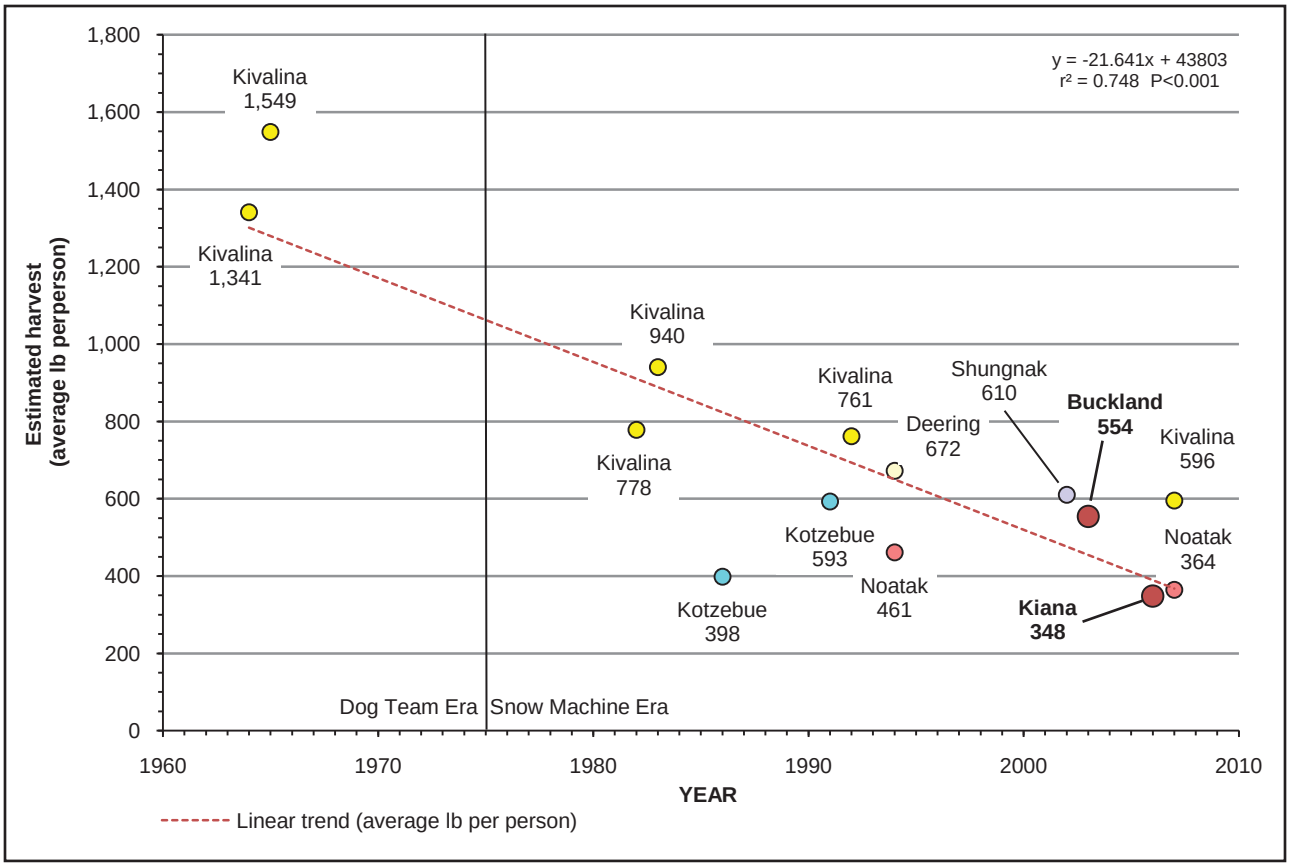


Figure 5-5.–Estimated harvests per person in Northwest Alaska communities, 1964-2007

reported exceptionally high harvests for 1991, 18% of the total reported harvest (Fall and Utermohle 1995:XIX–14). These 2 factors increased the 1991 Kotzebue estimate, and may account for some of the differences between the estimates for 1991 and the other years. Whiting (2006) also noted that the 2002 tribal sample included, by chance, a few exceptionally high-harvesting households.

Especially given the difference between the 1986 and 1991 estimates, the 3 subsequent estimates by the Native Village of Kotzebue (Whiting 2006) are useful in evaluating the earlier estimates. The Native Village of Kotzebue (IRA) used the same 3-strata random sampling procedure employed by ADF&G, but limited their survey to tribal member households, about 60% of all Kotzebue households. Each year for 3 years, the IRA contacted 108 to 158 of the tribe's 480 households, at least 30 households in each of the 3 harvesting strata. The IRA used the same methods employed by ADF&G to calculate expanded estimates, but just for the tribal member households of Kotzebue.

In 1986, Georgette and Loon found that Native households harvested an average of 518 lb per person per year, while non-Native households harvested an average of 112 lb per year (1993:69). Adjusting the IRA estimates for the households that were not in the tribal population and for plants (which were not in the IRA survey), the IRA data indicated an average annual subsistence harvest for Kotzebue of

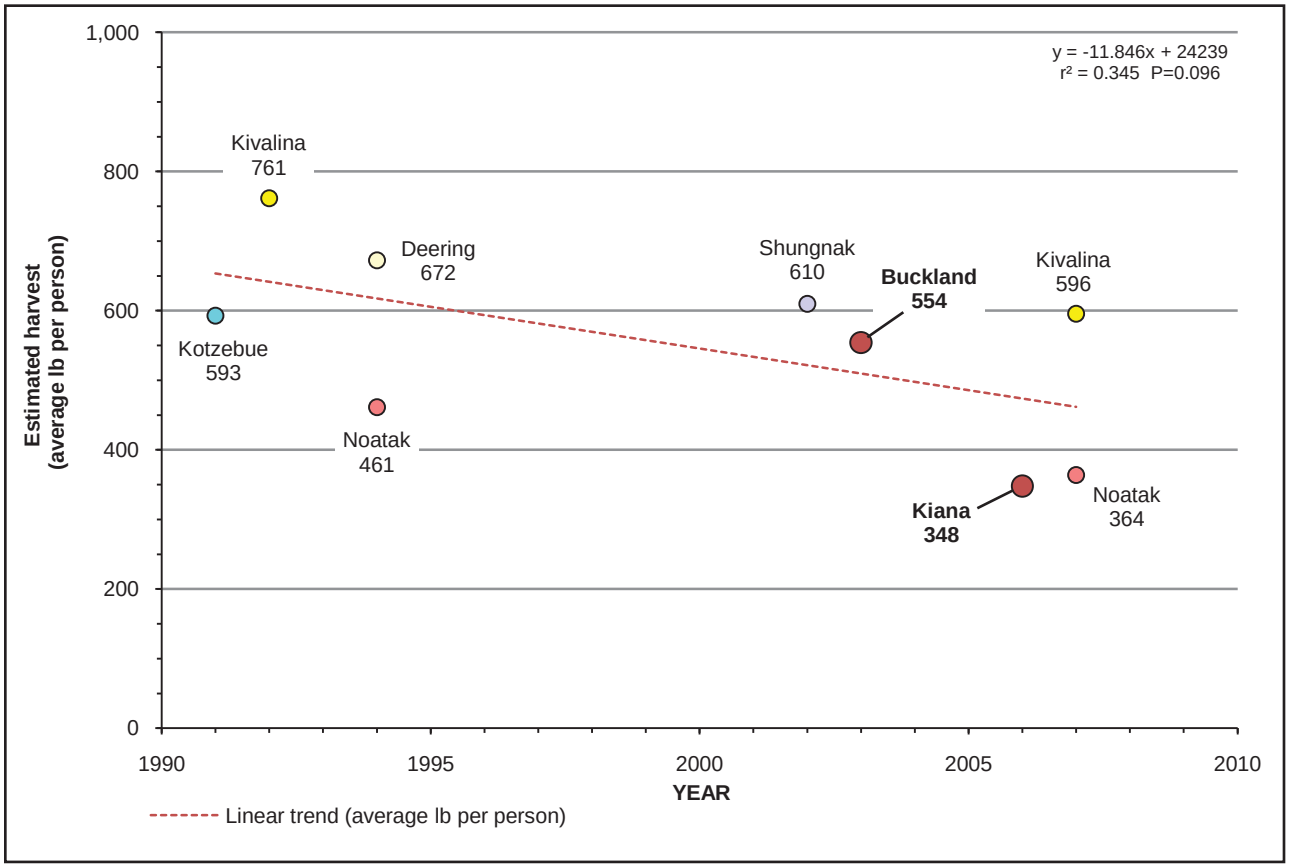


Figure 5-6.–Estimated harvests per person in Northwest Alaska communities, 1990-2007

about 1.5 million lb, similar to the average of the 2 ADF&G estimates, 1.6 million lb. At this point, these averages were the most reliable estimates of Kotzebue's total annual subsistence harvest. It is unlikely that the actual Kotzebue harvests varied as much from year to year as the estimates. Note that the estimated contributions of fish, land mammals, and marine mammals to the total harvests were remarkably consistent across the 5 different Kotzebue survey efforts (Figure 5-4).

Aside from documenting the species and amounts harvested for subsistence, survey data could be used to explore other interesting questions. For example:

- Have harvests changed over time?
- Are subsistence harvests associated with population?

Because community populations in Northwest Alaska have increased 29% since 1980, and because there have been many changes in economic and environmental conditions, these were relevant questions.

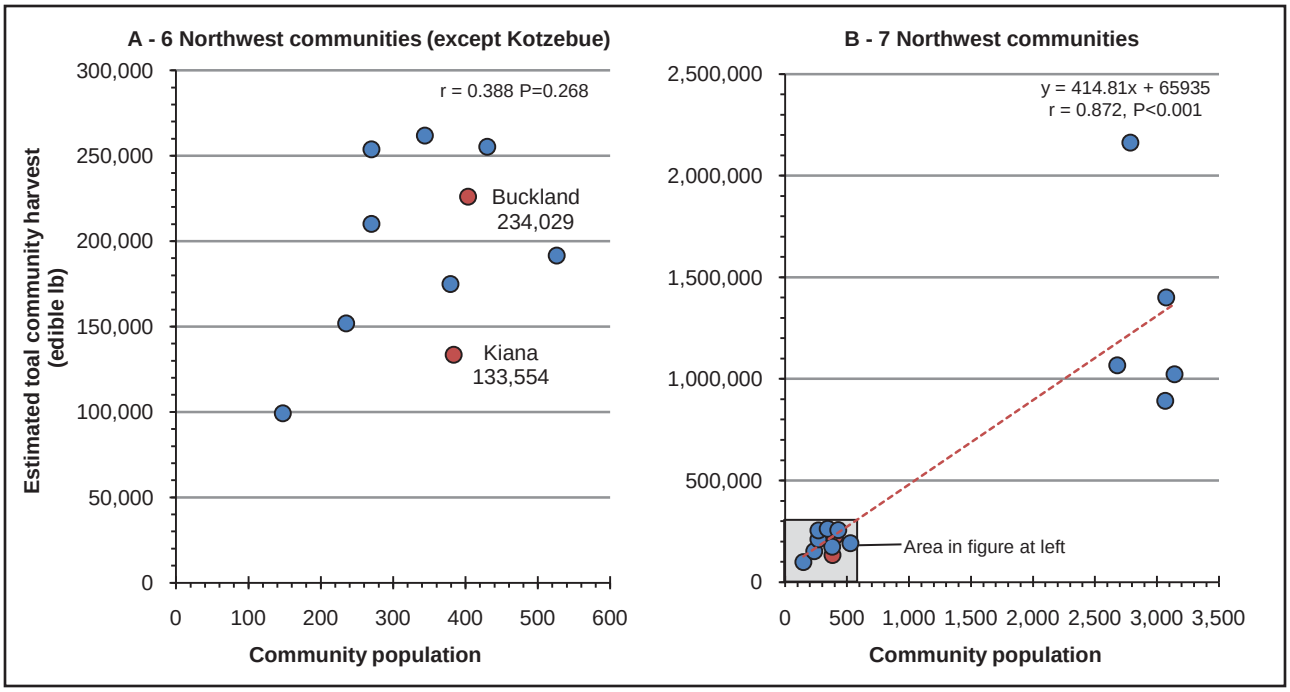


Figure 5-7.–Associations between community populations and total subsistence harvests, 1982-2007.

Have harvests changed over time?

To address the first question, harvests for the 7 Northwest communities with comprehensive estimates were compared over time, using per capita harvests to remove the effect of different community sizes (Figure 5-5). Estimated harvests trended lower over time by about 22 lb per year, and the association between time and per capita harvest was significant (r^2=0.748, P<0.001).

When the analysis was limited to 1990–2010, the last 20 years (Figure 5-6), a declining trend was still evident but the association was weaker and not significant (r^2=0.345, P=0.096). The rate of decline was about 12 lb per person per year from 1990 to 2007, or one-half the rate observed from 1964 to 2010. With only 12 estimates, the trend was very sensitive to the removal or addition of a single estimate. The estimates also were from communities of varied sizes and economies. Only two communities–Kivalina and Noatak–were surveyed twice between 1990 and 2010. Harvest trends in each of those two communities were very similar to the harvest trend for all communities combined.

Are subsistence harvests associated with population?

To address the second question, we return to total community harvests. Presumably, total community harvests would be associated with populations; more people would eat more food. But supplies of wild foods were not infinite, alternative food sources were available, and *total* harvests did not increase in Kivalina from 1964 to 2007 despite a doubling of community size.

The dataset included 12 ADF&G comprehensive surveys conducted since 1980 in 7 communities, as well as the IRA surveys of Kotzebue. For the smaller communities, with populations ranging between 148 (Deering in 1994) and 526 (Noatak in 2007), subsistence harvests showed a very weak and not significant association with community populations ($r=0.388$, $P=0.268$) (Figure 5-7). In Kotzebue, again, subsistence harvests were not associated with community populations ($r=0.402$, $P=0.502$), especially when the IRA estimates were adjusted to account for the nontribal segments of Kotzebue ($r=0.092$, $P=0.883$). For all 15 surveys analyzed together, though, subsistence harvests were strongly associated with community populations ($r=0.872$, $P<0.001$) (Figure 5-7). In other words, per capita subsistence harvests in Kotzebue were similar to those in the smaller communities—about 415 lb of subsistence food per person.

Social Networks

A broad literature explores cooperation among society members (Axelrod and Hamilton 1981; Alvard 2002, 2003; Alvard 2004; Alvard and Nolin 2002; Binmore and Binmore 1998; Binmore and Rasmusen 1995; Dunbar and Spoors 1995; Henrich et al. 2005). A similarly broad literature explores Iñupiat who, like most hunter-gatherers, cooperate extensively to produce and distribute wild foods (Collings et al. 1998, Wenzel et al. 2000). Iñupiat food production systems are structured primarily, but not entirely, by kin relationships (Bodenhorn 1989, 2000;Burch 1975a, 1998; Kishigami 2004).

Nonetheless, the empirical specifics of cooperative food production among hunter-gatherers—actual sources and flows of wild foods and other goods and services among village households—have received little attention. Network analysis methods offer a unique set of tools to explore small, remote subsistence villages. Bounded populations with complex multiple relationships create unusual opportunities for analyses. However, only a few scholars have applied social network methods in *Iñuit* contexts or, for that matter, among hunter-gatherers in general (Ziker and Schnegg 2005, Collings et al. 1998).

Iñupiat hunters, fishers, and gatherers typically work together in crews or at camps to secure whales, seals, salmon, whitefish, caribou, and other traditional subsistence foods. Cooperation continues once harvesting and processing are complete, as subsistence foods are shared with extended family and other community members, sometimes across considerable distances (Burch 1975b, 1988; Magdanz et al. 2007). Iñupiaq culture places a high value on sharing, particularly of *nikipiaq* or "real food" like frozen fish, seal oil, and dried meat. Some households harvest more than is needed for their own consumption in order to provide for an elder household that no longer hunts, or for a single parent household with 1 working adult and several children. Sharing networks are typically along family lines, but in practice are not limited exclusively to close family households (Bodenhorn 2000; Magdanz et al. 2002).

Hovelsrud-Broda describes the system of cooperation in Isertoq, Greenland. "I will not go further into

the debate here over why people transfer and share their resources… The argument about why can be better understood if we first know what. An understanding of the transaction systems and how these are related to socioeconomic structure and social relations will eventually lead to answers to the why question" [emphasis original] (Hovelsrud-Broda 2000:194). She proposes that patterns vary by resource, and that cash is not shared outside the household (Hovelsrud-Broda 2000:206). Comparing Isertoq sharing systems with Sahlins' (Hovelsrud-Broda 2000:210) framework, Hovelsrud-Broda detects "a significant gap between the empirical data and the concepts we are using to analyze this material."

The data from Buckland and Kiana support assertions about the extent of sharing—virtually every household is involved in exchanges of wild foods. The data also support observations by Hovelsrud-Broda that cash exchange networks are much less dense than subsistence food networks. Robust food distribution networks in Northwest Alaska contributed to food security, both by providing wild foods and by reducing anxiety about food supplies.

Discussion

Results from subsistence harvest surveys provide a unique perspective on the Northwest Alaska economy. In every community, subsistence harvests have made a substantial contribution to the diet. Indeed, the differences between the smallest and largest communities have been modest. In the 1994 survey in Deering, 148 people harvested an average of 672 lb each. In 2 surveys in Kotzebue, an average of 3,165 people harvested an average of 495 lb each. In every community, a household that did not use subsistence-caught foods was the rare exception. In Buckland, 99% of the surveyed households reported *using* at least 1 kind of subsistence-caught food, while 90% reported *harvesting* subsistence food. In Kiana, 99% reported using subsistence-caught food, and 92% reported harvesting.

The wide range of Kotzebue results in Figure 5-4 illustrated the challenge of estimating subsistence harvests in a large, culturally and economically diverse regional center. Surveying every household would be inordinately expensive. Estimates from a simple random sample were very sensitive to the inclusion, or exclusion, of high-harvesting households. Stratified random samples were a better approach, especially if most high-harvesting households could be surveyed. But stratified samples required accurate prior knowledge of the population for stratification and estimation. These issues were not a problem in the 10 smaller Northwest communities, where researchers attempted to contact every household. Samples in these communities typically included 90% of all occupied households; in Buckland the sample included 94% of eligible householods, and in Kiana, 81%.

In the four Northwest Alaska communities where food security data are available, 82% to 92% of surveyed households were food secure, compared with 87% to 89% in the United States as a whole. Subsistence harvests clearly contributed to that food security, and when food insecurities were

reported they were twice as likely to be related to store-bought foods as to subsistence foods. Similar circumstances prevailed among First Nations in Canada, where "39% of respondents reported having insufficient resources to purchase all the food they would need from the store if traditional food was not available" (Receveur et al. 1998).

Harvests in relation to population

Although community populations in Northwest Alaska increased by 59% between 1980 and 2010, the region still had one of the lowest population densities in the United States, only about 0.03 people/mi^2. Except for Kotzebue, the communities in Northwest Alaska are only slightly larger than the estimated populations of the traditional societies occupying the same territories prior to 1850 (Burch 1998). Virtually all the lands and waters traditionally available for hunting and fishing were still accessible for community rural residents in 2010.

In the previous section, there was evidence that total subsistence harvests increased with total community population. The strongest evidence came from the regional center of Kotzebue, where both estimated *total* harvests and populations were an order of magnitude larger than in the smaller communities. This suggested that subsistence harvests *were* positively associated with population. In addition to population size, access may help explain Kotzebue's high harvests. Kotzebue is located on the coast near the termination of the 3 largest watersheds in the region: the Noatak River, the Kobuk River, and the Selawik River. In addition to the marine resources like bearded seals, Kotzebue residents can harvest salmon bound for either the Noatak or Kobuk, can harvest sheefish that spawn in either the Kobuk or the Selawik, and can choose to hunt caribou in 3 different, major watersheds depending on the annual course of the caribou migration. Kotzebue's prime location for subsistence harvesting may have favored its growth over the smaller communities in the region. Immigrants from the smaller Northwest communities to Kotzebue could continue their subsistence activities and work at wage labor in Kotzebue.

Yet a previous study found that in the only two Northwest Alaska communities with multiple harvest estimates, human populations were *not* associated with total subsistence harvests (Magdanz et al. 2010). The estimated *total* harvests for Kivalina have not changed significantly despite a doubling of the community population from 1964 to 2007. Although only 2 estimates were available for Noatak, similar trends may have occurred there. With the limited number of comprehensive estimates available at this time, the best that can be said is that in addition to community populations many other factors affect total community subsistence harvests.

Harvests over time

The most important explanation for the harvest declines from the 1960s to the 1980s was obvious: the replacement of dog teams that fed on salmon, caribou, and seals with snowmachines that consumed gasoline. Other factors may include increased availability of store-bought foods, increased opportunity for wage work accompanied by less time for subsistence activities, changing food preferences, interseasonal variability of resource abundance (caribou in particular), and environmental change. So even though populations grew and average per capita harvests declined over time, that does not mean that growing populations caused declining per capita harvests. Most likely, declines in per capita harvests were the result of other factors which, coincidentally, matched the increases in community populations.

Those other factors, however, were still poorly understood. On the one hand, higher fuel prices made it more expensive to travel by boat or snowmachine, suggesting that subsistence harvests might decrease. On the other hand, higher fuel prices were factored into freight charges making imported foods more expensive, suggesting that subsistence harvests might increase. As yet, there are insufficient data to draw any conclusions, not only about the impacts of fuel costs and harvest, but about many facets of rural Alaska's economy. Only recently has it become possible to accurately compare subsistence harvests over time.

The economy of remote rural Alaska is poorly described by existing economic indicators. As Goldsmith commented:

> Even with consistency in definitions and improvements in the quality of data currently collected, the standard indicators would not provide a complete or balanced picture of the complexity of the economy. This is because the subsistence and informal sectors are nowhere captured by the indicators which are designed only to measure activity in the cash economy. Because these non-market activities consume a considerable amount of the time and effort of rural residents and contribute significantly to the economic well-being of the region, they should be included for several reasons. Without them the well-being of residents is undervalued, comparisons with urban areas are misleading, and economic development strategies are not grounded in reality. (Goldsmith 2007)

While they are not conventional economic indicators, data from comprehensive socioeconomic surveys can contribute to a better understanding of Alaska's rural economy. At this writing, survey research was the only reliable source of long term, consistent information about households' subsistence harvests, expenses, equipment ownership, and food distribution systems.

Acknowledgements

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Our ongoing discussions with Attamuk Shiedt, Caleb Pugowiyi, and Jackie Hill of Maniilaq Association and with Willie Goodwin of the National Park Service about the need for accessible and comprehensive information about subsistence activities are largely responsible for the comprehensive discussion in this report.

Finally, we acknowledge the unflagging support of our coworkers at ADF&G. Pam Amundson, Katya Wassillie, Ana Lewis, and James Simon handled the administrative details of the project. Lisa Olson, Emily Eidam, and Garrett Zimpelman edited and formatted the draft and final reports.

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Appendix 1–Buckland Survey, 2003

INFORMED CONSENT

BUCKLAND SUBSISTENCE SOCIO-ECONOMIC SURVEY, 2003

I am conducting a survey for the National Park Service, Alaska Department of Fish and Game, and Buckland IRA Council. The survey asks questions about what kinds of fish, game, birds, and plants your household used last year. It asks about who lived in your household, what kind of jobs they had last year. It asks about your household's income last year. And it asks about people who helped your household get subsistence foods and supported your household in other ways last year.

We are doing this survey to better understand subsistence in Alaska. We have conducted similar surveys in more than 100 Alaska communities, including Deering, Kotzebue, Kivalina, Noatak, Shungnak, Shishmaref, and Wales. We publish reports about our surveys. I have examples of some of those reports with me.

Before we can do this survey, we both need to sign an agreement. We have signed a similar agreement with the Buckland IRA.

By signing this paper, we agree that:

* This survey is confidential. We will not put your name on the survey. We will not use your name in our reports.
* When it is necessary to keep track of people's identites, we will use confidential codes.
* We will add the survey data to a computer database that contains subsistence harvests for many Alaska communities.
* We will publish a report describing the subsistence economy in Buckland.
* We will provide a DRAFT copy of the report to the Buckland IRA for review before we publish it.

By signing this paper, you agree that:

* You understand this survey is voluntary.
* You understand that we will publish one or more reports describing the subsistence economy in Buckland.
* You understand that summary data about Buckland's harvests will be stored in a computer database.

Do you have any questions?

RESEARCHER	RESPONDENT	
_____	_____	_____
(signature)	(signature)	(date)
_____	_____	
(printed name)	(printed name)	

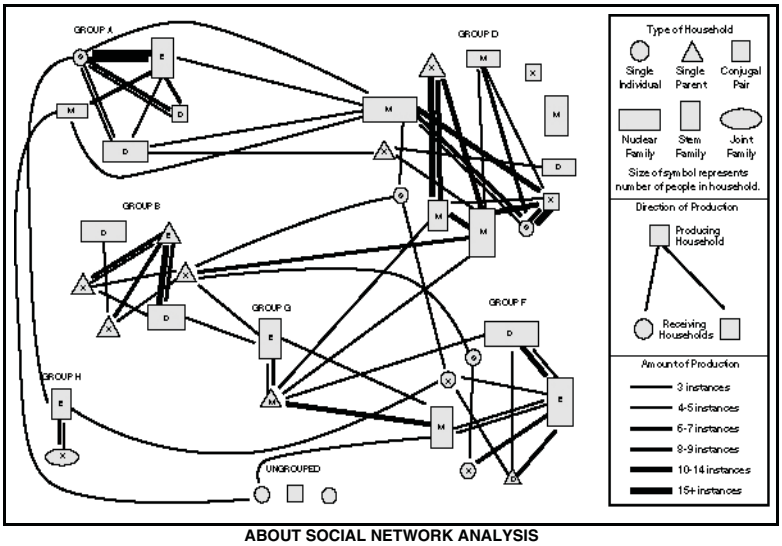
U.S. NATIONAL PARK SERVICE
NOME, AK 99762
907-443-2252

BUCKLAND IRA COUNCIL
BUCKLAND, AK 99727
907-494-2171

INSTITUTE OF SOCIAL & ECONOMIC RESEARCH
ANCHORAGE, AK 99508
907-786-7710

ALASKA DEPARTMENT OF FISH AND GAME
KOTZEBUE, AK 99752
800-478-3420

ADMINISTRATOR: REMOVE THIS PAGE FROM SURVEY



ABOUT SOCIAL NETWORK ANALYSIS

THE DIAGRAM ABOVE SHOWS HOW WILD FOODS WERE SHARED BETWEEN HOUSEHOLDS IN DEERING IN 1994. IT IS AN EXAMPLE OF SOCIAL NETWORK ANALYSIS, WHICH LOOKS AT HOW PEOPLE WORK TOGETHER. WE ARE INTERESTED IN HOW PEOPLE WORK TOGETHER TO SUPPORT ONE OTHER, NOT ONLY IN SUBSISTENCE ACTIVITIES, BUT IN MANY DIFFERENT WAYS. WE WILL BE ASKING QUESTIONS ABOUT WHO HUNTED AND FISHED FOR YOUR HOUSEHOLD, AND WHO PROVIDED OTHER KINDS OF SUPPORT, INCLUDING LOANS OR GIFTS OF CASH. WE USE THIS INFORMATION TO UNDERSTAND HOW VILLAGE ECONOMIES WORK.

WE DO NOT EXPECT YOU TO REMEMBER EVERYONE WHO HELPED. BUT WE WOULD LIKE TO KNOW SOME OF THE MOST IMPORTANT PEOPLE. WE HAVE DEVELOPED CODES FOR EVERYONE IN YOUR COMMUNITY, SO WE WILL NOT ENTER NAMES ON THE SURVEY.

TO PROPERLY CODE PEOPLE WHO DO NOT LIVE IN BUCKLAND, WE HAVE INCLUDED A TEAR-OFF SHEET WHERE WE DO ENTER NAMES (THE LAST PAGE). NON-LOCAL NAMES WILL BE CODED FOR CONFIDENTIALITY, AND THIS SHEET WILL BE REMOVED FROM THE SURVEY.

ADMINISTRATOR: REMOVE THIS PAGE FROM SURVEY

RESIDENTS OF THIS HOUSEHOLD IN 2003

WHO WERE THE MEMBERS OF THIS HOUSEHOLD BETWEEN JANUARY AND DECEMBER, 2003?

ID # OF PERSON RESPONDING TO SURVEY: ____

ID#	M/F	RELATION TO HH HEAD	BIRTHDATE MM/DD/YY	RESIDENCE OF PARENTS WHEN PERSON BORN	WHERE ARE PERSON'S PARENTS FROM?		YEAR MOVED		MOVED FROM COMM.	TOTAL YEARS IN BUCKLAND	ETHNICITY (RACE)	EDUCATION LEVEL
					MOTHER	FATHER	TO ALASKA	TO BUCKLAND				
1												
HEAD												
2												
HEAD												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

BUCKLAND (70) HH:_____ DEMOGRAPHY (0,1) PRINTED 2/11/2004 4:14 PM

SUBSISTENCE SOCIO-ECONOMIC SURVEY

BUCKLAND, ALASKA

STUDY YEAR: JANUARY THROUGH DECEMBER, 2003

OMB Approval #1024-0224 (NPS #04-003)
Expiration Date: 09/30/2004

COOPERATING ORGANIZATIONS

U.S. NATIONAL PARK SERVICE
SUBSISTENCE DIVISION
BOX 220
NOME, AK 99762

907-443-2252

BUCKLAND IRA COUNCIL
BOX 67
BUCKLAND, AK 99727

907-494-2171

INSTITUTE OF SOCIAL & ECONOMIC RESEARCH
UNIVERSITY OF ALASKA
3211 PROVIDENCE DRIVE
ANCHORAGE, AK 99508

907-786-7710

DIVISION OF SUBSISTENCE
ALASKA DEPARTMENT OF FISH & GAME
BOX 689
KOTZEBUE, AK 99752

800-478-3420

HH ID:	
COMMUNITY: BUCKLAND	70
START TIME:	
STOP TIME:	
INTERVIEWER:	
DATE:	
CODER:	
SUPERVISOR:	

REMINDER:

It's often helpful to give respondents a blank copy of the survey so they can read the questions with you.

EACH PERSON'S ROW CONTINUES ACROSS BOTH PAGES

	IS THIS PERSON...		WHICH MONTHS DID THIS PERSON LIVE IN THIS HOUSEHOLD IN 2003?	WHICH MONTHS WAS THIS PERSON ABLE TO HUNT OR FISH IN 2003?	IF A PERSON WAS NOT ABLE TO HUNT OR FISH FOR ONE OR MORE MONTHS IN 2003, WAS THAT BECAUSE HE OR SHE WAS...								
ID#	A PERMANENT HOUSEHOLD MEMBER? Y/N	AN ACTIVE SUBSISTENCE HARVESTER? Y/N	J F M A M J J A S O N D	J F M A M J J A S O N D	TOO YOUNG	TOO OLD	IN SCHOOL	WORKING	GONE	DISABLED	SICK	INJURED	OTHER	*Explain "OTHER"*
1			J F M A M J J A S O N D	J F M A M J J A S O N D									
HEAD													
2			J F M A M J J A S O N D	J F M A M J J A S O N D									
HEAD													
3			J F M A M J J A S O N D	J F M A M J J A S O N D									
4			J F M A M J J A S O N D	J F M A M J J A S O N D									
5			J F M A M J J A S O N D	J F M A M J J A S O N D									
6			J F M A M J J A S O N D	J F M A M J J A S O N D									
7			J F M A M J J A S O N D	J F M A M J J A S O N D									
8			J F M A M J J A S O N D	J F M A M J J A S O N D									
9			J F M A M J J A S O N D	J F M A M J J A S O N D									
10			J F M A M J J A S O N D	J F M A M J J A S O N D									
11			J F M A M J J A S O N D	J F M A M J J A S O N D									
12			J F M A M J J A S O N D	J F M A M J J A S O N D									
13			J F M A M J J A S O N D	J F M A M J J A S O N D									
14			J F M A M J J A S O N D	J F M A M J J A S O N D									

EMPLOYMENT & INCOME

USE AT LEAST ONE LINE FOR EACH PERSON IN THIS HOUSEHOLD 16 YRS OLD AND OLDER

We ask about jobs and income because we are trying to understand all parts of the community economy. Many people use wages from jobs to support subsistence activities.
Please least each job held between January and December 2003. If one person has more than one job, list each job on a separate line. One person may have several lines.
For those not employed, specify "retired," "unemployed," "disabled," "student," or "homemaker." *Trapping for barter or sale IS a job. "GROSS INCOME" means taxable income on a W-2.*

ID#	JOB #	JOB TITLE	SOC	EMPLOYER TYPE	SIC	TYPE*	LOCATION	WHICH MONTHS WORKED IN 2003	HRS/DAY	DAYS/ WEEK	WORK SCHEDULE	PERSONAL GROSS INCOME
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				
								J F M A M J J A S O N D				

If person is self-employed (selling clothes, carvings, bread, etc), list that as a separate job. Enter "sewer," "carver," "baker," etc. as job title. Enter type of work for employer type. Enter average hours and days worked per week. Work schedule usually will be "4" (irregular hours) . For gross income ("profit") enter revenue MINUS expenses.

TYPE:
1-Native Profit
2-Native Non-Profit
Otherwise, Leave Blank

WORK SCHEDULE: 1-Fulltime (35+ hours/week)
2-Parttime (<35 hours/week)
3-Shift (2 wks on/2 off, etc.)
4-Irregular, on call
5-Shift - part time

SUBSISTENCE EQUIPMENT - PURCHASES AND SALES

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD BUY ANY MAJOR SUBSISTENCE EQUIPMENT -- LIKE 4-WHEELERS OR SNOWMACHINES OR GUNS? YES (1) NO (0)
IF YES, WHAT DID YOU BUY?

List the five most important PURCHASES, in order of importance.

	TYPE OF EQUIPMENT	HOW OLD WAS IT? (YEARS)	IF USED, WAS IT IN GOOD SHAPE? Y / N	HOW MUCH DID YOU PAY FOR IT? $	DID YOU BUY IT ON INSTALLMENTS? Y / N	COMMENTS
1						
2						
3						
4						
5						
		If it was BRAND NEW write "NEW"	*"GOOD SHAPE" means you can rely on it to work.*	*Enter TOTAL price in dollars.*		

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD SELL ANY MAJOR SUBSISTENCE EQUIPMENT -- LIKE 4-WHEELERS OR SNOWMACHINES OR GUNS? YES (1) NO (0)
IF YES, WHAT DID YOU SELL?

List the five most important SALES, in order of importance.

	TYPE OF EQUIPMENT	HOW OLD WAS IT? (YEARS)	WAS IT IN GOOD SHAPE? Y / N	HOW MUCH DID YOU SELL IT FOR? $	DID YOU SELL IT ON INSTALLMENTS? Y / N	COMMENTS
1						
2						
3						
4						
5						

OTHER INCOME

FOR THE ENTIRE HOUSEHOLD

Please list all other sources of income for this household between January and December 2003

SOURCE	AMOUNT	NOTES:
ALASKA PERMANENT FUND DIVIDEND ( )	$ _____ PER YR	1 $1,108 | 2 $2,215 | 3 $3,323 | 4 $4,430 | 5 $5,538 | 6 $6,645 | 7 $7,753 | 8 $8,860 | 9 $9,968 | 10 $11,076 | 11 $12,183 | 12 $13,291
NATIVE CORPORATION DIVIDEND (13)	$ _____ PER YR	1 $300 | 2 $600 | 3 $900 | 4 $1,200 | 5 $1,500 | 6 $1,800 | 7 $2,100 | 8 $2,400 | 9 $2,700 | 10 $3,000 | 11 $3,300 | 12 $3,600 *2003 NANA dividend was $300/person for village shareholders, $150/person for Kotzebue shareholders.*
UNEMPLOYMENT (12)	$ _____ PER YR	
SOCIAL SECURITY (07)	$ _____ PER YR	
SUPPLEMENTAL SECURITY INCOME (10)	$ _____ PER YR	
PENSION AND RETIREMENT (05)	$ _____ PER YR	
LONGEVITY BONUS (06)	$ _____ PER YR	*A full year's benefits in 2003 would be $2,480 per person.*
ENERGY ASSISTANCE (09)	$ _____ PER YR	
TEMPORARY ASSISTANCE (02)	$ _____ PER YR	*Previously "aid to families with dependent children"*
FOOD STAMPS (11)	$ _____ PER YR	
ADULT PUBLIC ASSISTANCE (03)	$ _____ PER YR	
WORKERS' COMPENSATION (08)	$ _____ PER YR	
CHILD SUPPORT (15)	$ _____ PER YR	
OTHER _____( )	$ _____ PER YR	

SUBSISTENCE EQUIPMENT - INVENTORY

BETWEEN JANUARY AND DECEMBER 2003,
WHAT WERE THE FIVE MOST IMPORTANT PIECES OF EQUIPMENT MEMBERS OF YOUR HOUSEHOLD USED FOR SUBSISTENCE?
Please list most important equipment first.

	TYPE OF EQUIPMENT	HOW OLD IS IT? (YEARS)	IS IT IN GOOD SHAPE Y / N	HOW MUCH IS IT WORTH?	IS IT OWNED BY SOMEONE IN THIS HH? Y / N	IF IT BELONGS TO ONE PERSON, WHO OWNS IT? (PERSON CODE)	DESCRIPTION
1				$			
2				$			
3				$			
4				$			
5				$			
	It is OK to list three different snowmachines or two different boats.	*If item was bought in 2003 enter "0."*	*"GOOD SHAPE" means you can rely on it to work.*	*"WORTH" means the cost to buy a similar USED item.*	*If the item belongs to another household but not to one person, enter the household ID+00*		*Examples of descriptions: 18-foot Lund with 70hp Evinrude, 2002 Polaris Indy 600, salmon gillnet, 10-foot basket sled, or 30-06 rifle w/ scope.*

HERE ARE FIVE DIFFERENT KINDS OF EQUIPMENT PEOPLE MIGHT USE FOR SUBSISTENCE.
THINKING ONLY OF THOSE THAT ACTUALLY WORKED, HOW MANY DID YOUR HOUSEHOLD OWN LAST YEAR, 2 YEARS AGO, AND 5 YEARS AGO?
If household did not own a particular type of equipment, enter "0." DO NOT LEAVE BLANKS.

	TYPE OF EQUIPMENT	LAST YEAR (2003) #	2 YEARS AGO (2001) #	5 YEARS AGO (1998) #	COMMENTS
1	BOAT 980110000				
2	OUTBOARD MOTOR 980120000				
3	SNOWMACHINE 980210100				
4	3- OR 4-WHEELER 980210200				
5	CAR OR TRUCK 980220000				

NETWORK QUESTIONS

On the next several pages, I am going to ask questions about who helps your household in different ways.

I am interested in all the people who help your household, including the people in your household, people in other households in this community, and even people in other communities.

I also am interested in organizations that help your household, such as the IRA or Maniilaq.

FINANCIAL NETWORKS

I'M GOING TO READ A LIST OF HOUSEHOLD BILLS…
LAST YEAR, ABOUT HOW MUCH DID THESE BILLS COST YOUR HOUSEHOLD EACH MONTH, AND WHO PAID THEM?

	ABOUT HOW MUCH DID YOUR HH SPEND PER MONTH?	LAST YEAR, WHO PAID THESE BILLS? *(Include government agencies, institutions)*													
		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14
HOUSING PAYMENT (RENT OR MORTGAGE)	PER MONTH														
6 920100000															
HEATING FUEL (OIL OR WOOD)	PER MONTH														
6 930100000															
UTILITIES (ELECTRICITY, WATER)	PER MONTH														
6 920200000															
GROCERIES	PER MONTH														
6 940100000															
HOUSEWORK (INCL BABYSITTING)	PER MONTH														
6 950100000															
GASOLINE	PER MONTH														
6 930300000															
PARTS & REPAIRS (FOR SUBS. EQUIP)	PER MONTH														
6 980900000															
SUBSISTENCE SUPPLIES	PER MONTH														
6 950000000															

"HOUSEWORK" includes the people who work in the "HOMEMAKER" program, as well as other people who are paid to do housework in the respondent household.
"SUBSISTENCE SUPPLIES" includes ammunition, fishing lures, camp food, stoves, etc. but NOT major equipment. Snowmachines, boats, etc. should be recorded on the equipment pages.

LAST YEAR, DID MEMBERS OF YOUR HOUSEHOLD BORROW MONEY FROM OTHER PEOPLE OR INSTITUTIONS? YES (1) NO (0) ☐
IF YES, HOW MUCH DID YOU BORROW, AND FROM WHOM?
List most important loans first.

	LAST YEAR, WHO LOANED MONEY TO SOMEONE IN YOUR HOUSEHOLD? *(Include government agencies, institutions, banks)*														
	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
LENDERS CASH SOURCES																
6 910000000																
AMOUNT BORROWED (IN 2003)																

INFORMATION & DECISION NETWORKS

BETWEEN JANUARY AND DECEMBER, 2003, FROM WHOM DID MEMBERS OF YOUR HOUSEHOLD GET INFORMATION?

Please list the most important person first. Include people living in this household. If you are one of the information sources, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
FISHING INFORMATION SOURCES 4 1000000000																
HUNTING INFORMATION SOURCES 4 2000000000																
FINANCIAL INFORMATION SOURCES 4 900000000																

Financial information means information about jobs, grants, and other sources of money for your household.

BETWEEN JANUARY AND DECEMBER, 2003, WHO MADE DECISIONS FOR YOUR HOUSEHOLD?

Please list the most important person first. Include people living in this household. If you are one of the decision makers, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
FISHING DECISION MAKERS 5 100000000																
HUNTING DECISION MAKERS 5 2000000000																
FINANCIAL DECISION MAKERS 5 900000000																

Financial decisions include buying a new snowmachine, borrowing money for a outboard motor, opening a checking account, etc. DO NOT include everyday "decisions" like groceries or gasoline.

LABOR NETWORKS

I'M GOING TO READ A LIST OF HOUSEHOLD CHORES, WHICH MAY BE PAID OR UNPAID WORK...

LAST YEAR, WHO DID THESE CHORES FOR YOUR HOUSEHOLD? WERE THEY PAID?

	LAST YEAR, WHO DID THESE CHORES? WERE THEY PAID?															
	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
HOUSEWORK LABOR SOURCES 7 960100100																
WERE THEY PAID?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
BABYSITTING LABOR SOURCES 7 960100200																
WERE THEY PAID?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
WOOD CUTTING (FIREWOOD) 7 930130000																
WERE THEY PAID?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
BUILDING & REPAIRING (SUBSISTENCE EQUIP) 7 960200200																
WERE THEY PAID?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N

On the previous page, we asked who PAID for these chores.

On this page, we ask who DID these chores.

For almost every imaginable household, someone will do housework (cooking, laundry), usually residents of the household. Codes for people who do housework should appear here, even if they live in the household and even if they are NOT paid.

If the household includes young children, someone will care for them, usually residents of the household. Again, codes for people who care for children should appear here, even if they live in the household and even if they are NOT paid.

SUPPORT NETWORKS

IF A MEMBER OF YOUR HOUSEHOLD NEEDED SUPPORT DURING A PERSONAL CRISIS, WHO WOULD MEMBERS OF YOUR HOUSEHOLD ASK FOR SUPPORT?

Please list the most important person first. Include people living in this household. If you are an important source of support for this household, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
PERSONAL CRISIS SUPPORT SOURCES 8 960200000																

DID YOUR HOUSEHOLD HAVE ANY UNEXPECTED TROUBLES (CRISES) LAST YEAR? YES (1) NO (0) ☐

	THIS CRISIS AFFECTED OUR HOUSEHOLD	IF YES, HOW MUCH DID YOUR HH SPEND ON THIS CRISIS?	WHO HELPED YOU PAY THE EXPENSES ASSOCIATED WITH THIS CRISIS? PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12
MEDICAL TROUBLE SUPPORT SOURCES 8 960300100	YES NO	$												
LEGAL TROUBLE SUPPORT SOURCES 8 960300200	YES NO	$												
NATURAL DISASTER SUPPORT SOURCES 8 960300300	YES NO	$												
OTHER CRISIS (EXPLAIN) 8 960300500	YES NO	$												
OTHER CRISIS (EXPLAIN) 8 960300500	YES NO	$												

HARVEST QUESTIONS

Most of the rest of this survey asks about your households' harvests of wild foods.

The first page is about commercial fising. All the rest are about subsistence.

SUPPORT NETWORKS - DEATH IN HOUSEHOLD

DID ANY MEMBER OF YOUR HOUSEHOLD PASS AWAY (DIE) BETWEEN JANUARY AND DECEMBER 2003? YES (1) NO (0)

IF YES, WHO HELPED PAY THE EXPENSES ASSOCIATED WITH THIS DEATH?

Include people living in this household who helped pay for the expenses.

DEATH IN HOUSEHOLD SUPPORT SOURCES	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
8 960400000																
	PERSON CODE 17	PERSON CODE 18	PERSON CODE 19	PERSON CODE 20	PERSON CODE 21	PERSON CODE 22	PERSON CODE 23	PERSON CODE 24	PERSON CODE 25	PERSON CODE 26	PERSON CODE 27	PERSON CODE 28	PERSON CODE 29	PERSON CODE 30	PERSON CODE 31	PERSON CODE 32
	PERSON CODE 33	PERSON CODE 34	PERSON CODE 35	PERSON CODE 36	PERSON CODE 37	PERSON CODE 38	PERSON CODE 39	PERSON CODE 40	PERSON CODE 41	PERSON CODE 42	PERSON CODE 43	PERSON CODE 44	PERSON CODE 45	PERSON CODE 46	PERSON CODE 47	PERSON CODE 48

We ask only about people who helped pay expenses following a death in the household. We don't ask about people who helped in other ways because virtually everyone helps. We don't ask "death in family," because we would get very similar information from many different households.

COMMERCIAL FISHING

DID MEMBERS OF YOUR HOUSEHOLD PARTICIPATE IN COMMERCIAL FISHING BETWEEN JANUARY AND DECEMBER 2003? YES (1) NO (0)

If "YES," please complete the following table. Pounds should indicate edible weight.

	COMMERCIAL FISHED?		AREAS FISHED			NUMBER REMOVED...			ID #'S OF FISHERS	
	Y/N	INCIDENTAL	1ST	2ND	PRINCIPAL GEAR TYPE	FOR OWN USE #	TO GIVE AWAY #	UNITS	PERMIT HOLDER	CREW
CHUM SALMON **Qalugruaq** 111020001								IND 1		
PINK SALMON (HUMPIES) **Amaqtuk** 114000001								IND 1		
SILVER SALMON **Qalugruaq** 112000001								IND 1		
KING SALMON 113000003								IND 1		
SOCKEYE SALMON **Qalugruaq** 115000001								IND 1		
DOLLY VARDEN **Qalukpik** 125006000								IND 1		
HERRING **Uqsruqtuuq** 120200001								GAL 4		
SHEEFISH **Sii** 125600003								IND 1		
HALIBUT								LBS 2		
KING CRAB **Oaqua** 501008991								IND 1		
	"INCIDENTAL" means this fish was caught in a commercial fishery for some other species of fish.		*SE PWS CI CHG KOD AKP ALU BB KUSK YUK NOR KOT*		*Set Gill Net Drift Gill Net Seine Long Line Trolling Pots Trawls*			*"IND" means "individuals." That is, the number of fish caught. Note use of GAL and LBS.*		

SALMON

DO NOT INCLUDE COMMERCIAL FISHING

BETWEEN JANUARY AND DECEMBER 2003
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE SALMON?
If "YES," please complete the following table. Pounds should indicate edible weight.

YES (1) NO (0)

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY: (INCLUDE SALMON CAUGHT JUST FOR DOG FOOD) GILLNET #	SEINE #	ROD & REEL* #	OTHER GEAR TYPE	OTHER GEAR #	CAUGHT JUST FOR DOGS #	UNITS	RECEIVED Y/N	GAVE AWAY Y/N	NOTES:
CHUM SALMON **Qalugruaq** 111020003									IND 1			
PINK SALMON (HUMPIES) **Amaqtuk** 114000003									IND 1			
COHO SALMON **Qalugruaq** 112000003									IND 1			
SOCKEYE SALMON (REDS) **Qalugruaq** 115000003									IND 1			
KING SALMON 113000003									IND 1			
UNKNOWN SALMON 119000003									IND 1			

Write down the number of fish harvested by EACH type of fishing gear. We'll total it later. If a respondent reports harvests as "tubs," "buckets," "strings," or other non-standard unit, write down exactly what they say and cross out IND in the UNITS column. We'll convert non-standard units to numbers of fish later.

FINFISH (OTHER THAN SALMON & WHITEFISH)

DO NOT INCLUDE COMMERCIAL FISHING

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE FRESHWATER FINFISH OTHER THAN SALMON OR WHITEFISH?
If "YES," please complete the following table. Pounds should indicate edible weight.

YES (1) NO (0)

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY: GILLNET #	SEINE #	ROD & REEL #	ICE FISHING #	OTHER GEAR TYPE	OTHER GEAR #	UNITS	RECEIVED Y/N	GAVE AWAY Y/N	NOTES:
SHEEFISH **Sii** 125600003									IND 1			
TROUT (DOLLY VARDEN) **Qalukpik** 125006013									IND 1			
NORTHERN PIKE **Siulik** 125400003									IND 1			
ARCTIC GRAYLING **Sulukpaich** 125200003									IND 1			
BURBOT (MUDSHARK) **Tittaaliq** 124800003									IND 1			
ALASKA BLACKFISH 124600003												
OTHER FINFISH (SPECIFY)												
OTHER FINFISH (SPECIFY)												
OTHER FINFISH (SPECIFY)												

Write down the number of fish harvested by EACH type of fishing gear. We'll total it later. If a respondent reports harvests as "tubs," "buckets," "strings," or other non-standard unit, write down exactly what they say and cross out IND in the UNITS column. We'll convert non-standard units to numbers of fish later.

WHITEFISH

DO NOT INCLUDE COMMERCIAL FISHING

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE WHITEFISH?
If "YES," please complete the following table. Pounds should indicate edible weight.

YES (1) NO (0)

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY: GILLNET #	SEINE #	ROD & REEL #	ICE NET #	OTHER GEAR TYPE	OTHER GEAR #	UNITS	RECEIVED Y/N	GAVE AWAY Y/N	NOTES:
BROAD WHITEFISH **Qausiiuk** 126404003									IND 1			
HUMPBACK WHITEFISH **Amaqtuk** 125408003									IND 1			
LEAST CISCO **Qalusaaq** 126406063									IND 1			
BERING CISCO ***(Tipuk)***									IND 1			
ROUND WHITEFISH ***(Ouptik)*** 126412003									IND 1			
WHITEFISH, UKNOWN **Qalupiaq** 126499003									IND 1			

Write down the number of fish harvested by EACH type of fishing gear. We'll total it later. If a respondent reports harvests as "tubs," "buckets," "strings," or other non-standard unit, write down exactly what they say and cross out IND in the UNITS column. We'll convert non-standard units to numbers of fish later.

MARINE FINFISH (OTHER THAN SALMON & WHITEFISH)

DO NOT INCLUDE COMMERCIAL FISHING

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE MARINE FINFISH OTHER THAN SALMON OR WHITEFISH?
If "YES," please complete the following table. Pounds should indicate edible weight.

YES (1) NO (0)

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY: GILLNET #	SEINE #	ROD & REEL #	ICE FISHING #	OTHER GEAR TYPE	OTHER GEAR #	UNITS	RECEIVED Y/N	GAVE AWAY Y/N	NOTES:
HERRING **Ugeruqtuuq** 120200003												
SMELT **Ilhaugniq** 120400003												
SAFFRON COD (TOMCOD) **Iqalauq** 121010003												
ARTIC COD (BLUE COD) 121002003												
FLOUNDER **Natasgnaq** 121499003									IND 1			
SCULPIN 123099003												
OTHER MARINE FISH (SPECIFY)												
OTHER MARINE FISH (SPECIFY)												
OTHER MARINE FISH (SPECIFY)												

Write down the number of fish harvested by EACH type of fishing gear. We'll total it later. If a respondent reports harvests as "tubs," "buckets," "strings," or other non-standard unit, write down exactly what they say and cross out IND in the UNITS column. We'll convert non-standard units to numbers of fish later.

SHELLFISH & ALL-FISH ASSESSMENT

DO NOT INCLUDE COMMERCIAL FISHING

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE SHELLFISH?
If "YES," please complete the following table. Pounds should indicate edible weight.

YES (1) NO (0)

	USED? Y/N	TRIED TO HARVEST Y/N	HARVESTED NUMBER #	HARVESTED UNITS	RECEIVED Y/N	GAVE AWAY Y/N	NOTES:
KING CRAB **Qaquq** 501008992				IND 1			
TANNER CRAB ***(Miqaupait)*** 501012992				IND 1			
CLAMS **Pugutauraq** 500699002							
SHRIMP 503400002							
OTHER MARINE INVERTEBRATES							

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF FISH AS IN THE PAST? (CIRCLE ONE) — 65 / 1200000000
This question includes salmon, whitefish, all other fish, and shellfish

NEVER HARVEST (0) LESS (1) SAME (2) MORE (3)

IF LESS OR MORE, WHY?
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH FISH FOR SUBSISTENCE? (CIRCLE ONE) — 66 / 1200000000
This question includes salmon, whitefish, all other fish, and shellfish

YES (1) NO (0)

IF NO, WHY NOT?
REASON 1
REASON 2
REASON 3

SEALS

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE SEALS OR SEAL OIL?
If "YES," please complete the following table. Pounds should indicate edible weight.

YES (1) NO (0)

	USED*? Y/N	TRIED TO HARVEST? Y/N	SALVAGE? Y/N	NUMBER HARVESTED FOR FOOD #	NUMBER HARVESTED FOR HIDE ONLY #	SEX OF ANIMALS HARVESTED MALE #	SEX OF ANIMALS HARVESTED FEMALE #	SEX OF ANIMALS HARVESTED UNKNOWN #	RECEIVED Y/N	GAVE AWAY Y/N	HIDES NUMBER SOLD	HIDES AVERAGE PRICE
BEARDED SEAL, ADULT **Ugruk** 300802040												
YOUNG BEARDED SEAL **Ugrutchiaq** 300802020												
RINGED SEAL **Natchiq** 300810000												
SPOTTED SEAL **Qasigiaq** 300812000												
RIBBON SEAL **Qaigutlik** 300808000												
UNKNOWN SEAL 300899009												
SEAL OIL (SPECIES UNKNOWN) **Uqsruk** 300888000												

Households that did not harvest their own seals may not know what kind of seal produced their oil. For these households, use "SEAL OIL (SPECIES UNKNOWN)." For households that harvested their own seals, know what kind they got, and made their own oil, use the row for the appropriate species.

FISH & SHELLFISH NETWORKS

BETWEEN JANUARY AND DECEMBER 2003, WHO HARVESTED ("CAUGHT") THE FISH AND SHELLFISH YOUR HOUSEHOLD USED?

Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SALMON HARVESTERS 1 110000000																
WHITEFISH HARVESTERS 1 126400000																
OTHER FISH-SHELLFISH HARVESTERS 1 120000000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("CUT") THE FISH AND SHELLFISH YOUR HOUSEHOLD USED?

Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SALMON PROCESSORS 2 110000000																
WHITEFISH PROCESSORS 2 126400000																
OTHER FISH-SHELLFISH PROCESSORS 2 120000000																

LAST YEAR, WERE ANY OF THE FISH AND SHELLFISH USED BY YOUR HOUSEHOLD GIVEN TO YOU BY SOMEONE IN ANOTHER HOUSEHOLD OR COMMUNITY? YES (1) NO (0) ☐

IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?

Please list the most important person first. DO NOT include people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SALMON DISTRIBUTORS 3 110000000																
WHITEFISH DISTRIBUTORS 3 126400000																
OTHER FISH-SHELLFISH DISTRIBUTORS 3 120000000																

SEAL NETWORK

BETWEEN JANUARY AND DECEMBER 2003, WHO HARVESTED ("CAUGHT") THE SEALS YOUR HOUSEHOLD USED?

Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SEAL HARVESTERS 1 300800000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("CUT") THE SEALS, AND WHO MADE THE SEAL OIL YOUR HOUSEHOLD USED?

Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SEAL (& SEAL OIL) PROCESSORS 2 300800000																

LAST YEAR, WERE ANY OF THE SEALS OR SEAL OIL USED BY YOUR HOUSEHOLD GIVEN TO YOU BY SOMEONE IN ANOTHER HOUSEHOLD OR COMMUNITY? YES (1) NO (0) ☐

IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?

Please list the most important person first. DO NOT include people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SEAL (& SEAL OIL) DISTRIBUTORS 3 300800000																

MARINE MAMMALS

BETWEEN JANUARY AND DECEMBER 2003?
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE MARINE MAMMALS, OTHER THAN SEALS?
YES (1) NO (0)

If "YES," please complete the following table. Pounds should indicate edible weight.

	USED*? Y/N	TRIED TO HARVEST? Y/N	SALVAGE? Y/N	NUMBER HARVESTED FOR FOOD #	NUMBER HARVESTED FOR HIDE ONLY #	SEX OF ANIMALS HARVESTED MALE #	SEX OF ANIMALS HARVESTED FEMALE #	SEX OF ANIMALS HARVESTED UNKNOWN #	RECEIVED Y/N	GAVE AWAY Y/N	NOTES
BELUGA WHALE **Siġuaq** 301602000											
BOWHEAD WHALE **Agvik** 301606000											
GRAY WHALE 301616000											
WALRUS **Aiviq** 301400000											
POLAR BEAR **Nanuq** 300400000											

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF MARINE MAMMALS AS IN THE PAST? (CIRCLE ONE) — 65 / 300000000
This question includes seals.

IF LESS OR MORE, WHY? — NEVER HARVEST (0), LESS (1), SAME (2), MORE (3)
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH MARINE MAMMALS FOR SUBSISTENCE? (CIRCLE ONE) — 66 / 300000000
This question includes seals.

IF NO, WHY NOT? — YES (1), NO (0)
REASON 1
REASON 2
REASON 3

LARGE LAND MAMMALS

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE LARGE LAND MAMMALS?
YES (1) NO (0)

If "YES," please complete the following table. Pounds should indicate edible weight.

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED FOR FOOD: JAN-APR (SPRING) BULLS	JAN-APR (SPRING) COWS	JAN-APR (SPRING) UNK	MAY-OCT (SUMMER & FALL) BULLS	MAY-OCT (SUMMER & FALL) COWS	MAY-OCT (SUMMER & FALL) UNK	NOV-DEC (WINTER) BULLS	NOV-DEC (WINTER) COWS	NOV-DEC (WINTER) UNK	TOTAL NUMBER FOR FOOD	NUMBER HARVESTED FOR HIDE	RECEIVED Y/N	GAVE AWAY Y/N
CARIBOU **Tuttu** 211000000															
MOOSE **Tinniiqaq** 211800000															
MUSKOX **Umingmak** 212000000															
BROWN BEAR **Akiaq** 210800000															
BLACK BEAR **Iyyaġrik** 210600000															
DALL SHEEP **Ipnaiq** 212200000															

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF LARGE LAND MAMMALS AS IN THE PAST? (CIRCLE ONE) — 65 / 2100000000

IF LESS OR MORE, WHY? — NEVER HARVEST (0), LESS (1), SAME (2), MORE (3)
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH LARGE LAND MAMMALS FOR SUBSISTENCE? (CIRCLE ONE) — 66 / 2100000000

IF NO, WHY NOT? — YES (1), NO (0)
REASON 1
REASON 2
REASON 3

MARINE MAMMAL NETWORKS

BETWEEN JANUARY AND DECEMBER 2003, WHO HARVESTED ("CAUGHT") THE MARINE MAMMALS YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
BELUGA WHALE HARVESTERS																	
1	301602000																
BOWHEAD WHALE HARVESTERS																	
1	301606000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("CUT") THE MARINE MAMMALS YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
BELUGA WHALE PROCESSORS																	
2	301602000																
BOWHEAD WHALE PROCESSORS																	
2	301606000																

LAST YEAR, WERE ANY OF THE MARINE MAMMALS USED BY YOUR HOUSEHOLD GIVEN TO YOU BY SOMEONE IN ANOTHER HOUSEHOLD OR COMMUNITY? YES (1) NO (0)
IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?
Please list the most important person first. DO NOT include people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
BELUGA WHALE DISTRIBUTORS																	
3	301602000																
BOWHEAD WHALE DISTRIBUTORS																	
3	301606000																

LARGE LAND MAMMAL NETWORKS

BETWEEN JANUARY AND DECEMBER 2003, WHO HARVESTED ("CAUGHT") LARGE LAND MAMMALS YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
CARIBOU HARVESTERS																	
1	211000000																
MOOSE HARVESTERS																	
1	211800000																
MUSKOXEN HARVESTERS																	
1	212000000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("CUT") LARGE LAND MAMMALS YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
CARIBOU PROCESSORS																	
2	211000000																
MOOSE PROCESSORS																	
2	211800000																
MUSKOXEN PROCESSORS																	
2	212000000																

BETWEEN JANUARY AND DECEMBER 2003, WERE ANY OF THE LARGE LAND MAMMALS USED BY YOUR HOUSEHOLD GIVEN TO YOU BY SOMEONE IN ANOTHER HOUSEHOLD OR COMMUNITY? YES (1) NO (0)
IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?
Please list the most important person first. DO NOT include people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
CARIBOU DISTRIBUTORS																	
3	211000000																
MOOSE DISTRIBUTORS																	
3	211800000																
MUSKOXEN DISTRIBUTORS																	
3	212000000																

SMALL MAMMALS (FURBEARERS)

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE FURBEARERS?

YES (1) NO (0)

If "YES," please complete the following table.

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED FOOD #	NUMBER HARVESTED FUR ONLY #	RECEIVED Y/N	GAVE AWAY Y/N	NUMBER SOLD	AVERAGE PRICE	NOTES
WOLF **Amaġuq** 223200000									
WOLVERINE **Qapvik** 223400000									
RED FOX **Kayuqtuq** 220804000									
ARCTIC FOX **Qusraaq** 220802000									
LYNX **Nuutuuyiq** 221600000									
LAND OTTER **Pamiuqtuuq** 221200000									
MINK **Tiġiaqpak** 222200000									

RESIDENT BIRDS (INCLUDING EGGS)

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE RESIDENT BIRDS OR THEIR EGGS?

YES (1) NO (0)

If "YES," please complete the following table. Ducks, geese, and seabirds are reported on following pages, not here.

KEY NO.	RESOURCE	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED IN... ...WINTER (N D J F)	...SPRING (M A M)	...SUMMER (J J)	...FALL (A S O)	...UNKNOWN	TOTAL BIRDS HARVESTED #	TOTAL EGGS TAKEN #	RECEIVED Y/N	GAVE AWAY Y/N
43	WILLOW PTARMIGAN **Aqargiq** 421804040											
44	ROCK PTARMIGAN 421804020											
45	SPRUCE GROUSE **Napaaqtum Agargii** 421802020											
46	SNOWY OWL ***(Ukpik)*** 422003000											
46												

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF RESIDENT BIRDS AS IN THE PAST? 65 421800000

NEVER HARVEST (0) LESS (1) SAME (2) MORE (3)

IF LESS OR MORE, WHY?
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH RESIDENT BIRDS FOR SUBSISTENCE? (CIRCLE ONE) 66 421800000

YES (1) NO (0)

IF NO, WHY NOT?
REASON 1
REASON 2
REASON 3

SMALL LAND MAMMALS (FOOD OR FUR)

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE SMALL MAMMALS FOR FOOD OR FUR? YES (1) NO (0)

If "YES," please complete the following table.

	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED FOOD #	NUMBER HARVESTED FUR ONLY #	RECEIVED Y/N	GAVE AWAY Y/N	NUMBER SOLD	AVERAGE PRICE	NOTES
BEAVER **Paluqtaq** 220200000									
SNOWSHOE HARE **Ukallig** 221004000									
ARCTIC HARE **Ukallisugruk** 221002000									
PORCUPINE **Illuqutaq** 222600000									
GROUND SQUIRREL **Sikerik** 222802000									
MARMOT **Sikerikpuk** 221800000									

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF SMALL MAMMALS FOR FOOD OR FUR AS IN THE PAST? 65 / 220000000

IF LESS OR MORE, WHY? NEVER HARVEST (0) LESS (1) SAME (2) MORE (3)
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH SMALL MAMMALS FOR SUBSISTENCE? (CIRCLE ONE) 66 / 220000000

IF NO, WHY NOT? YES (1) NO (0)
REASON 1
REASON 2
REASON 3

SMALL MAMMAL & RESIDENT BIRD NETWORKS

BETWEEN JANUARY AND DECEMBER 2003, WHO HARVESTED ("CAUGHT") THE FURBEARERS, SMALL MAMMALS, AND RESIDENT BIRDS YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SMALL MAMMAL (FUR) HARVESTERS 1 2400000000																
SMALL MAMMAL (FOOD) HARVESTERS 1 220000000																
RESIDENT BIRD HARVESTERS 1 421800000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("CUT") THE FURBEARERS, SMALL MAMMALS, AND RESIDENT BIRDS YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SMALL MAMMAL (FUR) PROCESSORS 2 2400000000																
SMALL MAMMAL (FOOD) PROCESSORS 2 220000000																
RESIDENT BIRD PROCESSORS 2 421800000																

IN 2003, WERE ANY OF THE FURBEARERS, SMALL MAMMALS, OR RESIDENT BIRDS USED BY YOUR HH GIVEN TO YOU BY SOMEONE IN ANOTHER HH OR COMMUNITY? YES (1) NO (0)
IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?
Please list the most important person first. DO NOT include people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
SMALL MAMMAL (FUR) DISTRIBUTORS 3 2400000000																
SMALL MAMMAL (FOOD) DISTRIBUTORS 3 220000000																
RESIDENT BIRD DISTRIBUTORS 3 421800000																

MIGRATORY BIRDS: GEESE, CRANE, & SWAN

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE GEESE, CRANES, SWANS OR THEIR EGGS? YES (1) NO (0)
If "YES," please complete the following table.

KEY NO.		USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED IN... ...WINTER (N D J F)	...SPRING (M A M)	...SUMMER (J J)	...FALL (A S O)	...UNKNOWN	TOTAL BIRDS HARVESTED #	TOTAL EGGS TAKEN #	RECEIVED Y/N	GAVE AWAY Y/N
	CANADA GEESE **Iqsragutilik** 410404990											
1	WHITEFRONTED GEESE **Kigiyuk** 410410000											
2	EMPEROR GEESE ***(Ligligpak)*** 410406000											
5	SNOW GEESE **Kunuk** 410408000											
6	BRANT **Liglinaurat** 410402000											
47	SANDHILL CRANE **Tatigaq** 410802000											
48	TUNDRA SWAN **Qugruk** 410699000											
	UNKNOWN GEESE EGGS **Mannich** 430499000											

If eggs are from a known species of goose, crane, or swan, enter them in the "TOTAL EGGS TAKEN" column for the appropriate species. If eggs are from an unknown species of goose, enter them in the last row.

Follow the same procedure for eggs from ducks (next page) and other migratory birds (following page).

OTHER MIGRATORY BIRDS (PRIMARILY FOR EGGS) & MIGRATORY BIRD ASSESSMENT

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE OTHER MIGRATORY BIRDS OR THEIR EGGS? YES (1) NO (0)
If "YES," please complete the following table.

KEY NO.		USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED IN... ...WINTER (N D J F)	...SPRING (M A M)	...SUMMER (J J)	...FALL (A S O)	...UNKNOWN	TOTAL BIRDS HARVESTED #	TOTAL EGGS TAKEN #	RECEIVED Y/N	GAVE AWAY Y/N
	MURRE ***(Aqpa)*** 411218990											
	GULL **Nauyaq** 411212990											
	GUILLEMOT ***(Ingaiq)*** 411210990											
	CORMORANT 411204990											
	LOON ***Qagsraug, Taatchiniq*** 411216990											
	OTHER EGGS *(NOT LISTED ELSEWHERE)* 439900000											

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF GEESE, DUCKS, OTHER MIGRATORY BIRDS, AND EGGS AS IN THE PAST? 65 / 410000000

IF LESS OR MORE, WHY? NEVER HARVEST (0) LESS (1) SAME (2) MORE (3)
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH GEESE, DUCKS, OTHER MIGRATORY BIRDS, AND EGGS FOR SUBSISTENCE? (CIRCLE ONE) 66 / 410000000

IF NO, WHY NOT? YES (1) NO (0)
REASON 1
REASON 2
REASON 3

MIGRATORY BIRDS: DUCKS

BETWEEN JANUARY AND DECEMBER 2003, DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE DUCKS OR OTHER MIGRATORY BIRDS, OR THEIR EGGS? YES (1) NO (0)

If "YES," please complete the following table.

KEY NO.		USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED IN... ...WINTER (N D J F)	...SPRING (M A M)	...SUMMER (J J)	...FALL (A S O)	...UNKNOWN	TOTAL BIRDS HARVESTED #	TOTAL EGGS TAKEN #	RECEIVED Y/N	GAVE AWAY Y/N
7	NORTHERN PINTAIL **Kurugaq** 410220000											
9	MALLARD ***(Ivugasrugruk)*** 410214000											
	SCOTER **Tumpasgruk** 410228990											
8	AMERICAN WIGEON ***(Ugithiq)*** 410236020											
10	NORTHERN SHOVELER ***(Ahuttaq)*** 410230000											
	SCAUP ***(Qaqhutuuq)*** 410226990											
14	GREEN-WINGED TEAL ***(Qainniq)*** 410232060											
18	HARLEQUIN DUCK ***(Saġvam Tinmiaq)*** 410212000											
19	OLDSQUAW **Ahaaliq** 410218000											
11	COMMON EIDER ***(Amautigruaq)*** 410206020											
	RED-BREAST MERGANSER ***(Paisugruk)*** 410216990											
	UNKNOWN DUCK EGGS **Manniich** 430499000											

MIGRATORY BIRD NETWORKS

BETWEEN JANUARY AND DECEMBER 2003, WHO HARVESTED ("CAUGHT") THE GEESE, DUCKS, AND OTHER MIGRATORY BIRDS YOUR HOUSEHOLD USED?

Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
MIGRATORY BIRD HARVESTERS 1 410000000																
MIGRATORY BIRD EGG HARVESTERS 1 430000000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("PLUCKED") THE GEESE, DUCKS, AND OTHER BIRDS YOUR HOUSEHOLD USED?

Please list the most important person first. INCLUDE people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
MIGRATORY BIRD PROCESSORS 2 410000000																
MIGRATORY BIRD EGG PROCESSORS 2 430000000																

BETWEEN JANUARY AND DECEMBER 2003, WERE ANY OF THE GEESE, DUCKS, AND OTHER MIGRATORY BIRDS USED BY YOUR HOUSEHOLD GIVEN TO YOU BY SOMEONE IN ANOTHER HOUSEHOLD OR COMMUNITY? YES (1) NO (0)

IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?

Please list the most important person first. DO NOT include people living in this household.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
MIGRATORY BIRD DISTRIBUTORS 3 410000000																
MIGRATORY BIRD EGG DISTRIBUTORS 3 430000000																

BERRIES, GREENS, ROOTS, & FIREWOOD

BETWEEN JANUARY AND DECEMBER 2003,
DID MEMBERS OF YOUR HOUSEHOLD TRY TO PICK OR USE WILD BERRIES, GREENS, ROOTS, OR CUT OR USE FIREWOOD? YES (1) NO (0)

If "YES," please complete the following table. Pounds should indicate edible weight.

	USED? Y/N	TRIED TO HARVEST Y/N	AMOUNT HARVESTED #	UNIT	RECEIVED Y/N	GAVE AWAY Y/N	NOTES
BERRIES **Asiat** 601000000							
PLANTS/GREENS/MUSHROOMS **Nauriat** 602000000							
ROOTS **Masu**							
FIREWOOD **Pamiuqtat** 604000000							

LAST YEAR, DID YOUR HOUSEHOLD HARVEST LESS, MORE, OR ABOUT THE SAME AMOUNT OF WILD PLANTS AS IN THE PAST? (CIRCLE ONE) 65
(Including firewood.) 6000000000

NEVER HARVEST (0) LESS (1) SAME (2) MORE (3)

IF LESS OR MORE, WHY?
REASON 1
REASON 2
REASON 3

LAST YEAR, DID YOUR HOUSEHOLD GET ENOUGH WILD PLANTS FOR SUBSISTENCE? (CIRCLE ONE) 66
(Including firewood.) 6000000000

YES (1) NO (0)

IF NO, WHY NOT?
REASON 1
REASON 2
REASON 3

WILD FOODS AND SERVICES PROVIDED TO PEOPLE IN OTHER COMMUNITIES

BETWEEN JANUARY AND DECEMBER 2003, DID YOUR HOUSEHOLD GIVE WILD FOODS TO PEOPLE IN OTHER COMMUNITIES? YES (1) NO (0)
IF YES, TO WHOM DID YOU GIVE WILD FOODS AND WHERE DID THEY LIVE?

Please list most important gifts first.

	GIFT 01 PERSON ID	GIFT 01 COMM ID	GIFT 02 PERSON ID	GIFT 02 COMM ID	GIFT 03 PERSON ID	GIFT 03 COMM ID	GIFT 04 PERSON ID	GIFT 04 COMM ID	GIFT 05 PERSON ID	GIFT 05 COMM ID	GIFT 06 PERSON ID	GIFT 06 COMM ID	GIFT 07 PERSON ID	GIFT 07 COMM ID
BELUGA **Sisuaq** 301602000														
SEAL OIL **Uqsruk** 300888000														
SALMON **Qalugruaq** 110000000														
WHITEFISH **Qalupiaq** 126400000														
CARIBOU **Tuttu** 211000000														
MOOSE **Tinniikaq** 211800000														
DUCKS & GEESE **Tinmiat** 410000000														
BERRIES **Asiat** 601000000														

COMMUNITY IDENTIFIERS

AMB	AMBLER
DEE	DEERING
IAN	KIANA
KIV	KIVALINA
OBU	KOBUK
OTZ	KOTZEBUE
WTK	NOATAK
ORV	NOORVIK
WLK	SELAWIK
SHG	SHUNGNAK
BRW	BARROW
PHO	POINT HOPE
OME	NOME
KKA	KOYUK
SHK	SHAKTOOLIK
SHH	SHISHMAREF
UNK	UNALAKLEET
ANC	ANCHORAGE
FAI	FAIRBANKS
JUN	JUNEAU

DID YOUR HOUSEHOLD PROVIDE SUPPORT TO PEOPLE IN OTHER COMMUNITIES? YES (1) NO (0)
IF YES, TO WHOM DID YOU PROVIDE SUPPORT AND WHERE DID THEY LIVE?

Please list most important support first.

	SUPPORT 01 PERSON ID	SUPPORT 01 COMM ID	SUPPORT 02 PERSON ID	SUPPORT 02 COMM ID	SUPPORT 03 PERSON ID	SUPPORT 03 COMM ID	SUPPORT 04 PERSON ID	SUPPORT 04 COMM ID	SUPPORT 05 PERSON ID	SUPPORT 05 COMM ID	SUPPORT 06 PERSON ID	SUPPORT 06 COMM ID	SUPPORT 07 PERSON ID	SUPPORT 07 COMM ID
CHILD CARE 960100200														
SENT MONEY 910000000														

FOR COMMUNITIES NOT LISTED ABOVE WRITE NAME

WILD PLANT NETWORKS (INCLUDING FIREWOOD)

BETWEEN JANUARY AND DECEMBER 2003, WHO PICKED THE EDIBLE WILD PLANTS AND WHO CUT FIREWOOD YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
EDIBLE PLANT HARVESTERS																	
1	600000000																
FIREWOOD HARVESTRS																	
1	604000000																

BETWEEN JANUARY AND DECEMBER 2003, WHO PROCESSED ("COOKED OR STORED") THE EDIBLE WILD PLANTS, AND WHO "SPLIT" THE FIREWOOD YOUR HOUSEHOLD USED?
Please list the most important person first. INCLUDE people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
EDIBLE PLANT PROCESSORS																	
2	600000000																
FIREWOOD PROCESSORS																	
2	604000000																

BETWEEN JANUARY AND DECEMBER 2003, WERE ANY OF THE EDIBLE WILD PLANTS AND FIREWOOD USED BY YOUR HOUSEHOLD GIVEN TO YOU BY SOMEONE IN ANOTHER HOUSEHOLD OR COMMUNITY? YES (1) NO (0) ☐

IF YES, WHO GAVE THEM TO YOUR HOUSEHOLD?
Please list the most important person first. DO NOT include people living in this household.

		PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10	PERSON CODE 11	PERSON CODE 12	PERSON CODE 13	PERSON CODE 14	PERSON CODE 15	PERSON CODE 16
EDIBLE PLANT DISTRIBUTORS																	
3	600000000																
FIREWOOD DISTRIBUTORS																	
3	604000000																

SUMMARY QUESTIONS

The following two pages ask about food security, and compare this year with past years

FOOD SECURITY

I'M GOING TO READ TWO STATEMENTS ABOUT YOUR HOUSEHOLD'S FOOD SITUATION.
PLEASE TELL ME WHETHER THE STATEMENT WAS OFTEN, SOMETIMES, OR NEVER TRUE FOR YOU OR THE OTHER MEMBERS OF YOUR HOUSEHOLD IN LAST YEAR.

Circle ONE Answer to each question.

1. "THE FOOD THAT WE HAD JUST DIDN'T LAST, AND WE COULDN'T GET MORE."	OFTEN TRUE (1)	SOMETIMES TRUE (2)	NEVER TRUE (3)	
2. "WE COULDN'T GET THE FOOD WE NEEDED TO EAT HEALTHY MEALS."	OFTEN TRUE (1)	SOMETIMES TRUE (2)	NEVER TRUE (3)	
LAST YEAR DID YOU OR OTHER ADULTS IN YOUR HOUSEHOLD EVER CUT THE SIZE OF YOUR MEALS OR SKIP MEALS BECAUSE YOU COULDN'T GET THE FOOD YOU NEEDED?		YES (1)	NO (0)	
IF YES, HOW OFTEN DID THIS HAPPEN?	ALMOST EVERY MONTH (1)	SOME MONTHS BUT NOT EVERY MONTH (2)	ONLY ONE OR TWO MONTHS (3)	
LAST YEAR, WERE THERE TIMES WHEN MEMBERS OF YOUR HOUSEHOLD DID NOT HAVE ENOUGH TO EAT?	YES (1)	NO (0)	DON'T KNOW	
IF YES, WAS THIS BECAUSE…				
…MEMBERS OF YOUR HOUSEHOLD DID NOT HARVEST ENOUGH SUBSISTENCE FOOD?	YES (1)	NO (0)	DON'T KNOW	
…PEOPLE IN OTHER HOUSEHOLDS DID NOT SHARE ENOUGH SUBSISTENCE FOOD WITH YOU?	YES (1)	NO (0)	DON'T KNOW	
…FISH OR GAME WERE NOT ABUNDANT?	YES (1)	NO (0)	DON'T KNOW	
…WEATHER OR OTHER NATURAL CONDITIONS MADE SUBSISTENCE FOOD HARD TO GET?	YES (1)	NO (0)	DON'T KNOW	
…YOUR HOUSEHOLD COULD NOT AFFORD ENOUGH STORE-BOUGHT FOOD?	YES (1)	NO (0)	DON'T KNOW	
…MEMBERS OF YOUR HOUSEHOLD DID NOT HAVE ENOUGH TIME TO HUNT, FISH, OR GATHER?	YES (1)	NO (0)	DON'T KNOW	
…OTHER REASON (SPECIFY) _____	YES (1)			

MIGRATION QUESTIONS

**In contrast with the rest of the survey
the migration page asks questions that pertain to just one person.
That is why it appears here at the end.**

COMPARISONS: THIS YEAR WITH PREVIOUS YEARS

BEFORE WE FINISH, WE WANTED TO KNOW WHETHER LAST YEAR (THAT IS, 2003) WAS A TYPICAL YEAR FOR YOUR HOUSEHOLD.
I AM GOING TO ASK SEVERAL QUESTIONS ABOUT YOUR HOUSEHOLD
AND I WANT TO KNOW HOW LAST YEAR COMPARED WITH PREVIOUS YEARS.

SUBSISTENCE
THINK OF YOUR HOUSEHOLD'S PATTERN OF SUBSISTENCE ACTIVITIES…
WAS LAST YEAR SIMILAR TO OTHER YEARS, OR DIFFERENT? (CIRCLE ONE)

SIMILAR (1) DIFFERENT (0)

IF DIFFERENT, WHY WAS IT DIFFERENT?
REASON 1 _____
REASON 2 _____
REASON 3 _____

HEALTH
THINK OF THE HEALTH OF ALL THE MEMBERS OF YOUR HOUSEHOLD…
LAST YEAR, WERE MEMBERS OF YOUR HOUSEHOLD SICK OR DISABLED LESS, MORE, OR ABOUT THE SAME NUMBER OF DAYS AS IN THE PAST?

LESS (1) SAME (2) MORE (3)

IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

EMPLOYMENT
THINK OF THE ALL JOBS THAT MEMBERS OF YOUR HOUSEHOLD HAD LAST YEAR….
LAST YEAR, DID MEMBERS OF YOUR HOUSEHOLD EARN LESS, MORE, OR ABOUT THE SAME AMOUNT OF INCOME AS IN THE PAST?
For most people, "earned" income means the wages and salaries shown on their W-2 forms.

LESS (1) SAME (2) MORE (3)

IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

OTHER INCOME
THINK OF THE MONEY ALL THE MEMBERS OF YOUR HOUSEHOLD RECEIVED FROM OTHER SOURCES…
LAST YEAR, DID MEMBERS OF YOUR HOUSEHOLD RECEIVE LESS, MORE, OR ABOUT THE SAME AMOUNT OF OTHER INCOME AS IN THE PAST?
This includes PFD, longevity bonus, public assistance, energy assistance, etc.

LESS (1) SAME (2) MORE (3)

IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

MIGRATION HISTORY (FOR ONE PERSON IN THIS HOUSEHOLD)

STARTING WITH THE COMMUNITY WHERE YOU WERE BORN AND ENDING WITH BUCKLAND TODAY,
WHICH COMMUNITIES HAVE YOU LIVED IN DURING YOUR LIFE?
DO NOT INCLUDE TEMPORARY ABSENCES (LIKE SHORT-TERM MEDICAL CARE)

ID # OF PERSON RESPONDING TO THESE QUESTIONS: ____

(Information on this page applies to only ONE person in the household. Be sure to record their ID in the box in the upper right.)

	NAME OF COMMUNITY	YEAR OF ARRIVAL	WHY DID YOU MOVE TO THIS COMMUNITY?	WHY DID YOU LEAVE THIS COMMUNITY?	IN THIS COMMUNITY, DID YOU… GO TO SCHOOL?	GET MARRIED?	HAVE CHILDREN?	HAVE A JOB?	OTHER IMPORTANT EVENT?	*COMMENTS*
COMMUNITY 1		(BIRTH)	(MOTHER'S HOME) 1							
COMMUNITY 2										
COMMUNITY 3										
COMMUNITY 4										
COMMUNITY 5										
COMMUNITY 6										
COMMUNITY 7										
COMMUNITY 8										
COMMUNITY 9										
COMMUNITY 10										
COMMUNITY 11										
COMMUNITY 12										

Think of this as a "timeline," in which one community could appear several times

CHECK ALL THAT APPLY

DO YOU HAVE ANY OTHER QUESTIONS, COMMENTS, OR CONCERNS?

INTERVIEW SUMMARY:

BE SURE TO FILL IN THE STOP TIME ON THE FIRST PAGE!!!!

BUCKLAND (70) HH:_____ SUMMARY (30B) PRINTED 2/11/2004 4:14 PM

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES

If people outside of Buckland are named as harvesters, processors, or distributors, please keep track of their codes on this page.

CODE USED IN THIS SURVEY	PERSON'S NAME (FOR CODING PURPOSES ONLY NAME IS NOT ENTERED IN DATABASE)	COMMUNITY WHERE THIS PERSON LIVES	INDIVIDUAL CODE (ENTERED LATER)	RELATION TO HH HEAD	M/F	ESTIMATED AGE	COMMENTS
0015							
0016							
0017							
0018							
0019							
0020							
0021							
0022							
0023							
0024							
0025							
0026							
0027							
0028							

CODE CONSTRUCTION NOTE: The first two digits, 00__, means a household is NOT in the study community. The second two digits__01, __02, __03 identify a unique individual.

BUCKLAND (70) HH:_____ ADMINSTRATOR: REMOVE THIS PAGE FROM SURVEY PRINTED 2/11/2004 4:14 PM

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES

If people outside of Buckland are named as harvesters, processors, or distributors, please keep track of their codes on this page.

CODE USED IN THIS SURVEY	PERSON'S NAME (FOR CODING PURPOSES ONLY NAME IS NOT ENTERED IN DATABASE)	COMMUNITY WHERE THIS PERSON LIVES	INDIVIDUAL CODE (ENTERED LATER)	RELATION TO HH HEAD	M/F	ESTIMATED AGE	COMMENTS
0001							
0002							
0003							
0004							
0005							
0006							
0007							
0008							
0009							
0010							
0011							
0012							
0013							
0014							

CODE CONSTRUCTION NOTE: The first two digits, 00__, means a household is NOT in the study community. The second two digits__01, __02, __03 identify a unique individual.

BUCKLAND (70) HH:_____ ADMINSTRATOR: REMOVE THIS PAGE FROM SURVEY PRINTED 2/11/2004 4:14 PM

Appendix 2–Kiana Survey, 2006

INFORMED CONSENT

COMPREHENSIVE SUBSISTENCE SURVEY

Kiana, Alaska January to December, 2006

BEFORE WE BEGIN, I need to make sure we both understand what this survey is about. The survey asks how much fish, game, birds, and plants your household harvested last year. It also asks about who lived in your household, and what kind of jobs they had last year. It asks about your household's income last year. And it asks who helped your household get subsistence foods and who supported your household in other ways last year.

We are doing this survey to better understand subsistence in Alaska. We have conducted similar surveys in more than 100 Alaska communities, including Deering, Buckland, Kotzebue, Kivalina, Noatak, Shungnak, Shishmaref, and Wales. Surveys help us estimate subsistence harvests. Surveys also help us describe the role of subsistence in Alaska's economy. I have examples of some of our reports, if you would like to see them.

Before we can do this survey, we need to sign an agreement. We have signed a similar agreement with the Kiana Traditional Council.

By signing this paper, we agree that:

* This survey is confidential. We will not put your name on the survey. We will not use your name in our reports.
* When it is necessary to keep track of people's identites, we will use confidential codes.
* We will add the survey data to a computer database with subsistence harvests for many Alaska communities.
* We will publish a report describing the subsistence economy in your community
* We will provide a DRAFT copy of the report to the IRA for review before we publish it.

By signing this paper, you agree that:

* You understand this survey is voluntary.
* You understand that we will publish one or more reports describing the subsistence economy in your community.
* You understand that summary data about your community's harvests will be stored in a computer database.

Do you have any questions?

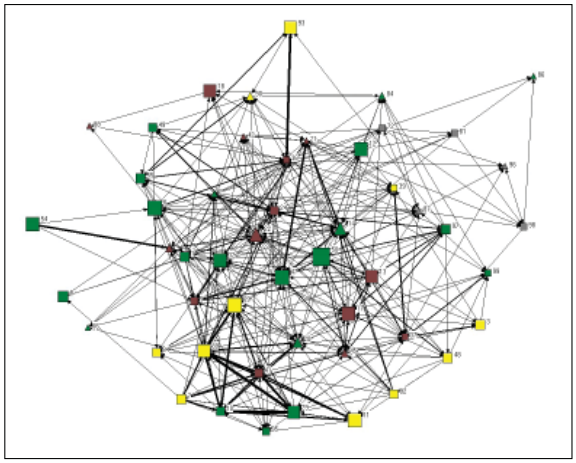
RESPONDENT		RESEARCHER		
_____		_____		_____
(signature)		(signature)		(date)
_____		_____		
(printed name)		(printed name)		

COOPERATING ORGANIZATIONS

KIANA TRADITIONAL COUNCIL	WESTERN ARCTIC PARKLANDS	DIVISION OF SUBSISTENCE	TRIBAL GOVERNMENT SERVICES
BOX 69	NATIONAL PARK SERVICE	ALASKA DEPT. OF FISH & GAME	MANILAQ ASSOCIATION
KIANA, AK 99749	BOX 1029	BOX 689	BOX 256
	KOTZEBUE, AK	KOTZEBUE, AK 99752	KOTZEBUE, AK 99752
907-475-2109	800-478-7252	800-478-3420	800-478-3312

ADMINISTRATOR: REMOVE THIS PAGE FROM SURVEY

ABOUT SOCIAL NETWORK ANALYSIS



The diagram above shows how wild foods were shared among households in Shungnak in 2002. Each box is a household. The lines between the households show the flow of wild foods from one house to another. At a glance, you can see how much sharing there was. Most of the elder households (brown boxes) and all of the single elder households (triangles) are near the center of the diagram, which means they are near the center of the sharing network. The younger households (yellow) tend to be on the edges of the network. As they age, we would expect them to move towards the center. This diagram is an example of social network analysis. To draw it, we asked questions like:

- Who killed the moose your household used?
- Who cut the fish your household used?
- Who paid your household bills?

Your answers to these questions help us describe sharing and cooperation, important parts of subsistence life. We do not expect you to remember everyone who helped your household. We hope you can remember the most important people.

We do not use names on our surveys. Instead, we have developed codes for everyone in your community. To properly code people who do not live in this community, we do enter names on a tear-off sheet. After non-local names have been coded for confidentiality, this sheet will be removed.

ADMINISTRATOR: REMOVE THIS PAGE FROM SURVEY

OMB FINAL

COMPREHENSIVE SUBSISTENCE SURVEY

KIANA, ALASKA

January to December, 2006

COOPERATING ORGANIZATIONS

KIANA TRADITIONAL COUNCIL	WESTERN ARCTIC PARKLANDS	DIVISION OF SUBSISTENCE	TRIBAL GOVERNMENT SERVICES
BOX 69	NATIONAL PARK SERVICE	ALASKA DEPT. OF FISH & GAME	MANILAQ ASSOCIATION
KIANA, AK	BOX 1029	BOX 689	BOX 256
	KOTZEBUE, AK 99752	KOTZEBUE, AK 99752	KOTZEBUE, AK 99752
907-475-2109	800-478-7252	800-478-3420	800-478-3312

This survey is used to estimate subsistence harvests and to describe community subsistence economies. We will publish a summary report, and send it to all households in your community. We share this information with the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service and the National Park Service. We work with the Federal Regional Advisory Councils and with local Fish and Game Advisory Committees to better manage subsistence, and to implement federal and state subsistence priorities.

We will NOT identify your household. We will NOT use this information for enforcement.

OMB Approval #1024-0224 (NPS #07-009)

For ALL households, fill in the HH ID, DATE, and START TIME in the box to the right.

If the household is willing to be surveyed, complete the survey. Then come back to this page and fill in the STOP TIME. It is often helpful to give respondents a blank copy of the survey so they can follow along as you read the questions.

If the household is not willing to be surveyed, have the respondent sign the form. Then fill in the STOP TIME and return the BLANK survey to the project supervisor.

	KIANA	187
HH ID:		
INTERVIEWER		
INTERVIEW DATE:		
START TIME:		
STOP TIME:		
DATA CODED BY:		
DATA ENTERED BY:		
SUPERVISOR:		JSM

COVER (00) Page 1 KIANA: 187 HH:_____

OMB FINAL

HOUSEHOLD MEMBERS…

CODE FOR PERSON RESPONDING TO THIS SURVEY

EACH PERSON'S ROW…

ID#	PERSON CODE (from code book)	MALE OR FEMALE? (circle)	ALASKA NATIVE? (circle)	WHEN WAS THIS PERSON BORN? (year)	HOW IS THIS PERSON RELATED TO HEAD? (relation)	LAST GRADE OF SCHOOL COMPLETED? (grade)	LIVED IN KIANA SINCE BIRTH? (circle)	IF NOT HERE SINCE BIRTH… WHERE IS THIS PERSON'S BIRTH HOME? (community)	WHEN DID THIS PERSON MOVE HERE? (year)	FROM WHERE DID THIS PERSON MOVE? (community)
01		M F	Y N				Y N			
HEAD										
02		M F	Y N				Y N			
HEAD										
03		M F	Y N				Y N			
04		M F	Y N				Y N			
05		M F	Y N				Y N			
06		M F	Y N				Y N			
07		M F	Y N				Y N			
08		M F	Y N				Y N			
09		M F	Y N				Y N			
10		M F	Y N				Y N			
11		M F	Y N				Y N			
12		M F	Y N				Y N			
13		M F	Y N				Y N			
14		M F	Y N				Y N			
15		M F	Y N				Y N			

OMB FINAL

… SUBSISTENCE ACTIVITIES

FOR EACH PERSON IN THE HOUSEHOLD

…CONTINUES ACROSS BOTH PAGES

ID#	IN 2006, WAS THIS PERSON AN ACTIVE SUBSISTENCE HARVESTER? (circle)	IN 2006, IN WHICH MONTHS WAS THIS PERSON **ABLE** TO HUNT, FISH, OR GATHER? (circle)	IF THIS PERSON WAS **NOT** ABLE TO HUNT, FISH, OR GATHER ANY MONTH BETWEEN JANUARY and DECEMBER, 2006, …WHY NOT? TOO OLD	TOO YOUNG	IN SCHOOL	WORKING	BABYSITTING	HEALTH	ABSENT	OTHER	("X" all that apply. Explain "OTHER")
01	Y N	J F M A M J J A S O N D									
HEAD											
02	Y N	J F M A M J J A S O N D									
HEAD											
03	Y N	J F M A M J J A S O N D									
04	Y N	J F M A M J J A S O N D									
05	Y N	J F M A M J J A S O N D									
06	Y N	J F M A M J J A S O N D									
07	Y N	J F M A M J J A S O N D									
08	Y N	J F M A M J J A S O N D									
09	Y N	J F M A M J J A S O N D									
10	Y N	J F M A M J J A S O N D									
11	Y N	J F M A M J J A S O N D									
12	Y N	J F M A M J J A S O N D									
13	Y N	J F M A M J J A S O N D									
14	Y N	J F M A M J J A S O N D									
15	Y N	J F M A M J J A S O N D									

OMB FINAL

JOBS

FOR EACH PERSON IN THE HOUSEHOLD, 16 YEARS OLD AND OLDER

Between JANUARY and DECEMBER, 2006…
…Did any members of your household earn money from a JOB or from SELF EMPLOYMENT?..... Y N

IF NO, go to the next page.
If YES, continue on this page…

PLEASE LIST EACH JOB HELD BY A MEMBER OF THIS HOUSEHOLD BETWEEN JANUARY and DECEMBER, 2006.

We ask about jobs and income because we are trying to understand all parts of the community economy. Many people use wages from jobs to support subsistence activities. If one person has more than one job, list each job on a separate line. (One person may have several lines.)

	WHO HAD THIS JOB? (code)	WHAT KIND OF WORK DID HE/SHE DO IN THIS JOB? job title	FOR WHOM DID HE/SHE WORK IN THIS JOB? (employer)	IN 2006, WHAT MONTHS DID HE OR SHE WORK IN THIS JOB? (circle months worked)	WORK SCHEDULE… FULL TIME	PART TIME	SHIFT - FULL TIME	ON CALL, VARIES	SHIFT - PART TIME (circle one)	IN 2006, HOW MUCH DID HE/SHE EARN IN THIS JOB? (gross income)
1ST JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
1 6 910100000		SOC	EMP				SCHED			
2ND JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
2 6 910100000		SOC	EMP				SCHED			
3RD JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
3 6 910100000		SOC	EMP				SCHED			
4TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
4 6 910100000		SOC	EMP				SCHED			
5TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
5 6 910100000		SOC	EMP				SCHED			
6TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
6 6 910100000		SOC	EMP				SCHED			
7TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
7 6 910100000		SOC	EMP				SCHED			
8TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
8 6 910100000		SOC	EMP				SCHED			
9TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
9 6 910100000		SOC	EMP				SCHED			
10TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
10 6 910100000		SOC	EMP				SCHED			
11TH JOB				J F M A M J J A S O N D	FT	PT	SF	OC	SP	$ / YR
11 6 910100000		SOC	EMP				SCHED			

If a person is SELF-EMPLOYED (selling carvings, crafts, bread, etc), list that as a separate job. Enter "sewer," "carver," "baker," etc. as JOB TITLE. Work schedule usually will be "ON CALL." For gross income from self employment ("profit"), enter revenue MINUS expenses.

If a person is UNEMPLOYED, specify retired, unemployed, disabled, student, or homemaker as the JOB TITLE.

TRAPPING for barter or sale IS a job.

WORK SCHEDULE
1 - Fulltime (35+ hours/week)
2 - Parttime (<35 hours/week)
3 - Shift (2 wks on/2 off, etc.)
4 - Irregular, on call
5 - Shift - part time

GROSS INCOME is the same as TAXABLE INCOME on a W-2 form.

OMB FINAL

OTHER INCOME

THIS PAGE IS ONLY FOR INCOME THAT IS NOT EARNED FROM WORKING

Between JANUARY and DECEMBER, 2006…
…Did any members of your household receive income from ANOTHER SOURCE, such as an Alaska Permanent Fund Dividend? Y N

IF NO, go to the next page.
If YES, continue on this page…

PLEASE LIST ALL OTHER INCOME RECEIVED BY MEMBERS OF THIS HOUSEHOLD BETWEEN JANUARY and DECEMBER, 2006
Enter ANNUAL total. If respondent gives you MONTHLY income, calculate (monthly amount) x (months) = (annual amount). For example, if a respondent gets a $100 pension every month, calculate $100 x 12 = $1,200. If respondent got $1,200 in unemployment for three months, calculate 1,200 x 3 = $3,600. If income changes month to month, use typical monthly income.

		DID ANYONE IN YOUR HH RECEIVE INCOME FROM _____ IN 2006? (circle one)	IF YES, WHO RECEIVED INCOME FROM _____ IN 2006? HEAD 01	HEAD 02	PERSON 03	PERSON 04	PERSON 05	PERSON 06	PERSON 07	PERSON 08	PERSON 09	PERSON 10	PERSON 11	PERSON 12	PERSON 13	PERSON 14	PERSON 15 (If person received this kind of income, circle their number)	HOW MUCH DID ALL MEMBERS OF YOUR HH RECEIVE FROM _____ IN 2006? (dollars)
DIVIDENDS	ALASKA PERMANENT FUND DIVIDEND 32	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															Administrator will calculate
	NATIVE CORPORATION DIVIDENDS 13	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
JOB BENEFITS	UNEMPLOYMENT 12	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
	WORKERS' COMPENSATION 8	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
ASSISTANCE	FOOD STAMPS 11	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
	ADULT PUBLIC ASSISTANCE 3	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
ELDERS	PENSION & RETIREMENT 5	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
	SOCIAL SECURITY 7	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
CHILD BENEFITS	SUPPLEMENTAL SECURITY 10	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
	FOSTER CARE * 41	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
	CHILD SUPPORT * 15	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR
ENERGY	ENERGY ASSISTANCE 9	Y N	not an individual benefit 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0															$ / YR
	WEATHERIZATION 34	Y N	not an individual benefit 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0															$ / YR
	OTHER (describe)	Y N	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15															$ / YR

** FOSTER CARE or CHILD SUPPORT payments should be assigned to the primary caregivers, NOT to the child.*

OMB FINAL

GROCERY EXPENSES

ABOUT HOW MUCH DID YOUR HOUSEHOLD SPEND ON GROCERIES IN 2006?

For all items on this page, enter ANNUAL totals. If a respondent gives you a MONTHLY amount, enter "(monthly amount) x 12 = (annual total)."
For example, if a respondent says the household usually spends a $100 a month on groceries,write ***"$100 x 12 = $1,200"***
If expenses change a lot from month to month, calculate the annual total using a typical monthly cost, not the highest or the lowest monthly cost.

GROCERIES

GROCERIES $ _____ PER YEAR

BETWEEN JANUARY AND DECEMBER, 2006, WHO PAID FOR YOUR HOUSEHOLD GROCERIES?
Please list the most important person first. Include people living in this household. If you are one of the sources, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
GROCERIES 940100000										

HOUSEHOLD EXPENSES

I'M GOING TO READ A LIST OF HOUSEHOLD EXPENSES. PLEASE TELL ME HOW MUCH YOUR HOUSEHOLD SPENT ON EACH IN 2006.
Enter the ANNUAL total. If respondent gives you their MONTHLY expenses write the "(monthly amount) x 12 = (annual total)."

HOUSING EXPENSES

RENT OR MORTGAGE $ _____ PER YR
HEATING FUEL $ _____ PER YR
PROPANE $ _____ PER YR
ELECTRICITY $ _____ PER YR
WATER-SEWER-GARBAGE $ _____ PER YR
TELEPHONE $ _____ PER YR
TELEVISION (CABLE OR SATELLITE) $ _____ PER YR

BETWEEN JANUARY AND DECEMBER, 2006, WHO PAID YOUR HOUSEHOLD EXPENSES (ABOVE)?
Please list the most important person first. Include people living in this household. If you are one of the sources, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
HOUSEHOLD EXPENSES 920000000										

SUBSISTENCE SUPPLIES

I'M GOING TO READ A LIST OF SUBSISTENCE SUPPLIES. PLEASE TELL ME HOW MUCH YOUR HOUSEHOLD SPENT ON EACH IN 2006.
Enter the ANNUAL total. If respondent gives you their MONTHLY expenses write the "(monthly amount) x 12 = (annual total)."

SUBSISTENCE SUPPLIES

GASOLINE $ _____ PER YR
AMMUNITION $ _____ PER YR
CAMP SUPPLIES $ _____ PER YR

BETWEEN JANUARY AND DECEMBER, 2006, WHO PAID FOR YOUR HOUSEHOLD'S SUBSISTENCE SUPPLIES (ABOVE)?
Please list the most important person first. Include people living in this household. If you are one of the sources, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
SUBSISTENCE SUPPLIES 950000000										

OMB FINAL

SUBSISTENCE EQUIPMENT

BETWEEN JANUARY and DECEMBER, 2006,
DID MEMBERS OF YOUR HOUSEHOLD USE EQUIPMENT LIKE BOATS, SNOWMACHINES, OR 4-WHEELERS TO HARVEST SUBSISTENCE FOODS? YES (1) NO (0)

If "NO," skip to the next page.
If "YES", continue on this page...

I AM GOING TO READ A LIST OF EQUIPMENT THAT PEOPLE OFTEN USE FOR SUBSISTENCE. PLEASE TELL ME IF YOUR HOUSEHOLD USED OR OWNED THIS EQUIPMENT IN 2006, AND WHETHER YOU PURCHASED OR REPAIRED THIS EQUIPMENT IN 2006.

	IN 2006, DID YOUR HH USE? (circle)	IN 2006, HOW MANY WORKING _____ DID YOUR HH OWN? (number)	PURCHASES: IN 2006, HOW MANY DID YOUR HH BUY? (number)	PURCHASES: HOW MUCH WERE YOUR TOTAL PURCHASES IN 2006? (dollars)	MAINTENANCE: IN 2006, DID YOU REPAIR? (circle one)	MAINTENANCE: HOW MUCH DID PARTS & REPAIRS COST IN 2006? (dollars)
BOAT(S) 980110000	Y N			$	Y N	$
OUTBOARD MOTOR(S) 980120000	Y N			$	Y N	$
SNOWMACHINE(S) 980210100	Y N			$	Y N	$
ATV(S), 4-WHEELER(S) 980210200	Y N			$	Y N	$
CAR(S) OR TRUCK(S) 980220200	Y N			$	Y N	$

If the equipment belonged to someone in another household, but was used by someone in this household, answer "YES."

If ALL the equipment in a category belonged to people in other households, enter a ZERO and go to the next category. This space is just for equipment owned by members of this household. Do NOT count equipment that DID NOT WORK at any time during the past year.

WHO OWNED THE EQUIPMENT YOUR HOUSEHOLD USED FOR SUBSISTENCE BETWEEN JANUARY AND DECEMBER, 2006?
Please list the most important person first. Include people living in this household. INCLUDE people living in other households if they owned equipment that your household members used. INCLUDE yourself, if you owned equipment your household members used for subsistence.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
BOAT(S) 9 980110000										
OUTBOARD MOTOR(S) 9 980120000										
SNOWMACHINE(S) 9 980210100										
ATV(S), 4-WHEELER(S) 9 980210200										
CAR(S) OR TRUCK(S) 9 980220200										

OMB FINAL

HOUSEHOLD SUPPORT NETWORKS

BETWEEN JANUARY and DECEMBER, 2006 FROM WHOM DID MEMBERS OF YOUR HOUSEHOLD GET INFORMATION?
Please list the most important person first. Include people living in this household. If you are one of the information sources, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
FISHING INFORMATION SOURCES 4 100000000										
HUNTING INFORMATION SOURCES 4 200000000										
FINANCIAL INFORMATION SOURCES 4 900000000										

Financial information means information about jobs, grants, and other sources of money for your household.

BETWEEN JANUARY and DECEMBER, 2006 WHO MADE DECISIONS FOR YOUR HOUSEHOLD?
Please list the most important person first. Include people living in this household. If you are one of the decision makers, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
FISHING DECISION MAKERS 5 100000000										
HUNTING DECISION MAKERS 5 200000000										
FINANCIAL DECISION MAKERS 5 900000000										

Financial decisions include buying a new snowmachine, borrowing money for a outboard motor, opening a checking account, etc. DO NOT include everyday "decisions" to buy groceries or gasoline.

I AM GOING TO READ A LIST OF THINGS THAT PEOPLE MIGHT DO FOR YOUR HOUSEHOLD.
BETWEEN JANUARY and DECEMBER, 2006 WHO DID THESE THINGS FOR YOUR HOUSEHOLD?
Please list the most important person first. Include people living in this household. If you are one of the workers, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
BUILT OR REPAIRED SUBSISTENCE EQUIPMENT 7 960200000										
COOKED & CLEANED FOR YOUR HOUSEHOLD 7 960100100										
WATCHED CHILDREN FOR YOUR HOUSEHOLD 7 960100200										

BETWEEN JANUARY and DECEMBER, 2006 WHO IN KIANA HAD A POSITIVE INFLUENCE ON COMMUNITY LIFE?
Please list the most important person first. Include people living in this household. If you are one of the influential people, include yourself.

	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
POSITIVE INFLUENCE ON COMMUNITY LIFE 10										

Influence means they could change things for your community.

OMB FINAL

CREWS

BETWEEN JANUARY and DECEMBER, 2006, DID YOUR HOUSEHOLD DEPEND UPON A HUNTING CREW, FISHING CREW, OR OTHER TYPE OF **CREW** FOR SOME OF YOUR SUBSISTENCE FOODS? YES (1) NO (0)

If "NO," skip to the next page.
If "YES", continue on this page...

WHAT TYPE OF CREW OR CREWS DID YOUR HOUSEHOLD DEPEND UPON FOR FOOD IN 2006?

Write each crew on a separate line. For example, if the household depended upon two different whaling crews and a walrus crew, list THREE crews:

CREW 1 - "Whaling 1"
CREW 2 - "Whaling 2"
CREW 3 - "Whitefish Seining Crew"

Please DO NOT use personal names like "Silook Whaling Crew". Captains should be identified only by their codes, below.

resource code

CREW 1 _____
CREW 2 _____
CREW 3 _____
CREW 4 _____
CREW 5 _____
CREW 6 _____

IN 2006, WHO WERE THE USUAL MEMBERS OF THE CREWS THAT PROVIDED SUBSISTENCE FOODS FOR YOUR HOUSEHOLD?
CREW 1 below should be the same as CREW 1 above...
If the crew has a CAPTAIN, list the captain FIRST. Otherwise, list the most important people first.
Include people in this household, if they are on the crew. If you are on the crew, include yourself.

	CREW CAPTAIN	PERSON CODE 01	PERSON CODE 02	PERSON CODE 03	PERSON CODE 04	PERSON CODE 05	PERSON CODE 06	PERSON CODE 07	PERSON CODE 08	PERSON CODE 09	PERSON CODE 10
CREW 1 MEMBERS 10											
CREW 2 MEMBERS 10											
CREW 3 MEMBERS 10											
CREW 4 MEMBERS 10											
CREW 5 MEMBERS 10											
CREW 6 MEMBERS 10											

If the crew has a captain, enter code here. If the crew has NO captain, leave this column BLANK.

OMB FINAL

SALMON

Do members of your household USUALLY fish for SALMON for subsistence?..... Y N

Between JANUARY and DECEMBER, 2006...
...Did members of your household USE or TRY TO HARVEST salmon?..... Y N

IF NO, go to the next harvest page.
If YES, continue on this page...

Please estimate how many SALMON your household HARVESTED for subsistence use this year, including with a rod and reel. It is important to report ONLY YOUR SHARE of the catch if fishing with others. Include SALMON you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others fish.

	DID YOUR HOUSEHOLD...		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?			HOW MANY OF THOSE WERE CAUGHT JUST FOR DOGS?		WERE THERE LESS, SAME, OR MORE (____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	...USE (____) IN 2006?	...TRY TO HARVEST (____) IN 2006?	CAUGHT WITH GILL NET OR SEINE	CAUGHT WITH ROD AND REEL	KEPT FROM COM'ERCIAL FISHING		UNITS	
	(circle)	*(circle)*	*(number taken by each gear, blank=none)*			*(number)*	*(ind, lbs, etc)*	*(circle one)*
CHUM SALMON *Qalugruaq* 111020003	Y N	Y N						L S M ?
PINK SALMON *Amagtuk* 114000003	Y N	Y N						L S M ?
COHO SALMON *Qalugruaq* 112000003	Y N	Y N						L S M ?
SOCKEYE SALMON *Qaluagruaq* 115000003	Y N	Y N						L S M ?
KING SALMON *Qaluagpuk* 113000003	Y N	Y N						L S M ?
UNKNOWN SALMON 119000003	Y N	Y N						L S M ?
			These columns should include all the salmon harvested by this household in 2006.					*"?" means "I Don't Know"*

Between JANUARY and DECEMBER, 2006...
...Did your household harvest LESS, MORE, or about the SAME amount of salmon as in the past? X L S M
(X="Never Harvest")

...Did your household get ENOUGH salmon for your needs?..... Y N

IF YES, go to the next page.
If NO, continue on this page...

WHY did your household NOT get enough salmon for your needs?

	resource	*no.*	*reason*

OMB FINAL

SALMON HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006...
...WHO CAUGHT THE SALMON YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

order, res, & role	PERSON CODE *00000*	HOW MUCH SALMON DID THIS PERSON HARVEST FOR **YOUR HH**? *number)*	UNITS *(ind, gals)*	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR **YOUR HH**? *(circle one)*
1ST SALMON HARVESTER 1 1 110000000				F S L
2ND SALMON HARVESTER 2 1 110000000				F S L
3RD SALMON HARVESTER 3 1 110000000				F S L
4TH SALMON HARVESTER 4 1 110000000				F S L
5TH SALMON HARVESTER 5 1 110000000				F S L
6TH SALMON HARVESTER 6 1 110000000				F S L
7TH SALMON HARVESTER 7 1 110000000				F S L
8TH SALMON HARVESTER 8 1 110000000				F S L
9TH SALMON HARVESTER 9 1 110000000				F S L
10TH SALMON HARVESTER 10 1 110000000				F S L
11TH SALMON HARVESTER 11 1 110000000				F S L
12TH SALMON HARVESTER 12 1 110000000				F S L
13TH SALMON HARVESTER 13 1 110000000				F S L
14TH SALMON HARVESTER 14 1 110000000				F S L
15TH SALMON HARVESTER 15 1 110000000				F S L
16TH SALMON HARVESTER 16 1 110000000				F S L

PROCESSORS

WHO PROCESSED, OR "CUT" THE SALMON YOUR HOUSEHOLD USED?

order	PERSON CODE *00000*	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR **YOUR HH**? *(circle one)*
1ST PRO 1		F S L
2ND PRO 2		F S L
3RD PRO 3		F S L
4TH PRO 4		F S L
5TH PRO 5		F S L
6TH PRO 6		F S L
7TH PRO 7		F S L
8TH PRO 8		F S L
9TH PRO 9		F S L
10TH PRO 10		F S L
11TH PRO 11		F S L
12TH PRO 12		F S L
13TH PRO 13		F S L
14TH PRO 14		F S L
15TH PRO 15		F S L
16TH PRO 16		F S L

DISTRIBUTORS

WHO ELSE GAVE YOUR HH SALMON?

order	PERSON CODE *00000*	DID THIS PERSON GIVE **YOUR HH** A FEW, SOME, OR LOTS? *(circle one)*
1ST DIST 1		F S L
2ND DIST 2		F S L
3RD DIST 3		F S L
4TH DIST 4		F S L
5TH DIST 5		F S L
6TH DIST 6		F S L
7TH DIST 7		F S L
8TH DIST 8		F S L
9TH DIST 9		F S L
10TH DIST 10		F S L
11TH DIST 11		F S L
12TH DIST 12		F S L
13TH DIST 13		F S L
14TH DIST 14		F S L
15TH DIST 15		F S L
16TH DIST 16		F S L

OMB FINAL

OTHER FRESH WATER FISH

Do members of your household USUALLY fish for OTHER FRESH WATER FISH for subsistence?..... Y N

Between JANUARY and DECEMBER, 2006...
...Did members of your household USE or TRY TO HARVEST other fresh water fish?..... Y N

IF NO, go to the next harvest page.
If YES, continue on this page...

Please estimate how many OTHER FRESH WATER FISH your household HARVESTED for subsistence use this year, including with a rod and reel. It is important to report ONLY YOUR SHARE of the catch if fishing with others. Include OTHER FRESH WATER FISH you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others fish.

If the household reports harvesting any other kinds of other fresh water fish, please enter the species name and harvest information in a blank row.

	DID YOUR HOUSEHOLD...		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?					HOW MANY WERE JUST FOR DOGS?		WERE THERE LESS, SAME, OR MORE (____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	...USE (____) IN 2006?	...TRY TO HARVEST (____) IN 2006?	WITH GILLNET OR SEINE	WITH ROD AND REEL	WITH JIG THRU THE ICE	WITH OTHER GEAR	KEPT FROM COMM FISHING		UNITS	
	(circle)	*(circle)*	*(number taken by each gear, blank=none)*					*(#)*	*(ind, lbs, etc)*	*(circle one)*
WHITEFISH *Qalupiaq* 126400000	Y N	Y N								L S M ?
SHEEFISH *Siı* 125600003	Y N	Y N								L S M ?
DOLLY VARDEN (TROUT) *Qalukpik* 125006013	Y N	Y N								L S M ?
NORTHERN PIKE *Siulik* 125400003	Y N	Y N								L S M ?
ARCTIC GRAYLING *Sulukpaugaq* 125200003	Y N	Y N								L S M ?
SMELT *Iliuagniq* 120400003	Y N	Y N								L S M ?
	Y N	Y N								L S M ?

Between JANUARY and DECEMBER, 2006...
...Did your household use or harvest any other kind of other fresh water fish?..... Y N
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below...

Between JANUARY and DECEMBER, 2006...
...Did your household harvest LESS, MORE, or about the SAME amount of other fresh water fish as in the past? X L S M
(X="Never Harvest")

...Did your household get ENOUGH other fresh water fish for your needs?..... Y N

IF YES, go to the next page.
If NO, continue on this page...

WHY did your household NOT get enough other fresh water fish for your needs?

	resource	*no.*	*reason*

OMB FINAL

WHITEFISH HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006...
...WHO CAUGHT THE WHITEFISH YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

order, res, & role	PERSON CODE *00000*	HOW MUCH WHITEFISH DID THIS PERSON HARVEST FOR **YOUR HH**? *number)*	UNITS *(ind, gals)*	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR **YOUR HH**? *(circle one)*
1ST WHITEFISH HARVESTER 1 1 126400000				F S L
2ND WHITEFISH HARVESTER 2 1 126400000				F S L
3RD WHITEFISH HARVESTER 3 1 126400000				F S L
4TH WHITEFISH HARVESTER 4 1 126400000				F S L
5TH WHITEFISH HARVESTER 5 1 126400000				F S L
6TH WHITEFISH HARVESTER 6 1 126400000				F S L
7TH WHITEFISH HARVESTER 7 1 126400000				F S L
8TH WHITEFISH HARVESTER 8 1 126400000				F S L
9TH WHITEFISH HARVESTER 9 1 126400000				F S L
10TH WHITEFISH HARVESTER 10 1 126400000				F S L
11TH WHITEFISH HARVESTER 11 1 126400000				F S L
12TH WHITEFISH HARVESTER 12 1 126400000				F S L
13TH WHITEFISH HARVESTER 13 1 126400000				F S L
14TH WHITEFISH HARVESTER 14 1 126400000				F S L
15TH WHITEFISH HARVESTER 15 1 126400000				F S L
16TH WHITEFISH HARVESTER 16 1 126400000				F S L

PROCESSORS

WHO PROCESSED, OR "CUT" THE WHITEFISH YOUR HOUSEHOLD USED?

order	PERSON CODE *00000*	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR **YOUR HH**? *(circle one)*
1ST PRO 1		F S L
2ND PRO 2		F S L
3RD PRO 3		F S L
4TH PRO 4		F S L
5TH PRO 5		F S L
6TH PRO 6		F S L
7TH PRO 7		F S L
8TH PRO 8		F S L
9TH PRO 9		F S L
10TH PRO 10		F S L
11TH PRO 11		F S L
12TH PRO 12		F S L
13TH PRO 13		F S L
14TH PRO 14		F S L
15TH PRO 15		F S L
16TH PRO 16		F S L

DISTRIBUTORS

WHO ELSE GAVE YOUR HH WHITEFISH?

order	PERSON CODE *00000*	DID THIS PERSON GIVE **YOUR HH** A FEW, SOME, OR LOTS? *(circle one)*
1ST DIST 1		F S L
2ND DIST 2		F S L
3RD DIST 3		F S L
4TH DIST 4		F S L
5TH DIST 5		F S L
6TH DIST 6		F S L
7TH DIST 7		F S L
8TH DIST 8		F S L
9TH DIST 9		F S L
10TH DIST 10		F S L
11TH DIST 11		F S L
12TH DIST 12		F S L
13TH DIST 13		F S L
14TH DIST 14		F S L
15TH DIST 15		F S L
16TH DIST 16		F S L

OMB FINAL

MARINE FISH

Do members of your household USUALLY fish for MARINE FISH for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST marine fish?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many MARINE FISH your household HARVESTED for subsistence use this year, including with a rod and reel. It is important to report ONLY YOUR SHARE of the catch if fishing with others. Include MARINE FISH you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others fish.

If the household reports harvesting any other kinds of marine fish, please enter the species name and harvest information in a blank row.

	DID YOUR HOUSEHOLD…		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?					HOW MANY WERE JUST FOR DOGS?	UNITS	WERE THERE LESS, SAME, OR MORE (_____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	…USE (_____) IN 2006?	…TRY TO HARVEST (_____) IN 2006?	WITH GILLNET OR SEINE	WITH ROD AND REEL	WITH JIG THRU THE ICE	WITH OTHER GEAR	KEPT FROM COMM FISHING			
	(circle)	*(circle)*	*(number taken by each gear, blank=none)*					*(#)*	*(ind, lbs, etc)*	*(circle one)*
HERRING *Uksruktuuq, Igaliuqpaq* 120200003	Y N	Y N								L S M ?
TOMCOD *Uugaq, Igaliuaq* 121010003	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of marine fish?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of marine fish as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH marine fish for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough marine fish for your needs?

	resource	*no.*	*reason*

OMB FINAL

SHELLFISH

Do members of your household USUALLY fish for SHELLFISH for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST shellfish?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many SHELLFISH your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if fishing with others. Include SHELLFISH you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others fish.

If the household reports harvesting any other kinds of shellfish, please enter the species name and harvest information in a blank row.

	DID YOUR HOUSEHOLD…		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?					HOW MANY WERE JUST FOR DOGS?	UNITS	WERE THERE LESS, SAME, OR MORE (_____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	…USE (_____) IN 2006?	…TRY TO HARVEST (_____) IN 2006?	WITH A LINE THRU THE ICE	WITH A POT	WITH A SHOVEL	WITH OTHER GEAR	KEPT FROM COMM FISHING			
	(circle)	*(circle)*	*(number taken by each gear, blank=none)*					*(#)*	*(ind, lbs, etc)*	*(circle one)*
KING CRAB *Qaqiq* 501008992	Y N	Y N								L S M ?
CLAMS *Pugutauraq* 500699002	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?
	Y N	Y N								L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of shellfish?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of shellfish as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH shellfish for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough shellfish for your needs?

	resource	*no.*	*reason*

OMB FINAL

SEALS

Do members of your household USUALLY hunt for SEALS for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST seals?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many SEALS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include SEALS you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

If the household reports harvesting any other kinds of seals, please enter the species name and harvest information in a blank row.

	DID YOUR HOUSEHOLD…		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?					HOW MANY WERE JUST FOR DOGS?	UNITS	WERE THERE LESS, SAME, OR MORE (_____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	…USE (_____) IN 2006?	…TRY TO HARVEST (_____) IN 2006?	IN WINTER JAN-APR	IN SPRING MAY JUN	IN SUMM'R JUL-SEP	IN FALL OCT DEC	SEASON NOT KNOWN			
	(circle)	*(circle)*	*(number taken by each period, blank=none)*					*(#)*	*(ind, lbs, etc)*	*(circle one)*
BEARDED SEAL *Ugruk* 300802040	Y N	Y N							individuals	L S M ?
YOUNG BEARDED SEAL *Ugrutchiuq* 300802020	Y N	Y N							individuals	L S M ?
RINGED SEAL *Natchiq* 300810000	Y N	Y N							individuals	L S M ?
SPOTTED SEAL *Qasigiaq* 300812000	Y N	Y N							individuals	L S M ?
	Y N	Y N								L S M ?
	Y N	Y N							individuals	L S M ?
	Y N	Y N							individuals	L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of seals?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of seals as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH seals for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough seals for your needs?

	resource	*no.*	*reason*

OMB FINAL

UGRUK HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006…
…WHO CAUGHT THE BEARDED SEAL YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

PROCESSORS

WHO PROCESSED, OR "CUT" THE BEARDED SEAL YOUR HOUSEHOLD USED?

DISTRIBUTORS

WHO ELSE (NOT YET NAMED) GAVE BEARDED SEAL TO YOUR HOUSEHOLD?

		HOW MUCH BEARDED SEAL DID THIS PERSON HARVEST FOR **YOUR HH**?		WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR **YOUR HH**?		DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR **YOUR HH**?		DID THIS PERSON GIVE **YOUR HH** A FEW, SOME, OR LOTS?
order, res. & role	PERSON CODE *00000*	*number*	UNITS *(ind, gals)*	*(circle one)*	*order*	PERSON CODE *00000*	*(circle one)*	PERSON CODE *00000*	*(circle one)*
1ST UGRUK HARVESTER 1 1 300802040				F S L	1ST PRO 1		F S L	1ST DIST 1	F S L
2ND UGRUK HARVESTER 2 1 300802040				F S L	2ND PRO 2		F S L	2ND DIST 2	F S L
3RD UGRUK HARVESTER 3 1 300802040				F S L	3RD PRO 3		F S L	3RD DIST 3	F S L
4TH UGRUK HARVESTER 4 1 300802040				F S L	4TH PRO 4		F S L	4TH DIST 4	F S L
5TH UGRUK HARVESTER 5 1 300802040				F S L	5TH PRO 5		F S L	5TH DIST 5	F S L
6TH UGRUK HARVESTER 6 1 300802040				F S L	6TH PRO 6		F S L	6TH DIST 6	F S L
7TH UGRUK HARVESTER 7 1 300802040				F S L	7TH PRO 7		F S L	7TH DIST 7	F S L
8TH UGRUK HARVESTER 8 1 300802040				F S L	8TH PRO 8		F S L	8TH DIST 8	F S L
9TH UGRUK HARVESTER 9 1 300802040				F S L	9TH PRO 9		F S L	9TH DIST 9	F S L
10TH UGRUK HARVESTER 10 1 300802040				F S L	10TH PRO 10		F S L	10TH DIST 10	F S L
11TH UGRUK HARVESTER 11 1 300802040				F S L	11TH PRO 11		F S L	11TH DIST 11	F S L
12TH UGRUK HARVESTER 12 1 300802040				F S L	12TH PRO 12		F S L	12TH DIST 12	F S L
13TH UGRUK HARVESTER 13 1 300802040				F S L	13TH PRO 13		F S L	13TH DIST 13	F S L
14TH UGRUK HARVESTER 14 1 300802040				F S L	14TH PRO 14		F S L	14TH DIST 14	F S L
15TH UGRUK HARVESTER 15 1 300802040				F S L	15TH PRO 15		F S L	15TH DIST 15	F S L
16TH UGRUK HARVESTER 16 1 300802040				F S L	16TH PRO 16		F S L	16TH DIST 16	F S L

OMB FINAL

OTHER MARINE MAMMALS

Do members of your household USUALLY hunt for OTHER MARINE MAMMALS for subsistence?..... Y N

Between JANUARY and DECEMBER, 2006...
...Did members of your household USE or TRY TO HARVEST other marine mammals?..... Y N

IF NO, go to the next harvest page.
If YES, continue on this page...

Please estimate how many OTHER MARINE MAMMALS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include OTHER MARINE MAMMALS you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

If the household reports harvesting any other kinds of other marine mammals, please enter the species name and harvest information in a blank row.

	DID YOUR HOUSEHOLD...		HOW MANY (____) DID YOUR HOUSEHOLD HARVEST IN 2006?							WERE THERE LESS, SAME, OR MORE (_____) AVAILABLE IN 2006 THAN IN PAST YEARS?
	...USE (_____) IN 2006?	...TRY TO HARVEST (_____) IN 2006?	IN WINTER JAN-APR	IN SPRING MAY JUN	IN SUMM'R JUL-SEP	IN FALL OCT DEC	SEASON NOT KNOWN	HOW MANY WERE JUST FOR DOGS?	UNITS	
	(circle)	*(circle)*	*(number taken by each period, blank=none)*					*(#)*	*(ind, lbs, etc)*	*(circle one)*
BOWHEAD WHALE *Agviq* 301606000	Y N	Y N							individuals	L S M ?
BELUGA WHALE *Sisuaq* 301602000	Y N	Y N							individuals	L S M ?
WALRUS *Aiviq* 30140000	Y N	Y N							individuals	L S M ?
POLAR BEAR *Nanuq* 3004000000	Y N	Y N							individuals	L S M ?
	Y N	Y N								L S M ?
	Y N	Y N							individuals	L S M ?
	Y N	Y N							individuals	L S M ?

Between JANUARY and DECEMBER, 2006...
...Did your household use or harvest any other kind of other marine mammals?..... Y N
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below...

Between JANUARY and DECEMBER, 2006...
...Did your household harvest LESS, MORE, or about the SAME amount of other marine mammals as in the past? X L S M
(X="Never Harvest")
...Did your household get ENOUGH other marine mammals for your needs?..... Y N

IF YES, go to the next page.
If NO, continue on this page...

WHY did your household NOT get enough other marine mammals for your needs?

	resource	*no.*	*reason*

OMB FINAL

WHALE HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006...
...WHO CAUGHT THE WHALE YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

order, res. & role	PERSON CODE *00000*	HOW MUCH WHALE DID THIS PERSON HARVEST FOR YOUR HH? *number)*	UNITS *(ind, gals)*	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*
1ST WHALE HARVESTER 1 1 301600000				F S L
2ND WHALE HARVESTER 2 1 301600000				F S L
3RD WHALE HARVESTER 3 1 301600000				F S L
4TH WHALE HARVESTER 4 1 301600000				F S L
5TH WHALE HARVESTER 5 1 301600000				F S L
6TH WHALE HARVESTER 6 1 301600000				F S L
7TH WHALE HARVESTER 7 1 301600000				F S L
8TH WHALE HARVESTER 8 1 301600000				F S L
9TH WHALE HARVESTER 9 1 301600000				F S L
10TH WHALE HARVESTER 10 1 301600000				F S L
11TH WHALE HARVESTER 11 1 301600000				F S L
12TH WHALE HARVESTER 12 1 301600000				F S L
13TH WHALE HARVESTER 13 1 301600000				F S L
14TH WHALE HARVESTER 14 1 301600000				F S L
15TH WHALE HARVESTER 15 1 301600000				F S L
16TH WHALE HARVESTER 16 1 301600000				F S L

PROCESSORS

WHO PROCESSED, OR "CUT UP" THE WHALE YOUR HOUSEHOLD USED?

order	PERSON CODE *00000*	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*
1ST PRO 1		F S L
2ND PRO 2		F S L
3RD PRO 3		F S L
4TH PRO 4		F S L
5TH PRO 5		F S L
6TH PRO 6		F S L
7TH PRO 7		F S L
8TH PRO 8		F S L
9TH PRO 9		F S L
10TH PRO 10		F S L
11TH PRO 11		F S L
12TH PRO 12		F S L
13TH PRO 13		F S L
14TH PRO 14		F S L
15TH PRO 15		F S L
16TH PRO 16		F S L

DISTRIBUTORS

WHO ELSE (NOT YET NAMED) GAVE WHALE TO YOUR HOUSEHOLD?

order	PERSON CODE *00000*	DID THIS PERSON GIVE YOUR HH A FEW, SOME, OR LOTS? *(circle one)*
1ST DIST 1		F S L
2ND DIST 2		F S L
3RD DIST 3		F S L
4TH DIST 4		F S L
5TH DIST 5		F S L
6TH DIST 6		F S L
7TH DIST 7		F S L
8TH DIST 8		F S L
9TH DIST 9		F S L
10TH DIST 10		F S L
11TH DIST 11		F S L
12TH DIST 12		F S L
13TH DIST 13		F S L
14TH DIST 14		F S L
15TH DIST 15		F S L
16TH DIST 16		F S L

OMB FINAL

MOOSE

Do members of your household USUALLY hunt for MOOSE for subsistence?..... Y N

Between JANUARY and DECEMBER, 2006...
...Did members of your household USE or TRY TO HARVEST moose?..... Y N

IF NO, go to the next harvest page.
If YES, continue on this page...

Please estimate how many MOOSE your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include MOOSE you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD...		HOW MANY MOOSE DID YOUR HOUSEHOLD HARVEST IN 2006?												WERE THERE LESS, SAME, OR MORE MOOSE AVAILABLE IN 2006 THAN IN PAST YEARS?
	...USE MOOSE IN 2006?	...TRY TO HARVEST MOOSE IN 2006?	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	UNITS	
	(circle)	*(circle)*	*(number taken by each month, blank=none)*												*(ind, lbs, etc)*	*(circle one)*
MOOSE *Tinmiika* 211800000	Y N	Y N														L S M ?
MOOSE, BULL															individuals	
MOOSE. COW															individuals	
MOOSE, UNK SEX															individuals	

Between JANUARY and DECEMBER, 2006...
...Did your household harvest LESS, MORE, or about the SAME amount of moose as in the past? X L S M
(X="Never Harvest")
...Did your household get ENOUGH moose for your needs?..... Y N

IF YES, go to the next page.
If NO, continue on this page...

WHY did your household NOT get enough moose for your needs?

	resource	*no.*	*reason*

OMB FINAL

MOOSE HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006...
...WHO CAUGHT THE MOOSE YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

order, res. & role	PERSON CODE *00000*	HOW MUCH MOOSE DID THIS PERSON HARVEST FOR YOUR HH? *number)*	UNITS *(ind, gals)*	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*
1ST MOOSE HARVESTER 1 1 211800000				F S L
2ND MOOSE HARVESTER 2 1 211800000				F S L
3RD MOOSE HARVESTER 3 1 211800000				F S L
4TH MOOSE HARVESTER 4 1 211800000				F S L
5TH MOOSE HARVESTER 5 1 211800000				F S L
6TH MOOSE HARVESTER 6 1 211800000				F S L
7TH MOOSE HARVESTER 7 1 211800000				F S L
8TH MOOSE HARVESTER 8 1 211800000				F S L
9TH MOOSE HARVESTER 9 1 211800000				F S L
10TH MOOSE HARVESTER 10 1 211800000				F S L
11TH MOOSE HARVESTER 11 1 211800000				F S L
12TH MOOSE HARVESTER 12 1 211800000				F S L
13TH MOOSE HARVESTER 13 1 211800000				F S L
14TH MOOSE HARVESTER 14 1 211800000				F S L
15TH MOOSE HARVESTER 15 1 211800000				F S L
16TH MOOSE HARVESTER 16 1 211800000				F S L

PROCESSORS

WHO PROCESSED, OR "CUT UP" THE MOOSE YOUR HOUSEHOLD USED?

order	PERSON CODE *00000*	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*
1ST PRO 1		F S L
2ND PRO 2		F S L
3RD PRO 3		F S L
4TH PRO 4		F S L
5TH PRO 5		F S L
6TH PRO 6		F S L
7TH PRO 7		F S L
8TH PRO 8		F S L
9TH PRO 9		F S L
10TH PRO 10		F S L
11TH PRO 11		F S L
12TH PRO 12		F S L
13TH PRO 13		F S L
14TH PRO 14		F S L
15TH PRO 15		F S L
16TH PRO 16		F S L

DISTRIBUTORS

WHO ELSE (NOT YET NAMED) GAVE MOOSE TO YOUR HOUSEHOLD?

order	PERSON CODE *00000*	DID THIS PERSON GIVE YOUR HH A FEW, SOME, OR LOTS? *(circle one)*
1ST DIST 1		F S L
2ND DIST 2		F S L
3RD DIST 3		F S L
4TH DIST 4		F S L
5TH DIST 5		F S L
6TH DIST 6		F S L
7TH DIST 7		F S L
8TH DIST 8		F S L
9TH DIST 9		F S L
10TH DIST 10		F S L
11TH DIST 11		F S L
12TH DIST 12		F S L
13TH DIST 13		F S L
14TH DIST 14		F S L
15TH DIST 15		F S L
16TH DIST 16		F S L

OMB FINAL

CARIBOU

Do members of your household USUALLY hunt for CARIBOU for subsistence?..... Y N

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST caribou?..... Y N

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many CARIBOU your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include CARIBOU you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD…		HOW MANY CARIBOU DID YOUR HOUSEHOLD HARVEST IN 2006?					WERE THERE LESS, SAME, OR MORE CARIBOU AVAILABLE IN 2006 THAN IN PAST YEARS?
	…USE CARIBOU IN 2006?	…TRY TO HARVEST CARIBOU IN 2006?	JANUARY THROUGH MARCH 2006	APRIL THROUGH OCTOBER 2006	NOVEMBER AND DECEMBER 2006	SEASON OF HARVEST UNKNOWN	UNITS	
	(circle)	*(circle)*	*(number taken by each period, blank=none)*				*(ind, lbs, etc)*	*(circle one)*
CARIBOU *Tuttu* 211000000	Y N	Y N						L S M ?
CARIBOU, BULL							individuals	
CARIBOU. COW							individuals	
CARIBOU, UNK SEX							individuals	

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of caribou as in the past? X L S M
(X="Never Harvest")

…Did your household get ENOUGH caribou for your needs?..... Y N

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough caribou for your needs?

	resource	*no.*	*reason*

OMB FINAL

CARIBOU HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006…
…WHO CAUGHT THE CARIBOU YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

PROCESSORS

WHO PROCESSED, OR "CUT UP" THE CARIBOU YOUR HOUSEHOLD USED?

DISTRIBUTORS

WHO ELSE (NOT YET NAMED) GAVE CARIBOU TO YOUR HOUSEHOLD?

order, res. & role	PERSON CODE *00000*	HOW MUCH CARIBOU DID THIS PERSON HARVEST FOR YOUR HH? *number*	UNITS *(ind, gals)*	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*	order	PERSON CODE *00000*	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*	order	PERSON CODE *00000*	DID THIS PERSON GIVE YOUR HH A FEW, SOME, OR LOTS? *(circle one)*
1ST CARIBOU HARVESTER 1 1 211000000				F S L	1ST PRO 1		F S L	1ST DIST 1		F S L
2ND CARIBOU HARVESTER 2 1 211000000				F S L	2ND PRO 2		F S L	2ND DIST 2		F S L
3RD CARIBOU HARVESTER 3 1 211000000				F S L	3RD PRO 3		F S L	3RD DIST 3		F S L
4TH CARIBOU HARVESTER 4 1 211000000				F S L	4TH PRO 4		F S L	4TH DIST 4		F S L
5TH CARIBOU HARVESTER 5 1 211000000				F S L	5TH PRO 5		F S L	5TH DIST 5		F S L
6TH CARIBOU HARVESTER 6 1 211000000				F S L	6TH PRO 6		F S L	6TH DIST 6		F S L
7TH CARIBOU HARVESTER 7 1 211000000				F S L	7TH PRO 7		F S L	7TH DIST 7		F S L
8TH CARIBOU HARVESTER 8 1 211000000				F S L	8TH PRO 8		F S L	8TH DIST 8		F S L
9TH CARIBOU HARVESTER 9 1 211000000				F S L	9TH PRO 9		F S L	9TH DIST 9		F S L
10TH CARIBOU HARVESTER 10 1 211000000				F S L	10TH PRO 10		F S L	10TH DIST 10		F S L
11TH CARIBOU HARVESTER 11 1 211000000				F S L	11TH PRO 11		F S L	11TH DIST 11		F S L
12TH CARIBOU HARVESTER 12 1 211000000				F S L	12TH PRO 12		F S L	12TH DIST 12		F S L
13TH CARIBOU HARVESTER 13 1 211000000				F S L	13TH PRO 13		F S L	13TH DIST 13		F S L
14TH CARIBOU HARVESTER 14 1 211000000				F S L	14TH PRO 14		F S L	14TH DIST 14		F S L
15TH CARIBOU HARVESTER 15 1 211000000				F S L	15TH PRO 15		F S L	15TH DIST 15		F S L
16TH CARIBOU HARVESTER 16 1 211000000				F S L	16TH PRO 16		F S L	16TH DIST 16		F S L

OMB FINAL

OTHER LARGE LAND MAMMALS

Do members of your household USUALLY hunt for OTHER LARGE LAND MAMMALS for subsistence?..... Y N

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST other large land mammals?..... Y N

IF NO, go to the next page.
If YES, continue on this page…

Please estimate how many OTHER LARGE LAND MAMMALS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include OTHER LARGE LAND MAMMALS you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD… …USE ____ IN 2006? *(circle)*	…TRY TO HARVEST ____ IN 2006? *(circle)*	HOW MANY ____ DID YOUR HOUSEHOLD HARVEST IN 2006? JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	UNITS *(ind, lbs, etc)*	WERE THERE LESS, SAME, OR MORE ____ AVAILABLE IN 2006 THAN IN PAST YEARS? *(circle one)*
			(number taken by each month, blank=none)													
GRIZZLY BEAR *Aklaq* 210800000	Y N	Y N													individuals	L S M ?
BLACK BEAR *Iyyagriq* 210600000	Y N	Y N													individuals	L S M ?
DALL SHEEP *Ipmaiq* 212200000	Y N	Y N													individuals	L S M ?
MUSKOXEN *Umimmak* 212000000	Y N	Y N													individuals	L S M ?
WOLF *Amaguq* 223200000	Y N	Y N														L S M ?
WOLVERINE *Qapvik* 223400000	Y N	Y N													individuals	L S M ?
	Y N	Y N													individuals	L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of other large land mammals?..... Y N
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of other large land mammals as in the past? X L S M
(X="Never Harvest")

…Did your household get ENOUGH other large land mammals for your needs?..... Y N

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough other large land mammals for your needs?

	resource	*no.*	*reason*

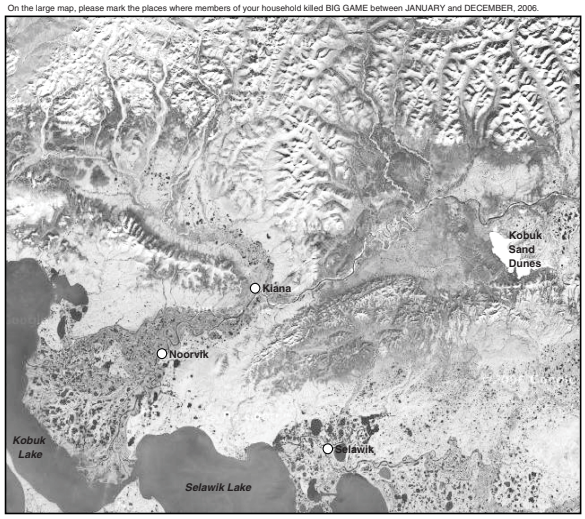
OMB FINAL

KILL LOCATIONS - LARGE LAND MAMMALS

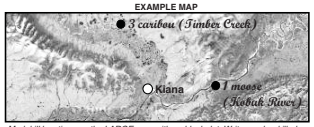
DO YOU KNOW WHERE MEMBERS OF YOUR HOUSEHOLD KILLED BIG GAME IN 2006?..... Y N

If NO, go to the next page.
If YES, please continue on this page…

On the large map, please mark the places where members of your household killed BIG GAME between JANUARY and DECEMBER, 2006.



EXAMPLE MAP



Mark kill locations on the LARGE map with an black dot. Write number killed, species name, and place name (if known) on the map, as shown above.

RESOURCE CODE	UNIFORM CODING UNIT	NUMBER KILLED IN UCU

OMB FINAL

SMALL LAND MAMMALS

Do members of your household USUALLY hunt for SMALL LAND MAMMALS for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST small land mammals?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many SMALL LAND MAMMALS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include SMALL LAND MAMMALS you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD…		HOW MANY SMALL LAND MAMMALS DID YOUR HOUSEHOLD HARVEST IN 2006?					WERE THERE LESS, SAME, OR MORE _____
	…USE _____ IN 2006? (circle)	…TRY TO HARVEST _____ IN 2006? (circle)	NUMBER CAUGHT IN WINTER (JAN-APR)	NUMBER CAUGHT IN SPRING (MAY-JUN)	NUMBER CAUGHT IN SUMMER (JUL-SEP)	NUMBER CAUGHT IN FALL (OCT-DEC)	SEASON OF HARVEST UNKNOWN	AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
			(number taken by each period, blank=none)					
BEAVER *Paluqtaq* 220200000	Y N	Y N						L S M ?
MUSKRAT *Kigvaluk* 222400000	Y N	Y N						L S M ?
SNOWSHOE HARE *Ukalliq* 221004000	Y N	Y N						L S M ?
ARCTIC HARE *Ukalliugruk* 221002000	Y N	Y N						L S M ?
PORCUPINE *Iluqutaq* 222600000	Y N	Y N						L S M ?
	Y N	Y N						L S M ?
	Y N	Y N						L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of small land mammals?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of small land mammals as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH small land mammals for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough small land mammals for your needs? *resource* *no.* *reason*

OMB FINAL

FUR ANIMALS

Do members of your household USUALLY hunt for FUR ANIMALS for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST fur animals?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many FUR ANIMALS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include FUR ANIMALS you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD…		HOW MANY FUR ANIMALS DID YOUR HOUSEHOLD HARVEST IN 2006?					WERE THERE LESS, SAME, OR MORE _____
	…USE _____ IN 2006? (circle)	…TRY TO HARVEST _____ IN 2006? (circle)	NUMBER CAUGHT IN WINTER (JAN-APR)	NUMBER CAUGHT IN SPRING (MAY-JUN)	NUMBER CAUGHT IN SUMMER (JUL-SEP)	NUMBER CAUGHT IN SUMMER (OCT-DEC)	SEASON OF HARVEST UNKNOWN	AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
			(number taken by each period, blank=none)					
RED FOX *Kavuqtuq* 220804000	Y N	Y N						L S M ?
ARCTIC FOX *Qusraaq* 220802000	Y N	Y N						L S M ?
MARTEN *Qapvaitchaiq* 222000000	Y N	Y N						L S M ?
LYNX *Nautauviq* 221600000	Y N	Y N						L S M ?
LAND OTTER *Pamiuqtuuq* 221200000	Y N	Y N						L S M ?
MINK *Tigiaqpak* 222200000	Y N	Y N						L S M ?
	Y N	Y N						L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of fur animals?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of fur animals as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH fur animals for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough fur animals for your needs? *resource* *no.* *reason*

OMB FINAL

GEESE, SWANS, or CRANES

Do members of your household USUALLY hunt for GEESE, SWANS, or CRANES for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST geese, swans, or cranes?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many GEESE, SWANS, or CRANES your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include GEESE, SWANS, or CRANES you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD…		HOW MANY GEESE, SWANS, or CRANES DID YOUR HOUSEHOLD HARVEST IN 2006?					WERE THERE LESS, SAME, OR MORE _____
	…USE _____ IN 2006? (circle)	…TRY TO HARVEST _____ IN 2006? (circle)	NUMBER CAUGHT IN WINTER (JAN-APR)	NUMBER CAUGHT IN SPRING (MAY-JUN)	NUMBER CAUGHT IN SUMMER (JUL-SEP)	NUMBER CAUGHT IN SUMMER (OCT-DEC)	SEASON OF HARVEST UNKNOWN	AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
			(number taken by each period, blank=none)					
CANADA GEESE *Iqsragutilik* 410404990	Y N	Y N						L S M ?
WHITE-FRONTED GEESE *Kigiuk* 41041000	Y N	Y N						L S M ?
TUNDRA SWAN *Qugruk* 41069000	Y N	Y N						L S M ?
SANDHILL CRANE *Tatirgaq* 410802000	Y N	Y N						L S M ?
	Y N	Y N						L S M ?
	Y N	Y N						L S M ?
	Y N	Y N						L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of geese, swans, or cranes?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of geese, swans, or cranes as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH geese, swans, or cranes for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough geese, swans, or cranes for your needs? *resource* *no.* *reason*

OMB FINAL

OTHER BIRDS

Do members of your household USUALLY hunt for OTHER BIRDS for subsistence?..... Y N ☐

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST other birds?..... Y N ☐

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many OTHER BIRDS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if hunting with others. Include OTHER BIRDS you gave away, ate fresh, fed to dogs, lost to spoilage, or obtained from helping others hunt.

	DID YOUR HOUSEHOLD…		HOW MANY OTHER BIRDS DID YOUR HOUSEHOLD HARVEST IN 2006?					WERE THERE LESS, SAME, OR MORE _____
	…USE _____ IN 2006? (circle)	…TRY TO HARVEST _____ IN 2006? (circle)	NUMBER CAUGHT IN WINTER (JAN-APR)	NUMBER CAUGHT IN SPRING (MAY-JUN)	NUMBER CAUGHT IN SUMMER (JUL-SEP)	NUMBER CAUGHT IN SUMMER (OCT-DEC)	SEASON OF HARVEST UNKNOWN	AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
			(number taken by each period, blank=none)					
DUCKS *Tinmiaq, Qaugak* 410200000	Y N	Y N						L S M ?
PTARMIGAN *Aqalgiq* 421804000	Y N	Y N						L S M ?
SPRUCE GROUSE *Napaqtum Aqalgiq* 421802020	Y N	Y N						L S M ?
	Y N	Y N						L S M ?
	Y N	Y N						L S M ?
	Y N	Y N						L S M ?
	Y N	Y N						L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of other birds?..... Y N ☐
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of other birds as in the past? X L S M ☐
(X="Never Harvest")
…Did your household get ENOUGH other birds for your needs?..... Y N ☐

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough other birds for your needs? *resource* *no.* *reason*

OMB FINAL

EGGS

Do members of your household USUALLY gathered EGGS for subsistence? ..... Y N ___

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST eggs? ..... Y N ___

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many EGGS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if gathereding with others. Include EGGS you gave away, ate fresh, lost to spoilage, or obtained from helping others gathered.

	DID YOUR HOUSEHOLD… …USE IN 2006? (circle)	…TRY TO HARVEST IN 2006? (circle)	HOW MANY _____ DID YOUR HOUSEHOLD HARVEST IN 2006? (number)	UNITS (each, gallons, tubs, etc.)	WERE THERE LESS, SAME, OR MORE _____ AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
GOOSE EGGS	Y N	Y N			L S M ?
430499000					
DUCK EGGS	Y N	Y N			L S M ?
430299000					
MURRE EGGS	Y N	Y N			L S M ?
431218000					
GULL EGGS *Nauvuaq*	Y N	Y N			L S M ?
431212000					
UNKNOWN EGGS *Mannik*	Y N	Y N			L S M ?
439900000					
	Y N	Y N			L S M ?
	Y N	Y N			L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of eggs? ..... Y N ___
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of eggs as in the past? X L S M ___
(X="Never Harvest")
…Did your household get ENOUGH eggs for your needs? ..... Y N ___

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough eggs for your needs?

	resource	*no.*	*reason*

OMB FINAL

BIRD or EGG HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006…
…WHO GOT THE BIRDS & EGGS YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

order, res. & role	PERSON CODE *00000*	HOW MANY BIRDS & EGGS DID THIS PERSON HARVEST FOR YOUR HH? *number*	UNITS *(ind, gals)*	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*
1ST BIRD or EGG HARVESTER				F S L
1 1 400000000				
2ND BIRD or EGG HARVESTER				F S L
2 1 400000000				
3RD BIRD or EGG HARVESTER				F S L
3 1 400000000				
4TH BIRD or EGG HARVESTER				F S L
4 1 400000000				
5TH BIRD or EGG HARVESTER				F S L
5 1 400000000				
6TH BIRD or EGG HARVESTER				F S L
6 1 400000000				
7TH BIRD or EGG HARVESTER				F S L
7 1 400000000				
8TH BIRD or EGG HARVESTER				F S L
8 1 400000000				
9TH BIRD or EGG HARVESTER				F S L
9 1 400000000				
10TH BIRD or EGG HARVESTER				F S L
10 1 400000000				
11TH BIRD or EGG HARVESTER				F S L
11 1 400000000				
12TH BIRD or EGG HARVESTER				F S L
12 1 400000000				
13TH BIRD or EGG HARVESTER				F S L
13 1 400000000				
14TH BIRD or EGG HARVESTER				F S L
14 1 400000000				
15TH BIRD or EGG HARVESTER				F S L
15 1 400000000				
16TH BIRD or EGG HARVESTER				F S L
16 1 400000000				

PROCESSORS

WHO PROCESSED, OR "CLEANED" THE BIRDS & EGGS YOUR HOUSEHOLD USED?

order	PERSON CODE *00000*	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR YOUR HH? *(circle one)*
1ST PRO		F S L
1		
2ND PRO		F S L
2		
3RD PRO		F S L
3		
4TH PRO		F S L
4		
5TH PRO		F S L
5		
6TH PRO		F S L
6		
7TH PRO		F S L
7		
8TH PRO		F S L
8		
9TH PRO		F S L
9		
10TH PRO		F S L
10		
11TH PRO		F S L
11		
12TH PRO		F S L
12		
13TH PRO		F S L
13		
14TH PRO		F S L
14		
15TH PRO		F S L
15		
16TH PRO		F S L
16		

DISTRIBUTORS

WHO ELSE (NOT YET NAMED) GAVE BIRDS & EGGS TO YOUR HOUSEHOLD?

order	PERSON CODE *00000*	DID THIS PERSON GIVE YOUR HH A FEW, SOME, OR LOTS? *(circle one)*
1ST DIST		F S L
1		
2ND DIST		F S L
2		
3RD DIST		F S L
3		
4TH DIST		F S L
4		
5TH DIST		F S L
5		
6TH DIST		F S L
6		
7TH DIST		F S L
7		
8TH DIST		F S L
8		
9TH DIST		F S L
9		
10TH DIST		F S L
10		
11TH DIST		F S L
11		
12TH DIST		F S L
12		
13TH DIST		F S L
13		
14TH DIST		F S L
14		
15TH DIST		F S L
15		
16TH DIST		F S L
16		

OMB FINAL

BERRIES

Do members of your household USUALLY pick BERRIES for subsistence? ..... Y N ___

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST berries? ..... Y N ___

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many BERRIES your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if picking with others. Include BERRIES you gave away, ate fresh, lost to spoilage, or obtained from helping others pick.

	DID YOUR HOUSEHOLD… …USE IN 2006? (circle)	…TRY TO HARVEST IN 2006? (circle)	HOW MANY _____ DID YOUR HOUSEHOLD HARVEST IN 2006? (number)	UNITS (each, gallons, tubs, etc.)	WERE THERE LESS, SAME, OR MORE _____ AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
SALMONBERRIES *Aapik*	Y N	Y N		GALLONS	L S M ?
601022002					
BLUEBERRIES *Asriavik*	Y N	Y N		GALLONS	L S M ?
601002002					
CRANBERRIES *Kikmiñaq*	Y N	Y N		GALLONS	L S M ?
601004002					
BLACKBERRIES *Paungaq*	Y N	Y N		GALLONS	L S M ?
601007002					
	Y N	Y N			L S M ?
	Y N	Y N		GALLONS	L S M ?
	Y N	Y N		GALLONS	L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of berries? ..... Y N ___
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of berries as in the past? X L S M ___
(X="Never Harvest")
…Did your household get ENOUGH berries for your needs? ..... Y N ___

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough berries for your needs?

	resource	*no.*	*reason*

OMB FINAL

GREENS or ROOTS

Do members of your household USUALLY pick GREENS or ROOTS for subsistence? ..... Y N ___

Between JANUARY and DECEMBER, 2006…
…Did members of your household USE or TRY TO HARVEST greens or roots? ..... Y N ___

IF NO, go to the next harvest page.
If YES, continue on this page…

Please estimate how many GREENS or ROOTS your household HARVESTED for subsistence use this year. It is important to report ONLY YOUR SHARE of the catch if picking with others. Include GREENS or ROOTS you gave away, ate fresh, lost to spoilage, or obtained from helping others pick.

	DID YOUR HOUSEHOLD… …USE IN 2006? (circle)	…TRY TO HARVEST IN 2006? (circle)	HOW MANY _____ DID YOUR HOUSEHOLD HARVEST IN 2006? (number)	UNITS (each, gallons, tubs, etc.)	WERE THERE LESS, SAME, OR MORE _____ AVAILABLE IN 2006 THAN IN PAST YEARS? (circle one)
WILLOW LEAVES *Sura*	Y N	Y N		GALLONS	L S M ?
602048002					
WILD RHUBARB *Qunuliq*	Y N	Y N		GALLONS	L S M ?
602006002					
SOURDOCK *Ouugaq*	Y N	Y N		GALLONS	L S M ?
602028002					
ESKIMO POTATO *Masru*	Y N	Y N		GALLONS	L S M ?
604004000					
	Y N	Y N			L S M ?
	Y N	Y N			L S M ?
	Y N	Y N			L S M ?

Between JANUARY and DECEMBER, 2006…
…Did your household use or harvest any other kind of greens or roots? ..... Y N ___
IF YES, enter the name in the blank row and answer the questions in the table above, then continue below…

Between JANUARY and DECEMBER, 2006…
…Did your household harvest LESS, MORE, or about the SAME amount of greens or roots as in the past? X L S M ___
(X="Never Harvest")
…Did your household get ENOUGH greens or roots for your needs? ..... Y N ___

IF YES, go to the next page.
If NO, continue on this page…

WHY did your household NOT get enough greens or roots for your needs?

	resource	*no.*	*reason*

OMB FINAL

PLANT HARVESTERS

BETWEEN JANUARY and DECEMBER, 2006…
…WHO PICKED THE PLANTS YOUR HOUSEHOLD USED?
List most important person first. INCLUDE people in this household.

order, res. & role	PERSON CODE 00000	HOW MUCH PLANTS DID THIS PERSON HARVEST FOR YOUR HH? number)	UNITS (ind, gals)	WOULD YOU SAY THAT AMOUNT WAS A FEW, SOME, or LOTS FOR YOUR HH? (circle one)
1ST PLANT HARVESTER 1 1 600000000				F S L
2ND PLANT HARVESTER 2 1 600000000				F S L
3RD PLANT HARVESTER 3 1 600000000				F S L
4TH PLANT HARVESTER 4 1 600000000				F S L
5TH PLANT HARVESTER 5 1 600000000				F S L
6TH PLANT HARVESTER 6 1 600000000				F S L
7TH PLANT HARVESTER 7 1 600000000				F S L
8TH PLANT HARVESTER 8 1 600000000				F S L
9TH PLANT HARVESTER 9 1 600000000				F S L
10TH PLANT HARVESTER 10 1 600000000				F S L
11TH PLANT HARVESTER 11 1 600000000				F S L
12TH PLANT HARVESTER 12 1 600000000				F S L
13TH PLANT HARVESTER 13 1 600000000				F S L
14TH PLANT HARVESTER 14 1 600000000				F S L
15TH PLANT HARVESTER 15 1 600000000				F S L
16TH PLANT HARVESTER 16 1 600000000				F S L

PROCESSORS

WHO PROCESSED, OR "PUT AWAY" THE PLANTS YOUR HOUSEHOLD USED?

order	PERSON CODE 00000	DID THIS PERSON PROCESS A FEW, SOME, or LOTS FOR YOUR HH? (circle one)
1ST PRO 1		F S L
2ND PRO 2		F S L
3RD PRO 3		F S L
4TH PRO 4		F S L
5TH PRO 5		F S L
6TH PRO 6		F S L
7TH PRO 7		F S L
8TH PRO 8		F S L
9TH PRO 9		F S L
10TH PRO 10		F S L
11TH PRO 11		F S L
12TH PRO 12		F S L
13TH PRO 13		F S L
14TH PRO 14		F S L
15TH PRO 15		F S L
16TH PRO 16		F S L

DISTRIBUTORS

WHO ELSE (NOT YET NAMED) GAVE PLANTS TO YOUR HOUSEHOLD?

order	PERSON CODE 00000	DID THIS PERSON GIVE YOUR HH A FEW, SOME, OR LOTS? (circle one)
1ST DIST 1		F S L
2ND DIST 2		F S L
3RD DIST 3		F S L
4TH DIST 4		F S L
5TH DIST 5		F S L
6TH DIST 6		F S L
7TH DIST 7		F S L
8TH DIST 8		F S L
9TH DIST 9		F S L
10TH DIST 10		F S L
11TH DIST 11		F S L
12TH DIST 12		F S L
13TH DIST 13		F S L
14TH DIST 14		F S L
15TH DIST 15		F S L
16TH DIST 16		F S L

OMB FINAL

FOOD SECURITY

I'M GOING TO READ **FIVE STATEMENTS** ABOUT YOUR HOUSEHOLD'S FOOD SITUATION.
PLEASE TELL ME WHETHER THE STATEMENT WAS TRUE FOR YOUR HOUSEHOLD IN LAST YEAR,

1. THE SUBSISTENCE FOOD THAT WE HAD JUST DIDN'T LAST, AND WE COULDN'T GET MORE.
LAST YEAR, WAS THIS EVER TRUE? Y N
IF YES, IN WHICH MONTHS DID THIS HAPPEN? J F M A M J J A S O N D

2. THE STORE FOOD THAT WE HAD JUST DIDN'T LAST, AND WE COULDN'T GET MORE.
LAST YEAR, WAS THIS EVER TRUE? Y N
IF YES, IN WHICH MONTHS DID THIS HAPPEN? J F M A M J J A S O N D

3. WE COULDN'T GET THE FOOD WE NEEDED TO EAT HEALTHY MEALS.
LAST YEAR, WAS THIS EVER TRUE? Y N
IF YES, IN WHICH MONTHS DID THIS HAPPEN? J F M A M J J A S O N D
DID THIS HAPPEN BECAUSE YOU COULDN'T GET ENOUGH SUBSISTENCE FOODS? Y N
DID THIS HAPPEN BECAUSE YOU COULDN'T GET ENOUGH STORE FOODS? Y N

4. LAST YEAR DID YOU OR OTHER ADULTS IN YOUR HOUSEHOLD EVER CUT THE SIZE OF YOUR MEALS OR SKIP MEALS BECAUSE YOU COULDN'T GET THE FOOD YOU NEEDED? Y N
IF YES, IN WHICH MONTHS DID THIS HAPPEN? J F M A M J J A S O N D
DID THIS HAPPEN BECAUSE YOU COULDN'T GET ENOUGH SUBSISTENCE FOODS? Y N
DID THIS HAPPEN BECAUSE YOU COULDN'T GET ENOUGH STORE FOODS? Y N

5. LAST YEAR, WERE THERE TIMES WHEN MEMBERS OF YOUR HOUSEHOLD DID NOT HAVE ENOUGH TO EAT? Y N ?
IF YES, WAS THIS BECAUSE…
…MEMBERS OF YOUR HOUSEHOLD DID NOT HARVEST ENOUGH SUBSISTENCE FOOD? Y N ?
…PEOPLE IN OTHER HOUSEHOLDS DID NOT SHARE ENOUGH SUBSISTENCE FOOD WITH YOU? Y N ?
…FISH OR GAME WERE NOT ABUNDANT? Y N ?
…WEATHER OR OTHER NATURAL CONDITIONS MADE SUBSISTENCE FOOD HARD TO GET? Y N ?
…YOUR HOUSEHOLD COULD NOT AFFORD ENOUGH STORE-BOUGHT FOOD? Y N ?
…MEMBERS OF YOUR HOUSEHOLD DID NOT HAVE ENOUGH TIME TO HUNT, FISH, OR GATHER? Y N ?
…OTHER REASON (SPECIFY) _____

OMB FINAL

WILDLIFE HEALTH

BETWEEN JANUARY and DECEMBER, 2006, did anyone in your household HARVEST but NOT EAT fish, game, or plants because they did not seem healthy?..... Y N

If NO, go to the next page…
If YES, continue on this page…

What kinds of fish, game, or plants did not seem healthy?
List each species separately. If the household reports two or more different problems for a single species, use a separate row for each problem.

FISH, GAME, OR PLANT (resource)	WHAT WAS WRONG WITH THEM? (describe the symptom)	HOW MANY HAD THIS PROBLEM? (number)	UNITS (ind, gals…)	DID YOU INCLUDE THESE IN THE NUMBERS YOU GAVE ME BEFORE? (circle one)	HAD YOU EVER SEEN THIS PROBLEM IN PAST YEARS? (circle one)
	SYMPTOM			Y N	Y N
	SYMPTOM			Y N	Y N
	SYMPTOM			Y N	Y N
	SYMPTOM			Y N	Y N
	SYMPTOM			Y N	Y N
	SYMPTOM			Y N	Y N
	SYMPTOM			Y N	Y N

COMMENTS:

OMB FINAL

COMPARISONS: THIS YEAR WITH PREVIOUS YEARS

BEFORE WE FINISH, WE WANTED TO KNOW WHETHER LAST YEAR (THAT IS, 2006) WAS A TYPICAL YEAR FOR YOUR HOUSEHOLD.

SUBSISTENCE
THINK OF YOUR HOUSEHOLD'S PATTERN OF SUBSISTENCE ACTIVITIES…
WAS LAST YEAR SIMILAR TO OTHER YEARS, OR DIFFERENT? (CIRCLE ONE) DIFFERENT (0) SIMILAR (1)
IF DIFFERENT, WHY WAS IT DIFFERENT?
REASON 1 _____
REASON 2 _____
REASON 3 _____

SUBSISTENCE EXPENSES
THINK OF ALL THE MONEY MEMBERS OF YOUR HOUSEHOLD SPENT ON SUBSISTENCE EQUIPMENT AND SUPPLIES…
LAST YEAR, DID MEMBERS OF YOUR HOUSEHOLD SPEND LESS, MORE, OR ABOUT THE SAME AMOUNT ON SUBSISTENCE EQUIPMENT AND SUPPLIES AS IN THE PAST?
This includes boats, motors, snowmachines, other equipment, gasoline, ammunition, etc. LESS (1) SAME (2) MORE (3)
IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

HEALTH
THINK OF THE HEALTH OF ALL THE MEMBERS OF YOUR HOUSEHOLD…
LAST YEAR, WERE MEMBERS OF YOUR HOUSEHOLD SICK OR DISABLED LESS, MORE, OR ABOUT THE SAME NUMBER OF DAYS AS IN THE PAST?
LESS (1) SAME (2) MORE (3)
IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

EMPLOYMENT
THINK OF THE ALL JOBS THAT MEMBERS OF YOUR HOUSEHOLD HAD LAST YEAR….
LAST YEAR, DID MEMBERS OF YOUR HOUSEHOLD EARN LESS, MORE, OR ABOUT THE SAME AMOUNT OF INCOME AS IN THE PAST?
For most people, "earned" income means the wages and salaries shown on their W-2. LESS (1) SAME (2) MORE (3)
IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

OTHER INCOME
THINK OF THE MONEY ALL THE MEMBERS OF YOUR HOUSEHOLD RECEIVED FROM OTHER SOURCES…
LAST YEAR, DID MEMBERS OF YOUR HOUSEHOLD RECEIVE LESS, MORE, OR ABOUT THE SAME AMOUNT OF OTHER INCOME AS IN THE PAST?
This includes PFD, longevity bonus, public assistance, energy assistance, etc. LESS (1) SAME (2) MORE (3)
IF LESS OR MORE, WHY?
REASON 1 _____
REASON 2 _____
REASON 3 _____

OMB FINAL

SUMMARY

DO YOU HAVE ANY QUESTIONS, COMMENTS, OR CONCERNS?

INTERVIEW SUMMARY:

BE SURE TO FILL IN THE STOP TIME ON THE FIRST PAGE!!!!

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES

If people outside of KIANA are named on a network page, please keep track of their codes on this page.
Once a person has been assigned a code from this page, use the same code each time he or she is mentioned in the survey.

CODE *Used in this Survey*	PERSON'S NAME *For coding purposes only. This name is not entered in the database.*	COMMUNITY *Where this person lives. If NOT in Alaska, enter state.*	NEW CODE *Entered after all surveys are completed*	RELATION *Kin relationship to HH head*	SEX *Male Female (circle)*	AGE *Estimate*	COMMENTS
0001					M F		
0002					M F		
0003					M F		
0004					M F		
0005					M F		
0006					M F		
0007					M F		
0008					M F		
0009					M F		
0010					M F		
0011					M F		
0012					M F		
0013					M F		
0014					M F		
0015					M F		
0016					M F		
0017					M F		

CODE WORKSHEET FOR OUT-OF-TOWN SOURCES

If people outside of KIANA are named on a network page, please keep track of their codes on this page.
Once a person has been assigned a code from this page, use the same code each time he or she is mentioned in the survey.

CODE *Used in this Survey*	PERSON'S NAME *For coding purposes only. This name is not entered in the database.*	COMMUNITY *Where this person lives. If NOT in Alaska, enter state.*	NEW CODE *Entered after all surveys are completed*	RELATION *Kin relationship to HH head*	SEX *Male Female (circle)*	AGE *Estimate*	COMMENTS
0018					M F		
0019					M F		
0020					M F		
0021					M F		
0022					M F		
0023					M F		
0024					M F		
0025					M F		
0026					M F		
0027					M F		
0028					M F		
0029					M F		
0030					M F		
0031					M F		
0032					M F		
0033					M F		
0034					M F		